

Developing the American Time Use Survey activity classification system

Classifying what Americans do during the day and how much time they spend doing those activities is an arduous task that calls for addressing numerous coding issues, but the data provide a broad source of information for various researchers

Kristina J. Shelley

The American Time Use Survey (ATUS) was officially added to the Federal Government's list of statistical surveys when it received approval and funding in December 2000. The roots of the survey had taken hold nearly 10 years earlier when a Congressional bill, the "Unremunerated Work Act of 1991," prompted the Bureau of Labor Statistics to investigate ways of measuring unpaid work.¹ This examination evolved into an interest in measuring time allocation of individuals, which is generally the starting point for estimating the value of nonmarket production.

Thus, in 1998, a BLS working group was formed and tasked with examining the feasibility of collecting time-use data and then developing a detailed plan for doing so. By December 2000, significant progress had been made toward laying the groundwork for the survey, which was scheduled to be launched in January 2003. One of the most important undertakings in this process was the design of an activity classification scheme, or coding lexicon, for categorizing the activities that survey respondents report during the time-diary portion of the interview.

This article briefly discusses the processes that created both an ATUS activity coding lexicon and activity coding operations procedures. It also briefly describes the evolution of the major activity categories in the coding lexicon. Finally, it discusses how activities in the coding lexicon were combined so that BLS could produce analytically meaningful tables for publication.

Development of the coding lexicon

Background and research. Initial work on developing the ATUS coding lexicon was facilitated by a rich source of existing information on time-use classification schemes. At least 11 countries had completed one or more national time-use surveys before ATUS was funded, and the Institute of Social Research at the University of Michigan and the Survey Research Center at the University of Maryland had, between them, fielded four time-use surveys in the United States. Most of these earlier time-use classifications used a conceptual framework developed by Alexander Szalai for the Multinational Time Use project nearly 40 years ago.² Szalai recognized the need to standardize the classification of activities in a way that would allow time-use staff to code daily activities reported in respondents' everyday language in a meaningful way, and allow data users to analyze time-use information in systematic ways. His first classification scheme consisted of 96 activity codes that fell into 10 major categories of time use, and took into account the importance of social interaction (who was with the respondent during the activity) and location (where the activity took place) in describing and categorizing daily activities.

Dagfinn Aas built on Szalai's work by identifying four broad classifications, or typologies, of time into which time-use activity categories may be divided: 1) necessary time, 2) contracted time, 3) committed time, and 4) free time.³

Kristina J. Shelley is a supervisory economist in the Division of Labor Force Statistics, Bureau of Labor Statistics. E-mail: Shelley.Kristina@bls.gov.

International comparability among time-use surveys usually is not possible at a detailed activity level because countries tend to adapt time-use classification schemes that reflect their own cultures and economies. However, broad comparisons are achievable for even differing classification systems when activities and categories are fit into Aas' four typologies.⁴

Three sometimes competing concerns—international comparability, analytical relevance, and coder usability— Influenced the approach taken to create the ATUS lexicon. The ATUS coding team sought to build a system that would balance the desire for international comparability with the need for data that would be analytically meaningful to users in the United States. But the lexicon's usability (how understandable the activity categories are to the staff who assigns activity codes) was a primary concern as well; when activities cannot be coded accurately or consistently, the end result is poor data. After studying existing time-use classification systems used throughout the world—in particular, the coding schemes of Australia, New Zealand, Eurostat, Canada, and the University of Maryland's scheme used in surveys about the United States—the team decided to model the ATUS lexicon most closely after Australia's 1997 system. Its appeal, compared with other time-use survey classifications systems, lay in its high level of detail and the specific categories that appeared to describe well the types of activities done by persons in the United States. The greater level of detail did not prevent analysts from collapsing activities into the four-fold typologies of time for broad comparisons of other time-use surveys. Like most other countries' time-use surveys, the first ATUS classification system was designed using a three-tiered hierarchical structure, classifying reported activities into major categories, with two additional levels of detail in each category.

In conjunction with researching and developing a first draft of the coding lexicon, the ATUS team researched coding operations issues that would have to be addressed prior to production. These issues included: 1) how the activity data should be coded—“on the fly” by interviewers as they talked to respondents, after the interview by coding specialists, or some other way, 2) the kind of coding instrument (software application) that should be used, 3) what information, besides the activity verbatim, should be available to those coding the data, and 4) the best way to maintain quality control and ensure accurate and consistent coding.

Again, the ATUS team started by examining coding operations used by other time-use survey administrators, and eventually leaned most heavily toward those used by the Australian Bureau of Statistics (ABS), but with modifications toward creating a system specific to ATUS needs. Two of the most important operational decisions made were to: 1) have interviewers also code activities (though not their own interviews with respondents), and 2) implement a coding

verification strategy to ensure quality control. Additionally, BLS decided to use Blaise software⁵ to build a coding application. Each of these decisions yielded positive results—most obviously during the dress rehearsal and pre-fielding, adding significant value to coding operations well into the second year of full production.⁶

Implementation, testing, and revisions. Although the decision was made early in the lexicon development process to use the Australian time-use activity classification scheme as a model for the ATUS, the classification system that was actually in place for coding ATUS data in January 2003 was substantially different from the Australian system.

First, BLS staff and reviewers of the initial ATUS lexicon concluded that adopting the four-fold typology as a central guideline for coding might prove problematic because of the number of exceptions to the rules governing how activities were to be classified within the typology. Instead, the classification system would be organized based on a widening sphere of social involvement as the underlying structure, beginning with activities done primarily by and for oneself, followed by activities done by and for one's household, and then followed by community activities. It was theorized that losing the typology as a coding guideline would not mean losing the ability to produce data comparable to other time-use surveys, as the ATUS coded data could be recoded into each typology of time either by BLS during postprocessing or by users of the data. For example, one could assume that all educational activities are contracted time and all shopping activities are committed time.

And second, in another departure from the first draft “Australian model” lexicon, the final production lexicon contains significantly expanded categories at all levels to enable more detailed time-use analyses, thus enhancing the analytical flexibility for users. The final ATUS lexicon contains 17 major categories (compared with 9 in the Australian system), 105 second-tier categories, and 438 third-tier categories. The coding team left room for up to 99 subcategories under each third tier. This break with the two-digit, nine subcategory convention used in other time-use systems occurred as the ATUS staff reasoned that a much larger sample size (up to 24,000 interviews per year) than any other time-use survey to date could support more detailed analyses, especially after pooling multiple years' data.

Arriving at the final production lexicon took approximately 2 years. Over the course of this program development period, numerous revisions to the lexicon were implemented as a result of a series of coding tests, a dress rehearsal, and pre-fielding of the survey before data collection officially began in January 2003. Coding tests were used to evaluate the intuitive appeal of the lexicon's organizational structure, to assess coding speed and accuracy, to identify ambiguous or

uncodable activities, and to test the usability of a prototype of the coding instrument. The first three tests were conducted at the Census Bureau's telephone center in Jeffersonville, Indiana, using Census Bureau staff, experienced in coding data from other surveys. The fourth test took place at Westat, a research corporation with facilities in Rockville, MD, which also used coders with experience on other surveys. The testing process was similar for each test: BLS staff discussed the purpose of the American Time Use Survey, introduced test participants to the lexicon, conducted coding training, and provided a set of coding rules to use during testing. Debriefings with test participants were held after each test, and further revisions were made to the lexicon based on their feedback and the measures of coding accuracy. Also, coding rules were added and more fully developed to address difficult-to-code activities. Then, the next test was conducted using the revised lexicon and coding rules, and so on.

Coding issues and resolutions

Numerous coding issues emerged during the testing period, dress rehearsal, and pre-fielding; the most difficult challenges were how to code work, childcare, adult care, and travel. Other significant issues emerged around coding consumer goods and services purchases, media use, and volunteer activities. The BLS coding team gave a great deal of attention to the best way to handle these issues, implementing a combination of lexicon revisions and coding rules, and also developing additional probes and summary questions to be asked during and after the diary portion of the interview to elicit information about the respondent's activity or travel purpose. A summary of these special challenges and the implemented solutions are described in more detail in the following sections.

Work. Collecting and coding accurate measures of total time spent working was a BLS priority. Across occupations, work tasks are so varied that a coding system to handle them all would be prohibitively difficult to develop. Also, for most people, time spent working consists of numerous tasks, many of which are repetitive (such as "ringing up a customer's purchase"). Finally, a primary purpose of time-use surveys is to focus on examining how respondents balance work and other activities with family and leisure time, not specific occupational tasks. For these reasons, the ATUS team decided that "unpacking" the work day (collecting a detailed account of the respondent's activities) would unduly lengthen the interview, as well as create unnecessary coding difficulties. Early testing made clear, however, that although most work activities were clearly reported as such, the collected information did not always accurately capture work activities. Activities done outside the usual work environment or by self-employed persons or telecommuters were particularly

difficult to code. Consider a time diary with the following activities:

9:00 a.m.	"I sorted laundry and started washing a load."
9:10 a.m.	"I composed and sent an e-mail to a coworker."
9:25 a.m.	"I put the clothes in the dryer."
9:29 a.m.	"I was working on the computer."

Without additional information, these activities might be coded as doing laundry, sending e-mail, doing laundry, and computer use when, in fact, the respondent was doing work tasks at home in between household tasks. To address this issue, the ATUS questionnaire designers developed questions to be asked of all employed persons to identify work activities not clearly identified in the diary. Responses to these questions eliminated the guesswork about coding work activities.⁷

The ATUS team also revised the working and work-related activities category to include select activities (eating and drinking, socializing, and playing sports) that respondents often identified as being done as part of their job. These activities were added at the second-tier level, thus allowing data users the flexibility to classify such activities as either the activity itself or as work-related.

Childcare. The BLS coding team conceptually defined primary childcare as any activity done with a child that is interactive in nature—such as reading, playing, and talking—and correctly coding such activities posed few difficulties. However, other activities were considered primary childcare as well, but were not limited to this restrictive definition requiring interaction with a child. For example, an activity could be coded as childcare if a child was not present but the activity (such as "talking to my child's teacher") was clearly done in the child's interest or on the child's behalf. Further complicating coding were activities where a respondent reported doing something with a child, such as watching a movie; although not interactive, the presence of a child during the activity prompted coders to classify such an activity as childcare. These types of exceptions or ambiguities had to be addressed explicitly in a revised concept and related coding rules. Without such, coders would have trouble discerning that if a respondent reported "watching television" with a child in the room or "watching television with my child," the correct activity code would be the one associated with watching television under socializing, relaxing, and leisure. But, if the respondent reported "playing Monopoly with my child," the correct activity code would be "playing with children," under childcare.

The ATUS coding team devised an approach to help coders deal with the difficulties coding childcare and helping activities—an approach that combined classroom training, written conceptual definitions, and lists of examples of

activities that showed how and why a particular code should be assigned. The box (below) illustrates the types of examples used in the coding rules manual. These examples make it clear to coders that neither the presence of a child during an activity nor a child’s participation in the respondent’s activity is sufficient alone to code an activity as childcare. Rather, the guiding rule is that when the respondent is directly watching or interacting with a child only or accompanying a child to an activity that has no clear purpose without the child’s involvement, the activity should be coded as childcare. Also, coders were instructed to classify as childcare any activity during which the respondent reported doing something related to a child’s health care or educational needs, even if the child was not present during the activity, such as “attending a parent-teacher conference.”

Caring for and helping adults. Beginning with the first coding tests, coders found that distinguishing household activities from helping activities was difficult. The first-tier household activities category included doing laundry, paperwork, pet care, and organizational tasks for the household. Categories also existed for helping adults who live in the household and those who do not live in the household. An activity such as packing a suitcase or feeding a pet for another adult arguably could be coded as either a household activity or a helping activity.

The coding team developed guidelines, rules, and rationales similar to those in the box below to ensure consistent coding of activities done to help adults who live in the household. Coders were instructed to classify an activity under “helping household adults” only when an activity was done to benefit another household adult personally. So, the statement taken verbatim, “I helped my wife cook dinner,” would be coded as a household activity (meal preparation) because cooking a meal benefits the entire household, whereas the statement taken verbatim, “I filled out my husband’s application form,” would be coded as a helping activity.

Applying these same guidelines when respondents reported helping *nonhousehold* adults was not feasible, however, as “feeding my neighbor’s cat” does not logically fit as an activity done for the respondent’s household. In such cases, all reports of helping an adult who does not live in the respondent’s household were to be coded under the helping category in early versions of the lexicons. However, two coding activities—helping adults who do not live in the household and organizing and planning for these “nonhousehold adults”—were vague to coders. The BLS coding team sought a way to code activities done to “help” other adults while preserving the information about the actual helping activity. To accomplish this, the team significantly revised the second-tier lexicon category, helping nonhousehold adults, under caring for and helping nonhousehold members. This category was expanded to include eight categories that mirrored household activity categories. For example, the household section included “animal and pet care” and the new helping section included “animal and pet care assistance.” This change meant that coders, when faced with a report such as “feeding my neighbor’s cat,” would need not struggle with deciding whether to classify the activity as a household activity or a helping activity, but rather would assign a code that clearly identified the activity as both a helping one and a household one under helping nonhousehold adults/animal and pet care assistance. The additional advantage to this restructuring was that data users who did their own tabulations would be able to choose to classify such activities as either household or helping (or both), depending on their research needs.

Volunteering. Distinguishing volunteering activities from household or helping activities for nonhousehold members was problematic. Without clear rules, “reading to a blind neighbor” might reasonably be coded as helping a nonhousehold member, volunteering, or even socializing. “Feeding the neighbor’s cat” might correctly be coded either as helping a nonhousehold member or as volunteering.

Examples of how to code childcare versus other activities		
Reported activity	Correct lexicon category	Rationale
“Watching cartoons with my child”	Relaxing/watching television	Not an interactive activity
“Shopping for school clothes with daughter”	Shopping	Respondent’s primary activity is shopping
“Playing Monopoly with my wife and son”	Relaxing/playing games	Interactive activity with child and adult; presence of adult trumps presence of child
Talking to my neighbor and her children	Socializing and communicating	Interactive activity with children and adult; presence of adult trumps presence of children
Playing Monopoly with my kids	Childcare	Interactive activity, child only
Attending my child’s school PTA meeting	Childcare	Without the child, the respondent would not be attending the function

During the development of the coding lexicon, BLS took several steps to define a “volunteering” concept and to ensure that the information collected on volunteering was consistent with that concept. The first step was to draw a clear line (in terms of the coding lexicon) between formal helping (volunteering) and informal helping (caring for and helping nonhousehold members) by separating these into two major categories. Next, to establish a standard definition or, at least, some distinguishing characteristics of volunteer activities, BLS contracted with the National Opinion Research Center (NORC) to provide a literature review on volunteering. BLS also drew on the definition of volunteering that was used in a special supplement to the Current Population Survey that collected information on volunteering activities. The final ATUS conceptual definition describes volunteering as an activity that one did for or through an organization, of one’s own free will, and for no pay, except perhaps expenses. A question was added to the survey that asked respondents to identify which activities in their diary day were volunteering according to these criteria.

Travel. Travel activities were the most challenging ones for coders to assign accurately. A general rule for coding travel in both time-use and travel surveys is to code trips according to the traveler’s motivation or major purpose for each travel episode. For example, the verbatim “I drove my child to church” might reasonably be coded as travel related to religious activities by one coder and as travel related to childcare by another. Without clear-cut rules, assigning codes to travel episodes would be left up to each coder’s interpretation of verbatim reports, because respondents are not asked to specify their travel purpose.⁸ Initially, the main ATUS travel coding rule stipulated that travel episodes be coded to the travel *destination*, such as a school or store, the rationale being that destination implied purpose. However, the first draft coding lexicon associated travel with *activities* (for example, travel related to religious activities), not destinations or locations, so this rule could not be implemented successfully. To address this issue, the BLS coding team revamped the rules, instructing coders to associate the travel episode with the respondent’s next *activity* at the travel destination. To illustrate, if “I drove my child to church” was followed by “I dropped my child off,” then the travel episode would be coded as travel related to childcare. By contrast, if the next activity was “I attended worship service,” then the travel episode would be coded as travel related to religious activities. Rules were also revised to clarify how to code waiting while traveling, multi-leg trips, and trips with several intervening activities and destinations.

Despite these rule changes, travel activities were more complicated to code than any other category in subsequent

coding tests. As a result, “fixing” the travel coding rules and improving training became a top priority for the BLS coding team.

The greatest challenges centered around two related issues: how to determine the purpose of the travel episode and how to code waiting activities during or after travel episodes. Determining the purpose of a travel episode involved looking ahead to the activity reported at the travel destination. Following this travel rule worked relatively well when coding a single-destination trip, but became increasingly complex when multiple stops were involved, some of which may only have been incidental to the primary purpose of the travel. To collect travel data that most closely reflected true travel purpose, the BLS coding team originally directed coders to code travel to a destination’s activity during multiple-destination trips *only if the duration of the intervening destination’s activity was 10 minutes or longer*. Thus, if someone drove 30 minutes to work, but stopped for 5 minutes along the way to purchase a cup of coffee, all the travel was to be coded as travel related to work. However, if the coffee purchase took 10 minutes, the first leg of the trip was to be coded as travel related to consumer purchases and the second leg would be coded as travel related to work. Following this “10-minute” travel rule proved confusing and difficult to implement on many occasions and accuracy rates remained low despite substantial training efforts. Ultimately, the BLS requirement to apply the 10-minute travel rule when dealing with multi-stop trips was dropped. Instead, a rule was developed to code travel according to the purpose of each leg of a multi-stop trip, no matter the length of the stops at each destination.

Coding travel accurately was further complicated when the respondent reported waiting while traveling.⁹ The difficulties can be demonstrated using a hypothetical example of a time-use diary:

Travel leg 1:	Driving to the train station (20 minutes)
Activity:	Waiting for the train (15 minutes)
Travel leg 2:	Taking the train to the city (30 minutes)
Activity:	Waiting for a table (15 minutes)
Activity:	Eating at a restaurant (2 hours)

In this example, travel leg 1 would be coded as traveling related to waiting associated with traveling related to eating and drinking, whereas travel leg 2 would be coded as traveling related to waiting associated with eating and drinking. Because of these challenges, the confusing “waiting” categories were stripped from the travel categories, and coders were instructed to fold any waiting time while traveling directly into associated travel episodes.

The decision to code multiple-destination travel according to the purpose of the activity at the next destination, regardless of the length of time of the stop, means that travel

legs are often not actually coded to “main” purpose of the trip. Therefore, travel time related to certain activities may be under- or overreported when part of a multiple-destination trip. Analysts using travel data from the ATUS will probably want to examine the activity codes in detail and modify them according to their research interests. For example, those interested in measuring commuting time may want to make assumptions about trip purpose when the final destination is the workplace, but an intervening stop for another purpose took less than 10 minutes.

Purchasing consumer goods and services. A common category in time-use survey coding systems is purchasing goods and services. The ATUS lexicon originally adopted this phrasing, which is meaningful to economists, as it included time spent in all purchasing activities, but it was not intuitive to coders. Coder feedback and the results of coding accuracy evaluation from the earliest coding tests immediately pointed to problems with understanding the original purchasing goods and services category. In particular, the coders did not relate medical, legal, or childcare services to the goods and services category, and did not know where to look when coding an activity such as “having a doctor’s appointment.” To facilitate coding, the BLS coding team decided to break the goods and services category into several categories. One category would cover purchases of consumer goods, and several others would cover purchases of various services: professional services (including financial, legal, and medical); household maintenance services; and government services. However, in published tables these categories would be recombined into one category covering all goods and services.

Media use. In several other time-use surveys, activities such as reading books, magazines, and newspapers; watching television; listening to the radio; playing records, CDs, or tapes; reading mail and writing letters; and using the telephone, are classified under a mass media category. But determining where to classify and how to code types of media use—including using a computer or the Internet—in the ATUS proved challenging. Tests showed that the distinctions between some of the major activity categories were blurry, and activities could reasonably be coded under more than one category, depending on one’s interpretation of the category definitions. For example, classifying “reading the newspaper” under socializing and relaxing seemed to coders as logical as classifying it under media use, where other time-use surveys included it. To ensure accuracy at the first tier, the BLS coding team decided to drop the “media use” language, which was sometimes confusing for coders, and to include watching television, listening to the radio, reading for personal interest, and computer and Internet use for personal interest as subcategories under the overarching

category called *socializing, relaxing, and leisure*. However, reading e-mail and writing e-mail were grouped in the major category *household activities*, where handling regular mail is classified.

Other categories. Although the previously mentioned categories provided the most significant challenges, many other activities were important to clarify for coders as well. “Purchasing movie tickets” might be considered as making a consumer purchase or attending a movie. “Talking with a professor” might be coded as socializing and communicating or attending class. These and many more similarly ambiguous activities required BLS to make decisions about how conceptual definitions for each activity category should be refined and operationalized through coding rules. It was clear that any conceptual definitions and rules created for coding purposes might be at odds with the needs of individual data users because, ultimately, how an activity should be classified depends on the question being answered by analysts of time-use data. The need to build a coding lexicon that would allow consistent coding without losing analytical relevance and flexibility continued to be a challenge right up to the start of the survey.

Full production coding operations

Full production of the ATUS began in January 2003, with a 17-tier coding lexicon, desk aids, and an extensive coding rules manual. Although experienced in collecting data for other BLS surveys, Census Bureau employees at the Jeffersonville Telephone Center in Indiana faced new challenges in conducting and coding ATUS interviews. Collecting time-use data requires the use of *conversational interviewing*. That is, in addition to asking a series of structured, scripted questions to update household roster and employment status information, interviewers must guide respondents through their report about the prior day using active listening techniques and selective probing to keep respondents on task, filter out irrelevant information, and ensure adequate detail in order to code responses. ATUS also diverges from Census Bureau convention by requiring interviewers to code interview responses (although not from the interviews that they conducted) into activity categories—a job normally assigned to coding specialists.

The ATUS coding team conducted debriefings of Census Bureau interviewers after the dress rehearsal and pre-fielding periods ended, and has continued to do so periodically since the survey entered full production. Over time, interviewers have become increasingly comfortable with conversational interviewing. More importantly, interviewers’ reactions to their new dual job role as interviewers/coders have been consistently positive. When coding time diaries, interviewers

become more aware of the difficulty of classifying activities and the consequences of improperly or vaguely recorded activities. Because of this perspective gained from coding, interviewers have become much more skilled at collecting and recording codable time diary information.

Even the most carefully collected and recorded time diaries contain activities that are difficult to code. To achieve coding accuracy and consistency, the ATUS team focuses heavily on training and qualifying individuals before they are allowed to code real cases, and verifies all assigned codes in every case. This process is similar to the one implemented for the Australian time-use survey. After a coder completes a case, a second coder (the verifier) re-codes the same case without seeing the original codes. If both coder and verifier assign the same activity codes, the case is closed. If there is disagreement on any code, the case goes to an adjudicator who is an experienced supervisor or coach. The adjudicator assigns a correct code to the disputed activities, and then closes the case. The adjudicator also assigns an error to the coder or verifier (or both) who assigned the incorrect activity code. Information on errors is fed back to coders in the form of an error report and discussions with adjudicators as to why an activity code was reassigned. Thanks in part to this verification system, coding error rates dropped from 14.3 percent during the dress rehearsal in April 2002 to 5.5 percent in January 2004, 1 year into full production.

The experiences from testing the coding process and conducting a dress rehearsal demonstrated that without substantial training, practice, a comprehensive set of coding rules, and a verification process, many reported activities are open to a wide range of interpretation. Training and practice are essential to first-time interviewers/coders, as they convey interviewing and probing techniques, explain the coding lexicon and rules for coding, and allow ample opportunity for questions and answers.

Using the Blaise-designed computer coding application also contributes to accurate and consistent coding. Completed cases are loaded into the ATUS coding application, which has multiple windows so coders can simultaneously view the activity being coded, the coding categories, and the respondent's entire time diary. In the time diary window, the following information is included for each activity: start time, duration, who was in the room with or accompanied the respondent, location, and whether or not the respondent identified the activity as done as part of one's job, as another income-generating activity, or as volunteering for an organization. Using tabs at the top of the window, the coder can access additional information on the respondent's occupation and industry, the ages and relationships of household members, and any notes about the case that the interviewer added for assistance with coding. The coding software includes a search feature that helps coders find the

correct code for ambiguous activities and increases coding speed. Verification and adjudication systems are also built into the system.

Since full production began, debriefings and the coding verification and adjudication systems have brought to light coding issues that required some changes to the coding lexicon and coding rules. These changes were implemented in January 2004, are few and relatively minor, and will have little or no impact on the continuity of the data between 2003 and 2004. Lexicon changes—mostly in the form of adding examples—largely help to disambiguate activity categories and provide a better understanding for the staff doing the coding.

Unlike other survey classification systems—such as those relating to occupations or industries, which require periodic revisions to reflect changes in business practices or a restructuring of the economy—the time-use activity categories at the first-tier level in the coding lexicon are not likely to change significantly. Although relative time spent in various activity categories may grow or decline as a result of cultural, workplace, or technological changes, the major activity categories themselves will probably remain the same. After carefully reviewing and analyzing the first few years' time-use estimates, second- and third-tier activity categories may be expanded to enable the collection of greater detail for activities that account for a lot of time, or collapsed to combine activities that show up infrequently. For example, if analyses show that computer use for personal interest accounts for a disproportionate amount of time spent in leisure activities, this category could be broken into two third-tier categories: non-Internet computer use for personal interest and Internet use for personal interest to obtain measures of both “off-line” and “on-line” computer use.

Structure of the classification system

As mentioned earlier, the ATUS coding lexicon uses a hierarchical structure, classifying reported activities into major categories, with two additional levels of detail in each category. ATUS, however, has a much larger number of first-tier (major) categories than other time-use surveys: 17 as opposed to an average of 10. Also, ATUS coders assign a six-digit classification code to each diary activity, rather than the three-digit code commonly used in other time-use surveys. The first two digits represent the major activity categories, the next two digits represent the second-tier level of detail, and the final two digits represent the third—the most detailed level of activity. The final code in every tier is 99, which represents activities classified in each tier's relevant activity, but which are not elsewhere classified.

For example, the ATUS code for “making the bed” is 020101. “Making the bed” appears in the coding application as an

Major analytical activity categories, 2003

- Personal care
- Eating and drinking
- Household activities
- Purchasing goods and services
- Caring for and helping household members
- Caring for and helping nonhousehold members
- Working and work-related activities
- Educational activities
- Organizational, civic, and religious activities
- Leisure and sports
- Telephone calls, mail, and e-mail
- Other activities, not elsewhere classified (n.e.c.)

example under the third-tier category, *interior cleaning*, which is part of the second tier category, *housework*, which falls under the *household activities* major category:

- 02 Household activities
 - 01 Housework
 - 01 Interior cleaning
 - making the bed*
 - 02 Laundry
 - 03 Sewing, repairing, and maintaining textiles
 - 04 Storing interior household items, including food
 - 99 Housework, n.e.c.

The adoption of a 6-digit classification code has the advantage of enabling greater flexibility than 3-digit systems in adding new subcategories under major and second-tier categories. Although most categories have nine or fewer subcategories, some, such as sports participation, have many more, taking advantage of this flexibility. The 99 options under each tier leave the door open for future revisions.

An important note about the ATUS interview: only *primary*

activities are systematically collected and coded. Respondents are not systematically questioned about simultaneous activities; however, if they volunteer that two or more activities were done simultaneously, the interviewer probes for the main—or primary—activity, which is recorded first in the activity field.¹⁰ The coding staff is instructed to assign an activity code only to the primary activity; in this way, each respondent’s day adds up to no more than 24 hours.

Coding versus publication activity categories

The central concerns influencing the development of the coding lexicon were the need for coding consistency and the need for analytical flexibility. The lexicon categories are conceptually and operationally distinct to enable consistency, but they are not necessarily the best categories for analytical reporting. In the first publication of ATUS data, composites of the original coding lexicon categories were developed into analytical categories to describe how people use their time. (See the box for the major analytical activity categories.) Appendix A provides definitions of the major categories used in the first published tables (as part of the September 2004 news release¹¹) and appendix B “crosswalks” those categories to the lexicon categories described earlier.¹²

IN SUMMARY, the ATUS classification system is characterized by its detail and flexibility. These characteristics, while important for maximizing the survey’s use to analysts of the data, also increase the complexity for coders. Understanding how ATUS data are collected and classified, as well as understanding the special coding challenges, represent an important first step for researchers who wish to develop meaningful analyses, including comparisons of time-use data collected through other surveys. □

Notes

¹ For a detailed description of the evolution of ATUS, see Diane Herz and Michael Horrigan, “Planning, designing, and executing the BLS American Time Use Survey” *Monthly Labor Review*, October 2004, pp. 3–19.

² Alexander Szalai, *The use of time: Daily activities in urban and suburban populations in twelve countries* (The Hague, Mouton, 1972).

³ Dagfinn Aas, “Studies of Time-Use: Problems and Prospects,” *Acta Sociologica*, vol. 2, 1978, pp. 125–141; Dagfinn Aas, “Designs for Large Scale Time-Use Studies of the 24-Hour Day,” *Its About Time* (International Research Group on Time Budgets and Social Activities, 1982); and Iris Niemi, Salme Kiiski, and Mirja Liikkanen, *Use of Time in Finland 1979* (Helsinki, Central Statistical Office of Finland, 1986).

⁴ Szalai, *The use of time*, 1972.

⁵ This software was developed by Statistics Netherlands and is the standard for both survey and coding applications at the Census Bureau.

⁶ A “dress rehearsal,” conducted during April–July of 2002, marked the first time all components (the collection instrument, the coding instrument, operations procedures, and so forth) of the ATUS were tested at one time, and was designed to mimic full production survey conditions, including live interviewing. Pre-fielding followed the dress rehearsal, and took place from August until full production began in January of 2003. Pre-fielding provided an opportunity to refine operations, interviewing and coding processes, and collect preliminary data for analysis.

⁷ See Herz and Horrigan, “The BLS American Time Use Survey,” 2004, for more information on the ATUS work summary questions.

⁸ In 2002, BLS contracted with the National Opinion Research Center to conduct cognitive research on how respondents identified

the purpose of travel episodes. Research conclusions pointed to the difficulties in collecting accurate and consistent information on travel purposes. For example, respondents often reported on the purpose of their next activity, not the travel episode: The question, “What was your purpose in driving to the gym?” might elicit a response of “Because I want to lose weight.” For this reason, ATUS interviewers are not instructed to probe for the main purpose for travel episodes, but rather deduce it from the nature of the activity reported following the travel episode.

⁹ The travel category had, like all other categories in the lexicon,

a “waiting” category at the third tier for each second tier category.

¹⁰ See Herz and Horrigan, “The BLS American Time Use Survey,” 2004, for more information on the decisions made about the collection and coding of simultaneous activities.

¹¹ See “Economic News Releases” on the ATUS Web site at www.bls.gov/tus/home.htm for the September 2004 news release.

¹² The complete 2003 ATUS Activity Coding Lexicon is available on the Internet at: www.bls.gov/tus/lexiconwex2003.pdf.

APPENDIX A: Activity categories and definitions

Personal care activities. Personal care activities include sleeping, bathing, dressing, grooming, health-related self-care, and personal or private activities. Receiving unpaid personal care from others (for example, “my sister put polish on my nails”) is also captured in this category. Respondents are not asked *who* they were with or *where* they were for personal activities, as such information can be sensitive. The following list illustrates sample activities that respondents report and the category into which the interviewer/coder placed those activities.

<i>Reported activity</i>	<i>Lexicon category</i>
Tossing and turning in bed	Sleeplessness
Blow-drying my hair	Washing, dressing, and grooming
My sister braided my hair	Washing, dressing, and grooming
Doing childbirth exercises	Health-related self-care
Cuddling partner in bed	Personal/private activities

Household activities. Household activities are those done by respondents to maintain their households. These include housework; cooking; yard care; pet care; vehicle maintenance and repair; and home maintenance, repair, decoration, and renovation. Food preparation, whether or not reported as done specifically for another household member, is always classified as a household activity, unless the respondent identified it as a volunteer, work, or income-generating activity. For example, “making breakfast for my son” is coded as a household activity, not as childcare. Household management and organizational activities—such as filling out paperwork, balancing a checkbook, or planning a party—also are included in this category.

Although all mail and e-mail activities are originally classified in the household activities category during coding, these activities are pulled out of the household activities and included in the composite category Telephone, Mail, and E-mail category in published tables. The following list is a sample of reported household activities and the categories into which they belong.

<i>Reported activity</i>	<i>Lexicon category</i>
Putting away groceries	Storing interior items
Hemming a skirt	Sewing, repairing, and maintaining textiles
Boiling water for tea	Food and drink preparation
Putting up bookshelves	Interior arrangement, decoration, and repair
Loading software on PC	Appliance and tool set-up and repair
Cleaning the pool	Ponds, pools, and hot tubs
Filling out tax forms	Financial management

Caring for and helping household members. Time spent doing activities to care for or help any child or adult in the respondent’s household, regardless of relationship to the respondent or the physical or mental health status of the person being helped, are classified here. Caring and helping activities for household children and adults are coded separately in subcategories. Household members are considered children if they are under 18.

Primary childcare activities include physical care; playing with children; reading to children; assistance with homework; attending children’s events; taking care of children’s health care needs; and dropping off, picking up, and waiting for children. Passive childcare done as a primary activity (such as “keeping an eye on my son while he swam in the pool”) also is included. A child’s presence during the respondent’s activity is not enough in itself to classify the activity as childcare. For example, “watching television with my child” is coded as a leisure activity, not as childcare.

Secondary childcare is care for children that is done while doing something else. This information is collected by asking the respondent about times when “a child was in your care” while doing something else as a primary activity, and is available in published ATUS tables and in the ATUS public use data files. It is not part of the ATUS coding lexicon.

Caring for and helping household members also includes a range of activities done to benefit adult members of households, such as providing physical or medical care or obtaining medical services. Doing something as a favor for, or helping another household adult does not automatically result in classification as a helping activity. For example, a report of “helping my wife cook dinner” is considered a household activity (food preparation), not a helping activity, because cooking dinner benefits the household as a whole. By contrast, doing paperwork for another person usually benefits the individual, so a report of “filling out an insurance application for my husband” is considered a helping activity. For example, the following list shows the reported caring or helping activity on the left and the coded activity on the right.

<i>Reported activity</i>	<i>Lexicon category</i>
Tucking my son in bed	Household childcare: physical care
Riding bikes with my kids	Household childcare: playing sports
Waiting for the school bus with my child	Household childcare: waiting for or with household child
Talking to my child’s teacher	Household childcare: meetings and school conferences (child’s education)

Meeting with my mother's adult care provider (mother is household member)	Household adult care: obtaining medical and care services
Packing a suitcase for my wife	Helping household adults: organization and planning
Dropping my husband off at work	Helping household adults: picking up or dropping off

Caring for and helping nonhousehold members. Activities done to care for or help any child or adult who is not part of the respondent's household, regardless of the relationship to the respondent or the physical or mental health status of the person being helped, are classified in this category. Caring and helping activities for nonhousehold children and adults are coded separately in subcategories. Nonhousehold members are considered children if they are under 18. When done for or through an organization, time spent helping nonhousehold individuals is classified as volunteering rather than as helping nonhousehold members. Non-household childcare, even done as a favor or a helping activity for another adult, is always classified as nonhousehold childcare, not as helping another adult.

The activity classifications for this category parallel those for the caring for, and helping household members category, with one notable exception. The subcategory of helping nonhousehold adults is expanded to include more activities that the respondent identifies as "helping;" this subcategory is further broken into broad shopping and household activity groupings. The following list shows examples of these activities and categories.

<i>Reported activity</i>	<i>Lexicon category</i>
Attending my niece's school play	Nonhousehold childcare: attending children's events
Dropping off my friend's son at school	Nonhousehold childcare: dropping off/picking up children
Grocery shopping for my mother	Helping nonhousehold adult: housework, cooking, and shopping assistance
Filling out a form for my neighbor	Helping nonhousehold adult: household management and paperwork assistance
Waiting with my friend at the emergency room	Caring for nonhousehold adult: waiting associated with caring
Feeding my neighbor's cat	Helping nonhousehold adults: animal and pet care assistance

Working and work-related activities. This category includes time spent working, doing activities as part of one's job, engaging in income-generating activities (not as part of one's job), and job search activities. "Working" includes hours spent doing the specific tasks required of one's main or other job, regardless of location or time of day. Activities done outside of regular work hours are classified as work if identified by respondents as part of their jobs. "Work-related activities" include activities that are not obviously work but are identified by the respondent as being done as part of one's job, such as having a business lunch or playing golf with clients. "Other income-generating activities" are those done "on the side" or under informal arrangement and are not part of the respondent's regular job. Such activities might include selling homemade crafts, babysitting, maintaining a rental property, or having a yard sale. Respondents identify these activities as ones they "are paid for or will be paid for."

Work and work-related and income-generating activities are identified during data collection by the respondent and flagged as such with an M, O, or P in the instrument that coders use to assign activity codes. The following list shows examples of these reported work activities and the categories into which they belong (M = done as part of main job; O = done as part of other job; and P = done as income-generating activity).

<i>Reported activity</i>	<i>Lexicon category</i>
Grading papers at home (M)	Working, main job
Telephoning a coworker (M)	Working, main job
Attending a conference (M)	Working, main job
Using computer to write memos (O)	Working, other job
Enrolling in work-related training (M)	Working, main job
Having lunch with clients (O)	Work-related: eating and drinking as part of job
Playing piano in a wedding (P)	Income-generating activities: performances
Mowing the neighbor's lawn (P)	Income-generating activities: services
Selling stuff at a yard sale (P)	Income-generating activities: other, n.e.c.
E-mailing resumes to employers	Job search and interviewing: active job search
Preparing for a job interview	Job search and interviewing: interviewing

Educational activities. Educational activities include taking classes (including Internet or other distance learning courses); doing research and homework; and taking care of administrative tasks, such as registering for classes or obtaining a school identification card. For high school students, before- and after-school extracurricular activities (except sports) are also classified as educational activities. Activities are classified separately by whether the educational activity was for a degree or for personal interest. Educational activities do not include time spent for classes or training that respondents identified as part of their jobs. Time spent helping others with their education-related activities is classified in the *Caring for and helping* categories. The following list shows examples of reported educational activities and the lexicon categories into which they are classified (PI = personal interest and D = degree).

<i>Reported activity</i>	<i>Lexicon category</i>
Attending a seminar (PI)	Taking class: for degree
Taking an exam (D)	Taking class: for degree
Talking to a professor about a paper (D)	Taking class: for degree
Taking a parenting class (PI)	Taking class: for personal interest
Taking driving lessons (PI)	Taking class: for personal interest
Waiting for class to start (D)	Waiting associated with taking classes
E-mailing homework to teacher (D)	Research/homework: for class for degree
Meeting with the Science Club—DP is high school student (D)	Extracurricular school activities: club activities

Organizing class notes (D) Research/homework: for class for degree
 Paying fees during registration (PI) Registration/administration activities: for class for personal interest

Looking at apartments to rent Activities related to purchasing/selling real estate
 Talking to a real estate agent Activities related to purchasing/selling real estate
 Paying for veterinary services Using veterinary services

Purchasing goods and services. This category includes the purchase of consumer goods as well as the purchase or use of professional and personal care services, household services, and government services. Most purchases and rentals of consumer goods, regardless of mode or place of purchase or rental (in person, via telephone, over the Internet, at home, or in a store) are classified in this category. Gasoline, grocery, other food purchases, and all other shopping are further broken out into subcategories. The following list shows examples of respondents' reported activity and the lexicon category for purchasing goods and services.

Time spent arranging for and purchasing household services provided by someone else also is classified in this category. Household services include housecleaning; cooking; lawn care and landscaping; pet care; tailoring, laundering, and dry cleaning; vehicle maintenance and repairs; and home repairs, maintenance, and construction. Some of the sample activities are included in the following list.

<i>Reported activity</i>	<i>Lexicon category</i>
Ordering groceries over the Internet	Grocery shopping
Talking to the produce manager	Grocery shopping
Pumping gas	Purchasing gas
Paying for pizza delivery	Purchasing food (not groceries)
Buying fast food	Purchasing food (not groceries)
Browsing at the department store	Shopping, except groceries, food, and gas
Renting a rug shampooer	Shopping, except groceries, food, and gas
Returning videotapes to rental store	Shopping, except groceries, food, and gas
Picking up film	Shopping, except groceries, food, and gas
Comparison shopping	Researching purchases
Waiting in line at the grocery store	Grocery shopping

<i>Reported activity</i>	<i>Lexicon category</i>
Paying the housecleaning service	Interior cleaning services
Hiring carpet cleaners	Interior cleaning services
Meeting with a caterer	Meal preparation services
Dropping clothes at the dry cleaner	Clothing repair and cleaning services
Hiring a building contractor	Home maintenance, repair, decoration, and construction services
Talking to the furniture movers	Home maintenance, repair, decoration, and construction services
Hiring a pet trainer	Pet services
Paying the landscaper	Lawn and garden services
Waiting while car oil is changed	Vehicle maintenance and repair services

This category also captures the time spent obtaining government services—such as applying for food stamps—and purchasing government-required licenses or paying fines or fees. Some other examples of these activities and categories are:

Time spent obtaining, receiving, and purchasing professional and personal care services provided by someone else also is classified in this category. Professional services include childcare, financial services and banking, legal services, medical and adult care services, real estate services, and veterinary services. Personal care services include day spas, hair salons and barbershops, nail salons, and tanning salons. Activities classified here include the time respondents spent paying, meeting with, or talking to service providers, as well as time spent receiving the service or waiting to receive the service. The following list shows examples of respondents' reported activities regarding purchases of professional services and the lexicon category into which they are categorized.

<i>Reported activity</i>	<i>Lexicon category</i>
Talking to a police officer	Police and fire services
Waiting while the fire department detects for carbon monoxide	Police and fire services
Applying for food stamps	Social services
Meeting a social worker	Social services
Getting a passport	Obtaining licenses and paying fines, fees, and taxes
Paying a speeding ticket	Obtaining licenses and paying fines, fees, and taxes

<i>Reported activity</i>	<i>Lexicon category</i>
Interviewing a nanny	Using childcare services
Paying for a child's day camp	Using childcare services
Checking out a daycare facility	Using childcare services
Using the bank ATM	Banking
Meeting with a tax advisor	Using financial services
Sitting in the doctor's waiting room	Using health and care services outside the home

Eating and drinking. All time spent eating and drinking (except when identified by the respondent as part of a work or volunteer activity), whether alone, with others, at home, at a place of purchase, in transit, or somewhere else, is classified in this category. Time spent purchasing or talking related to purchasing meals, snacks, and beverages is not counted as part of this category; time spent doing these activities is classified under *Purchasing goods and services*. The following list provides examples of eating and drinking activities and the categories into which they are classified.

<i>Reported activity</i>	<i>Lexicon category</i>	<i>Reported activity</i>	<i>Lexicon category</i>
Sipping tea	Eating and drinking	Organizing coin collection	Collecting as a hobby
Waiting for a restaurant table	Waiting associated with eating and drinking	Attending the ballet	Arts and entertainment: performing arts
Snacking on pretzels	Eating and drinking	Visiting an art gallery	Arts and entertainment: attending museums
Drinking some brews	Eating and drinking	Horseback riding	Participating in sports, exercise, or recreation: participating in equestrian sports
Eating a bite	Eating and drinking	Watching a soccer game (not TV)	Attending sporting, recreational events: watching soccer
Waiting for pizza delivery	Waiting associated with eating and drinking		

Leisure and sports. The leisure and sports category includes sports, exercise, and recreation; socializing and communicating; and other leisure activities. Socializing and communicating includes face-to-face social communication and hosting or attending social functions. Time spent communicating with others using the telephone, mail, or e-mail is not part of this category. These activities are included in the separate *Telephone calls, mail and e-mail* category. Leisure activities include watching television; reading; relaxing or thinking; playing computer, board, or card games; using a computer or the Internet for personal interest; playing or listening to music; and other activities, such as attending arts, cultural, or entertainment events.

Participating in—as well as attending or watching—sports, exercise, and recreational activities, whether team or individual and competitive or noncompetitive, fall into this category. Some sample activities are in the following list.

<i>Reported activity</i>	<i>Lexicon category</i>
Hanging out with the family	Socializing and communicating with others
Chatting with my neighbors	Socializing and communicating with others
Spending time with my friends	Socializing and communicating with others
Attending a friend's graduation	Attending/ hosting parties, receptions, ceremonies
Attending a senior citizens meeting	Attending meetings for personal interest
Sunbathing	Relaxing, thinking
Daydreaming	Relaxing, thinking
Watching my wife garden	Relaxing, thinking

Organizational, civic, and religious activities. This category is a composite of several coding lexicon categories and captures time spent volunteering for or through an organization, performing civic obligations, and participating in religious and spiritual activities. Civic obligations include government-required duties, such as serving jury duty or appearing in court, and activities that assist or influence government processes, such as voting or attending town hall meetings. Religious activities include those normally associated with membership in or identification with specific religions or denominations, such as attending religious services; participating in choirs, youth groups, orchestras, or unpaid teaching (unless identified as volunteer activities); and engaging in personal religious practices, such as praying. Reading the Bible or other holy text or scriptures is classified as reading under *Leisure and sports*. The following list shows sample reported activities and the lexicon category into which they belong (V = Volunteer activities).

<i>Reported activity</i>	<i>Lexicon category</i>
Attending a church revival	Attending religious services
Praying alone	Participating in religious practices
Designing a Web site (V)	Volunteer activities: administrative and support activities
Participating in a government survey	Civic obligations and participation
Baking cookies for the PTA bake sale (V)	Volunteer activities: social service and care activities
Emceeding a charity function (V)	Volunteer activities: Participating in performance and cultural activities

APPENDIX B: Crosswalk between ATUS coding lexicon major categories and published tables major categories, 2003

Published tables: major categories	Code	Coding lexicon categories
Personal care	01 1701	Personal care activities Travel related to personal care
Eating and drinking	11 1711	Eating and drinking Travel related to eating and drinking
Household activities	All 02, except (020903 020904) 1702	Household activities (Household and personal mail and messages Household and personal e-mail and messages) Travel related to household activities

Appendix B: Continued—Crosswalk between ATUS coding lexicon major categories and published tables major categories, 2003

Published tables: major categories	Code	Coding lexicon categories
Purchasing goods and services	07	Consumer purchases
	08	Professional and personal care services
	09	Household services
	1001	Using government services
	100301	Waiting associated with using police/fire services
	100302	Waiting associated with obtaining licenses
	100399	Waiting associate with using government services or civic obligations, n.e.c.
	1004	Security procedures related to government services/civic obligations
	1099	Government services, n.e.c.
	1707	Travel related to consumer purchases
	1708	Travel related to using professional and personal care services
	1709	Travel related to using household services
	171001	Travel related to using police/fire services
	171002	Travel related to using social services
	171003	Travel related to obtaining licenses and paying fines/fees
	171099	Travel related to government services and civic obligations, n.e.c.
Caring for and helping household members	03	Caring for and helping household members
	1703	Travel related to caring for and helping household members
Caring for and helping nonhousehold members	04	Caring for and helping nonhousehold members
	1704	Travel related to caring for and helping nonhousehold members
Working and work-related activities	05	Working and work-related activities
	1705	Travel related to working and work-related activities
Educational activities	06	Education
	1706	Travel related to education
Organizational, civic, and religious activities	14	Religious and spiritual activities
	15	Volunteer activities
	1002	Civic obligations and participation
	100303	Waiting associated with civic obligations and participation
	1714	Travel related to religious and spiritual activities
	1715	Travel related to volunteer activities
171004	Travel related to civic obligations and participation	
Leisure and sports	12	Socializing, relaxing, and leisure
	13	Sports, exercise, and recreation
	1712	Travel related to socializing, relaxing, and leisure
	1713	Travel related to sports, exercise, and recreation
Telephone calls, mail, and e-mail	16	Telephone calls
	1716	Travel related to telephone calls
	020903	Household and personal mail and messages
	020904	Household and personal e-mail and messages
Other activities, not elsewhere classified	1717	Security procedures related to traveling
	1799	Traveling, n.e.c.
	50	Data codes

A transaction price index for air travel

Research on a price index estimator based on data from a U.S. Department of Transportation survey involves testing unique imputation and across-time matching procedures; the resulting experimental index is compared with the official CPI series and the consumer expenditure deflator series used in National Accounts computations

Janice Lent
and
Alan H. Dorfman

Janice Lent is a mathematical statistician with the U.S. Research and Innovative Technology Administration, Washington, DC; Alan H. Dorfman is a mathematical statistician in the Office of Survey Methods Research, Bureau of Labor Statistics. The opinions expressed in this article are those of the authors and do not constitute policy of either the Research and Innovative Technology Administration or the Bureau of Labor Statistics.

Special discount airfares, facilitated by the Internet and “frequent-flyer” programs, complicate efforts to measure changes in the price of commercial air travel. Endeavoring to fill their flights, airlines offer a variety of discount fares through several media (credit card points, supermarket coupons, and the like). The official Consumer Price Index (CPI) for commercial air travel, however, is based on prices listed by the airlines in SABRE, a reservation system used by many travel agencies. Thus, the CPI fails to reflect price changes that may be effected through special discounted prices and frequent-flyer awards. This article reports on a study whose aim was to produce an index series based on actual prices paid by consumers. The most promising data set currently available for that purpose is the Transportation Department’s Data Bank 1B, which contains data from the quarterly Passenger Origin and Destination (O&D) Survey, collected by the U.S. Government’s Bureau of Transportation Statistics. These data are itinerary based: each observation consists of a fare (the actual fare paid, including tax), a sequence of airports and carriers, and other details of an itinerary traveled by a passenger or a group of passengers.

The Department of Transportation is developing plans to improve and expand the O&D Survey. The additional data that the Department plans to collect will greatly enhance analysts’ ability to compute detailed price indexes; among the new data is detailed information regarding the sale of the airline ticket, as well as transaction fares for flights

in the recorded itineraries. The Department also plans to improve the timeliness of the survey data. Currently, the data become available with a lag of 3 to 6 months—too late to be used in computing the airfare component of the CPI. This article examines research aimed at computing price indexes from the current O&D Survey data. The Bureau of Transportation Statistics will soon be publishing the new quarterly experimental Air Travel Price Index (ATPI) series, computed at a variety of aggregation levels.

A secondary goal of the research is to test the feasibility of computing price indexes from non-matched samples of customized items. The sample for the O&D Survey is selected independently each quarter and is a 10-percent sample of airline tickets from reporting carriers, both foreign and domestic. Each ticket having a serial number that ends in “0” is selected for the sample. For the purpose of this research, the O&D sample is treated as a simple random sample. Because the quarterly samples are independently selected and airline itineraries are customized, matching the data across time is the primary challenge. Large data sets (containing, for example, scanned-in data) with the prices of other types of customized items may well become available in the future. The current research will provide insight into the potential usefulness and limitations of such data sets for price index computation.

The next section compares the ATPI with two important airfare price indexes currently in use.

Following that comparison, the methodological research undertaken in the development of the ATPI is discussed. Then, time plots of ATPI series, computed for research purposes, are presented. A discussion of possible directions for further investigation rounds out the text of the article. Most formulas and technical details are relegated to the appendix.

Comparison of airfare indexes

This section compares and contrasts the ATPI with two important airfare index series:

1. the BLS Consumer Price Index (CPI) for airline fares
2. the consumer expenditure deflator for airline fares, computed by the Bureau of Economic Analysis (BEA) and used in National Accounts estimation.

Comparing the experimental ATPI with the CPI. The Bureau of Labor Statistics currently publishes several price indexes for airfares: (1) a Consumer Price Index (CPI), (2) a Producer Price Index, and (3) international import and export price indexes. Because the CPI is perhaps the best-known and most widely used of the BLS price indexes, this section focuses on a comparison between the ATPI and the airfare component of the CPI. The CPI measures changes in the prices paid by consumers for airline trips, including taxes and all distribution costs paid by the consumers. The experimental ATPI series are similar to the BLS CPI in that the prices they measure include taxes paid, as well as fares received by the airline. The ATPI prices, however, exclude any distribution costs that were not received by the carriers (for example, travel agents' fees). The CPI includes trips purchased from foreign carriers, while the current ATPI series do not include data from foreign carriers.¹ CPI air-travel prices are gathered monthly from the SABRE system, while information on ATPI prices and quantities come from the O&D Survey.

The sample for the CPI airfare component is drawn from a subset of the O&D Survey data. Conceptually, the CPI excludes business trips, but because such trips cannot be identified on the sampling frame (information on the purpose of a trip is not collected in the O&D Survey), they cannot be screened out of the sample. Thus, both the CPI and ATPI samples include personal trips as well as business trips.²

Another important difference between the ATPI and the airfare CPI lies in the target index formulas used. The economics literature contains a wide variety of price index formulas that may be accepted as estimation targets. The "textbook" Laspeyres formula, for example, is given by

$$L = \frac{\sum_{i=1}^N q_{i,1} p_{i,2}}{\sum_{i=1}^N q_{i,1} p_{i,1}}$$

where N is the number of items in the target population and, for $t \in \{1, 2\}$, $p_{i,t}$ and $q_{i,t}$ denote the price and quantity purchased, respectively, of item i in period t , for $i = 1, 2, \dots, N$. Note that the index represents a comparison between prices in two arbitrary, but discrete, periods 1 and 2 (for example, months or years). The classical index formulas also rely on the implicit assumption that the collection of N items remains the same for the two reference periods. Index estimators, in contrast, must allow for the continual flow of goods and services on and off the market, as well as for the fact that information on prices and quantities normally are available only for a sample of items in the population.³

The Laspeyres formula, which measures changes in the price of a "fixed market basket" of items, is commonly used by government statistical agencies. Economic theory suggests, however, that other formulas may provide better approximations of changes in the cost of living, because consumers do not purchase the same set of items (a fixed market basket) in each survey period. Rather, they tend to alter their buying habits in response to changes in relative prices—for example, buying a particular brand of a product when that brand is on sale. Formulas such as the Jevons (or geometric mean), Fisher, and Törnqvist indexes are often considered more appropriate, given a "dynamic" market basket. (See the appendix for definitions of these formulas.)

The Fisher and Törnqvist indexes in particular are known as "superlative" indexes, because they approximate the change in the cost of living (that is, the cost of obtaining a fixed level of "utility") under relatively weak assumptions concerning consumer buying behavior.⁴ The Jevons and Laspeyres formulas are often more practical, however, because they require less information on consumer expenditures than do the superlative formulas.

Since January 1999, the airfare CPI has been based on a weighted Jevons index formula within each sample geographic area, with sampling weights obtained from O&D Survey data. At the upper level of aggregation (aggregating across geographic areas), the CPI employs a modified version of the Laspeyres index, with weights estimated from Consumer Expenditure Survey data. The implementation of the Jevons index (replacing the Laspeyres index) at the lower level of aggregation in the CPI was motivated in part by empirical research.⁵

In the course of the ATPI research, indexes based on the Jevons, Laspeyres, Fisher, and Törnqvist formulas were computed. The Jevons index estimates were severely biased downward relative to the Fisher and Törnqvist estimates. Moreover, the Fisher index series proved more robust to extreme fare values⁶ than did the Törnqvist series. Accordingly, the Fisher formula is the most desirable for the air-travel application⁷ and is thus the one presented in this article.

The ATPI series also differ from the BLS CPI series in the definitions of their reference periods. From the current O&D

Survey data, only quarterly indexes can be computed, and the reference quarter is the quarter in which the airline ticket was used for travel.⁸ The BLS CPI is a monthly survey, and the Bureau collects prices at which tickets are being sold (not necessarily used) during the reference month. Moreover, the scope of the ATPI is slightly wider than that of the airfare CPI. The CPI covers only trips that originate in the United States, whereas the O&D Survey encompasses trips originating in foreign countries, provided that they include at least one stop within the United States. Indexes with more limited scope may, of course, be computed by aggregating selected subsets of the data. For 1998–2003, the ATPI series for itineraries of flights originating in the United States (see later) shows a trend similar to that of the airfare CPI, although the differing formulas and reference periods result in different seasonal patterns for the two series.

Comparing the experimental ATPI with the BEA consumer expenditure deflator for airfares. The BEA computes chain-type price indexes for commodity categories for use in producing the National Income and Product Accounts estimates. For deflating consumer air-travel expenditure estimates, the BEA computes an index series based on both Department of Transportation data on total airline revenue per passenger mile flown and the BLS airfare CPI.

Results presented later indicate that the BEA deflator, which relies on measures of average revenue per passenger mile, does not provide a good approximation to a price index when the airline industry is undergoing a period of structural change. Airline financial data collected by the Bureau of Transportation Statistics show that the length of the average airline trip has been increasing in recent years,⁹ and longer trips generally cost less per mile than shorter ones. Moreover, the overall quality of air-travel service has decreased with the emergence of low-cost carriers and the use of smaller, regional jets for cross-country flights. Both of these factors exert a downward pressure on the revenue that airlines collect per passenger mile, although they are not by themselves evidence of actual deflation.

Estimation method and research results

For the purpose of computing a price index, the peculiarity of the quarterly O&D Survey data is the absence of across-time matching of individual itineraries. In general, price index formulas are based on the direct comparison of prices of identical items in different periods. In the O&D Survey, the sample of tickets priced in time t is selected independently of the sample priced in time $t - 1$. Moreover, some information that may affect the fares (for example, the time of day of the flight and the date the ticket was sold) is not collected through the survey. Thus, the survey cannot directly compare fares for identical air-service itineraries in different quarters. This section describes research on methods

of addressing this primary obstacle to the use of O&D Survey data for index estimation. First, two stages of record matching are outlined: itinerary- and segment-level matching. Because the O&D data provide only itinerary-level airfares, fares for segment-level matching must be estimated. Alternative imputation methods are therefore discussed and compared. Finally, the results of a test designed to compare unit-value indexes computed from imputed segment-level fares against those computed from itinerary-level fares collected in the O&D Survey are presented.

Matching prices across time for index calculation. To circumvent the across-time matching problem, each quarterly sample can be divided into detailed categories, and a *unit-value index* (average price in time t , divided by average price in time $t - 1$) computed for each category. The unit-value indexes are treated as elementary aggregates, which may be further aggregated with the use of standard index formulas (for example, Laspeyres, Paasche, Fisher, and Törnqvist formulas). Unit-value indexes are appropriate only for aggregating prices of items that are similar (for instance, round-trip United Airlines coach service from Boston to San Francisco with one stop in Chicago).

The first stage of matching is *itinerary-level* matching, in which the itineraries are cross-classified by the following variables:

- (1a) sequence of origination and destination airports (that is, origination airport, first destination airport, second destination airport, and so on)
- (1b) sequence of classes of service (that is, class of service for first segment, second segment, and so on)
- (1c) sequence of operating carriers

Itineraries that are identical in characteristics 1a through 1c form a *first-stage unit-value category*. Note that trips within the first-stage category must have exactly the same number of trip segments, or flights.¹⁰ As the number of segments increases, the percentage of categories appearing in both of two consecutive quarterly databanks decreases. For trips with eight segments, less than 2 percent of the unit-value categories could be matched across consecutive quarters. As a result, the first-stage matching procedure was performed only for trips with eight or fewer segments. (Just 0.15 percent of the itineraries in the O&D Survey databanks comprise nine or more segments.)

The second-stage matching procedure is *segment-level* matching. Itineraries not matched in the first stage are broken into individual segments. Because only itinerary-level fares are available in the databanks, the second-stage matching procedure involves imputing (that is, estimating) a fare for each segment. Two alternative methods of imputation are discussed in the next subsection. After the fares for second-stage match-

ing are imputed, the trip segments are cross-classified by the following variables to form *second-stage unit-value categories*:

- (2a) segment-level origination and destination airports
- (2b) class of service
- (2c) round-trip itinerary or non-round-trip itinerary
- (2d) itinerary of U.S. origin or of foreign origin
- (2e) operating carrier

Unit-value indexes are computed for these segment-level categories and are then matched from quarter to quarter.

The entire matching process, involving both first- and second-stage matching, is performed separately for each pair of consecutive quarters, to create a “rolling” sample. The extent to which the segment-level matching increases the percentage of trip segments that can be matched across quarters depends on the second-stage fare imputation method used. It is expected, however, that a small percentage of segments will always be omitted from the index computations due to incomplete matching.

Second-stage fare imputation methods. Two methods of second-stage fare imputation were compared and designated the “single-segment matching method” and “proportionate distance method,” respectively. Of the two methods, the single-segment matching method clearly has the lower potential for introducing bias, but it results in a lower matching percentage.

For the single-segment matching method, the proportion of the fare contributed by each segment is estimated on the basis of the relative values of fares for single-segment itineraries similar to those of the individual segments. Let M_i be the number of segments in an unmatchable itinerary i . For each $m = 1, \dots, M_i$, segment m is matched to a set of single-segment itineraries having the same origination airport, destination airport, and class of service. Let \bar{p}'_{im} denote the average fare, excluding fares with a value of zero, for single-segment itineraries that match segment m of itinerary i and p_i denote the fare for itinerary i . Then, for this method, the imputed fare for segment m is

$$\hat{p}_{im} = p_i \left(\frac{\bar{p}'_{im}}{\sum_{l=1}^{M_i} \bar{p}'_{il}} \right)$$

Clearly, in order to impute a fare by the single-segment matching method, *each* of the segments in itinerary i must be able to be matched to at least one nonzero fare for a similar one-segment itinerary.

The alternative second-stage imputation method examined assigns fares on the basis of the proportion of total mileage

represented by the individual segments within the itinerary. That is, the imputed fare for segment m in itinerary i is

$$\hat{p}_{2im} = p_i \left(\frac{d_{im}}{\sum_{l=1}^{M_i} d_{il}} \right)$$

where p_i is as before and d_{im} is the distance¹¹ traveled in segment m of itinerary i (available in the databank).

Each of the methods described has its limitations. Because the proportionate distance method uses only relative distances to divide the fare among the segments, it can reasonably be applied only to itineraries in which all segments were flown in the same class of service. The restriction imposed by the single-segment matching method, though, is even more severe: if just one segment in itinerary i has no comparable one-segment itineraries in the quarterly databank, the method cannot be used to impute fares for *any* of the segments in the itinerary.

Both methods, however, allow for an implicit form of imputation within second-stage unit-value categories. Suppose, for example, that a particular segment does not qualify for single-segment matching imputation. When this situation arises because *another* segment in the itinerary could not be matched to a similar single-segment itinerary, there may be fare values in the unit-value category into which the segment falls. The segment then implicitly receives an imputed value equal to the average imputed fare for that category.¹² That is, the segment’s missing fare does not affect the average for the category, but the segment still contributes to the category’s *weight* in the aggregate indexes. Similarly, a segment that fails to qualify for proportionate distance imputation because of disparate class-of-service codes within the itinerary may fall into a unit-value category that contains fare values and be implicitly imputed.

The clear disadvantage of the proportionate distance method relative to the single-segment matching method is that it fails to account for price pressures *other than* the distance of the flight (for example, airline “overhead” costs, and supply and demand). Note, however, that although this deficiency undoubtedly leads to biased fare estimates (generally speaking, assigning too large a proportion of the fare to longer flights), it does not imply that the proportionate distance method yields unit-value indexes that are significantly biased relative to those computed by single-segment matching. The initial thinking was that if the bias pattern were relatively constant across time, then the unit-value indexes computed by the proportionate distance method—and thus the aggregate indexes—would closely approximate those computed by single-segment matching. This hypothesis was tested with data from a four-quarter test period stretching from the third quarter of 1999 to the second quarter of 2000.

Testing revealed that, within the itineraries not matched in the first stage, roughly 53 percent to 54 percent of the segments qualified for single-segment matching imputation, whereas the percentage qualifying for proportionate distance imputation

hovered around 85 percent. As expected, proportionate distance imputation consistently allowed the imputation of a higher overall percentage of segment-level fares and the matching of more passenger flight segments across quarters, thus reducing the potential for index bias resulting from the omission of certain itineraries or segments.

In general, roughly 84 percent of itineraries, representing about 75 percent of passenger flight segments, are matched in the first stage. (Because itineraries comprising large numbers of segments are less likely to be matched in this stage, the percentage of itineraries matched is expected to exceed the percentage of segments matched.) About 75 percent of the passenger segments not matched in the first stage are matched in the second stage under single-segment imputation. The newly matched segments include segments whose fares have been implicitly imputed, as described earlier. The matched segments represent approximately 18 percent of passenger flight segments in the databanks. For single-segment matching imputation, the resulting total percentage of segments matched is about 93 percent to 94 percent. Proportionate distance imputation provides a total matching percentage of roughly 98 percent. It is important to note, however, that under single-segment matching imputation, a larger percentage of segments receives implicit imputation: about 21 percent of second-stage segments (roughly 5.25 percent of all segments) are implicitly imputed under this method, compared with about 9 percent (2.25 percent of all segments) for proportionate distance imputation.

Nonetheless, fares imputed by the proportionate distance method do indeed appear to be somewhat biased relative to those imputed by the single-segment matching method. On the one hand, results of t-tests indicated that, at low levels of aggregation (at which the indexes were subject to high variances), the differences between the unit-value indexes computed by the two methods were not significant. For t-statistics based on unit-value indexes within “city of origin” categories, for example, p values generally ran between 0.02 and 0.8. On the other hand, at higher levels of aggregation, significant differences were sufficiently common to raise concern, even given the magnitude of the sample sizes. Within “class of service” categories, p values below 0.05 appeared for three of the six major categories in one of the quarter-to-quarter test periods (the first to second quarter of 2000). Moreover, even at low levels of aggregation, the t-statistics revealed that distance-based imputation yielded consistently higher unit-value indexes than did single-segment matching imputation.

An examination of the differences between fares imputed by the two methods indicated that proportionate distance imputation generally overestimated fares for longer flights and underestimated fares for shorter flights. This was expected, because the method fails to account for airline overhead costs associated with individual flights. The majority of flights recorded in the databanks have distances less than the average

distance (that is, the mean flight distance exceeds the median distance), so we expect distance-based imputation to *underestimate* fares for the majority of flights. This tendency, along with the general one of the unit-value indexes to exceed unity, may account for the upward bias of the unit-value indexes computed through proportionate distance imputation. To see this relationship, let \hat{f}_{1,t_1} and \hat{f}_{1,t_2} represent the single-segment imputed fares for periods 1 and 2, respectively, and suppose that $\hat{f}_{1,t_1} < \hat{f}_{1,t_2}$ (in other words, fares increased between periods t_1 and t_2). Let d represent the absolute value of the bias (assumed constant and additive) of the distance-based imputed fares relative to those computed by single-segment matching. (That is, for $i \in \{1, 2\}$, let $\hat{f}_{2,t_i} = \hat{f}_{1,t_i} - d$.) Then, with $d < \hat{f}_{1,t_1} < \hat{f}_{1,t_2}$, it follows that

$$\frac{\hat{f}_{2,t_2}}{\hat{f}_{2,t_1}} = \frac{\hat{f}_{1,t_2} - d}{\hat{f}_{1,t_1} - d} > \frac{\hat{f}_{1,t_2}}{\hat{f}_{1,t_1}},$$

giving an upward bias for the unit-value indexes computed by proportionate distance imputation.

The assumption of a constant additive bias is, of course, a strong one. It is also possible that the upward direction of the bias of the unit-value *indexes* computed by proportionate distance imputation indicates that the bias pattern of the *fares* imputed by this method is changing gradually over time. Specifically, the upward bias of the imputed fares for long-distance flights may be increasing, perhaps indicating that factors other than distance were exerting an increasing influence on the prices of airline flights over the period examined. It is therefore possible that, during other periods—especially those marked by rapidly increasing fuel costs—the direction of the bias of the unit-value indexes changes.

In sum, the test results indicated cause for concern about the potential bias of unit-value indexes computed by the proportionate distance method, relative to those computed by single-segment matching imputation. Although the proportionate distance method yielded a higher overall matching percentage, the difference in matching percentages was not sufficient to warrant the use of that method in view of its evident deficiencies.

Comparing first- and second-stage unit-value indexes.

Under single-segment matching imputation, second-stage unit-value indexes were compared with unit-value indexes obtained from first-stage (itinerary-level) matching. Using only observations that matched in the first stage, the following indexes were computed for each first-stage category c :

- i. a first-stage unit-value index $u_{c,1,2}$ (as discussed earlier in the section; see the appendix for the formula) and

- ii. an index, $u_{c,1,2}^{(s)}$ based on unit values computed through second-stage matching. (Again, see the appendix for the formula.)

Note that $u_{c,1,2}^{(s)}$ reflects a price change for an *itinerary-level* (first-stage) category, but is computed by aggregating *segment-level* (second-stage) unit-value indexes for the various segment-level categories that correspond to the itinerary-level category. For example, the first-stage category comprising restricted coach itineraries for United Airlines round-trip service from Washington’s Reagan National Airport to Chicago’s O’Hare Airport has two corresponding segment-level categories, one for each segment of the itinerary: (1) United restricted coach service from Washington Reagan to Chicago O’Hare within a round-trip itinerary and (2) United restricted coach service from Chicago O’Hare to Washington Reagan within a round-trip itinerary.

To examine the effects of segment-level imputation and matching relative to those of itinerary-level matching, the distributions of $u_{c,1,2}^{(s)}$ and $u_{c,1,2}$ for the second through the fourth quarters of 2000 were compared. Histograms¹³ showed that the distributions were similarly shaped (slightly positively skewed) and that the distribution of the differences $u_{c,1,2} - u_{c,1,2}^{(s)}$ was roughly symmetric about zero. For the three quarter-to-quarter changes tested, the numbers of first-stage categories, shown in table 1, hover around 300,000. In each case, the mean difference $u_{c,1,2} - u_{c,1,2}^{(s)}$ is statistically significant, due to the large number of categories. The Fisher indexes computed from the two sets of subindexes, however, differ only in the third decimal place, as indicated in the table.

Chart 1 summarizes the current two-stage procedure in flowchart form. Note that the current experimental process does not include a “quality adjustment” step to account for changes in the real values of itineraries flown in different periods (due, for example, to changes in food served or seating space). Quality adjustment is not practical here, because the data needed for such adjustment (for instance, by hedonic regression) are not collected in the current O&D Survey. More importantly, we have no reason to believe that the collection of itineraries matched in later quarters is qualitatively any better than the collections matched in earlier quarters. Rather, the unmatched flights and itineraries simply represent unusual travel routes flown in particular quarters. Thus, the systematic downward bias that the absence of quality adjustment may induce for items whose quality is generally improving with the introduction of new models¹⁴ is unlikely to occur in the application presented here.

Experimental index series

This section examines some ATPI series, based on the Fisher index formula, for several class-of-service and point-of-origin

Table 1. Fisher indexes computed by aggregating first-stage ($u_{c,1,2}$) and second-stage ($u_{c,1,2}^{(s)}$) unit-value indexes

Index period, 2000	First-stage Fisher index	Second-stage Fisher index	Number of categories
First quarter to second quarter	1.02679	1.02866	287,727
Second quarter to third quarter	1.02468	1.02202	325,445
Third quarter to fourth quarter	1.00613	1.01036	312,343

categories. Indexes based only on first-stage matching are labeled “preliminary,” while those based on both first- and second-stage matching are labeled “final.” The index series to be presented were computed solely with data from U.S. carriers; that is, only itineraries flown entirely on U.S. carriers are in scope for these series. Except where otherwise stated, the index series shown are referenced to the first quarter of 1995.

The discussion accompanying the charts that follow is intended to highlight interesting features of the index series. In interpreting the series, readers should bear in mind the scope of the O&D Survey, as well as the exclusion of foreign-carrier flights from the data. The survey covers all air itineraries having some U.S. component and being flown on all carriers reporting. Thus, the index series computed for foreign points of origin cover, not *all* itineraries originating from those points, but only the itineraries that include some U.S. destination or “stopover” points.

The “class of service” variable for the O&D Survey underwent a standardization process in 1997–98, and the change in reporting codes may be responsible for some of the movements observed in the index series. Accordingly, in the discussion that follows, special attention is given to the portion of the series between the fourth quarter of 1998 and the second quarter of 2003. Tables 2 and 3 summarize the percent changes over this period.

Primary ATPI series compared with BLS and BEA airfare index series. Chart 2 compares the ATPI series with the BLS CPI series and the BEA Personal Consumption Expenditure Deflator for airfares.¹⁵ The top panel shows all series referenced to the first quarter of 1995, the bottom panel to the fourth quarter of 1998. The BLS index differs in its seasonal pattern from both the BEA index and the ATPI, due to its different definition of the reference period (the date of sale rather than the date of the flight). Consequently, just the long-term trends, and not the quarterly movements, of the different index series are comparable. The BLS CPI covers

Chart 1. Two-state matching procedure for Passenger Origin and Destination (O&D) Survey airfare index computation

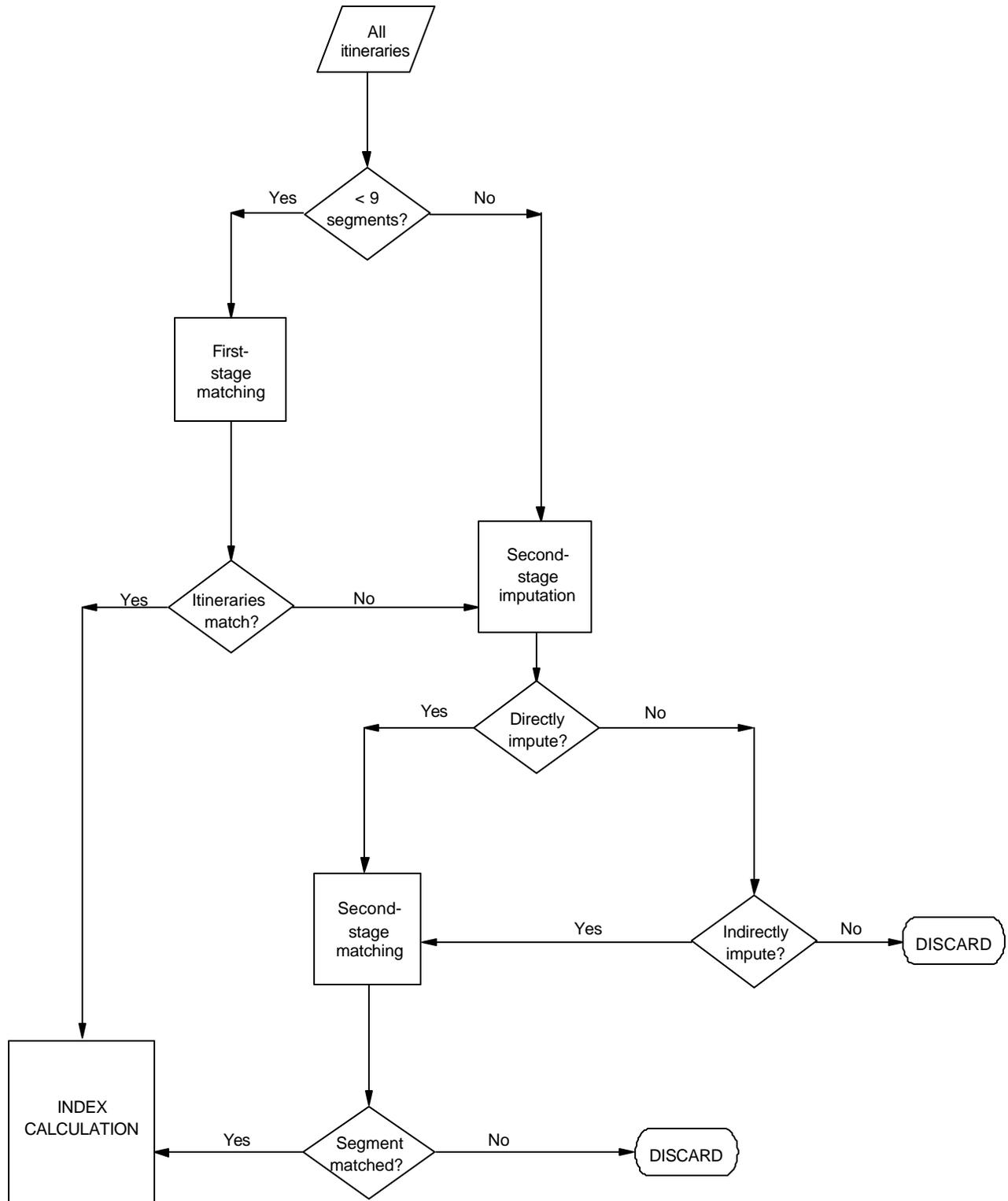


Table 2. Percent change for major index series, fourth quarter 1998 to second quarter 2003

Series	Percent change
BLS CPI for airline fares	15.4
BEA personal consumption expenditure deflator for airfares	-11.7
Full-scope ATPI	6.6
U.S.-origin ATPI	6.8
Foreign-origin ATPI	4.4
Restricted coach class ATPI	9.8
Unrestricted coach class ATPI	-9.2
Restricted first-class ATPI	7.1
Unrestricted first-class ATPI	1.4
Restricted business-class ATPI	42.1
Unrestricted business-class ATPI	11.4

only itineraries originating in the United States and is comparable, therefore, to the “U.S.-origin-only” ATPI.

Before the third quarter of 1996, the BLS modified Laspeyres index suffered from an upward “formula bias.”¹⁶ Thus, we expect the BLS index to run above the U.S.-origin ATPI for the period from the first quarter of 1995 to the third quarter of 1996. For the period from the fourth quarter of 1998 to the second quarter of 2003, the BLS index is based on the hybrid Jevons/Modified Laspeyres formula.¹⁷ The BLS index increased 15.4 percent during this period, while the U.S.-origin ATPI increased 6.8 percent and the full-scope ATPI increased 6.6 percent. This difference is probably due mainly to (1) the different target formulas used (Fisher or Jevons/Modified Laspeyres) and (2) the ATPI’s inclusion of special discount fares that involve differential pricing (for example, frequent-flier awards and Internet specials), combined with consumers’ increasing use of special discount tickets during the period. The U.S.-origin ATPI also shows a sharper drop in the last two quarters of 2001—a more pronounced “9/11 effect”—than is seen in the airfare CPI.

Chart 2 also compares the ATPI series with the quarterly BEA Personal Consumption Expenditure Deflator for airfares. In the top panel, which shows all series referenced to the first quarter of 1995, the BEA series runs above the U.S.-origin ATPI series for most of the period shown, but the two series cross in the fourth quarter of 2000, when the BEA series begins a steep decline. The bottom panel of chart 2 shows the BEA series running consistently below the ATPI. Research has revealed that the average distance flown per airline itinerary has been steadily increasing in recent years, which has naturally led to a decline in air carrier revenues per passenger mile.¹⁸ Because the BEA index is driven largely by a measure of revenue per passenger mile, we expect the increase in distance, along with a corresponding increase in the percentage of passengers choosing “no-frills” air-travel service, to push the BEA series below the ATPI series during the 1999–2003 period.

Comparing final and primary ATPI series. The top panel of chart 3 shows the preliminary and final ATPI series for U.S. and foreign points of origin. As expected at this level of aggregation, the two series are virtually indistinguishable. The same holds for the series (not shown) for foreign and domestic points of origin combined.

The remaining three panels of chart 3 show preliminary and final series by class of service for domestic points of origin. Index values for 1997–98 must be interpreted with caution, because the reporting codes were changed during this period. A variety of reporting codes previously used were standardized to produce the basic categories of first class, business class, and coach. Each of these categories is further divided into restricted and unrestricted tickets; the price for restricted tickets carried some restrictions for the purchasers. (For example, advance booking was required, and there was an added fee for a change in schedule.) Again, in general, little difference is found between the preliminary and final versions of the experimental series. Whatever differences there are are especially small for the largest category: restricted coach (second panel of chart 3). For unrestricted coach service, the preliminary and final series are similar, except that (1) the final series shows a less severe “break” (in this case, an upward jump) between the fourth quarter of 1997 and the first quarter of 1998, and (2) the final series shows a more pronounced drop from the terrorist attacks of 9/11 in 2001.

The restricted coach index is conceptually the closest substitute for a consumer price index that has been produced from the O&D Survey data: it reflects movements in fares paid by the most price-conscious buyers. The final restricted coach series increased by 2.6 percent from the first quarter of 1995 to the second quarter of 2003. From the fourth quarter of 1998 to the second quarter of 2003, however, it increased by 9.8 percent, closer to the increase indicated by the official airfare CPI (See chart 2.) The unrestricted coach series displays an unusual downward spike from the third quarter of 1995 to the second quarter of 1996; because a number of class-of-service code systems were in use during that period, the odd movement may be associated with variability in coding. Over the entire period from the first quarter of 1995 to the second quarter of 2003, the final unrestricted coach series increased 16.4 percent, while the restricted coach series increased by 2.6 percent, as just noted. Over the period from the fourth quarter of 1998 to the second quarter of 2003, however, the trend was reversed: the unrestricted coach series decreased 9.21 percent, while the restricted coach series increased the aforementioned 9.8 percent.

The series for business-class service appear in the third panel of chart 3. For these categories, the differences between the preliminary and final versions of the series are noticeable, but not extreme. Moreover, the final series runs slightly above the preliminary series for restricted business-class service and slightly below the preliminary series for unrestricted business-

Table 3. Percent changes for point-of-origin ATPI series, fourth quarter 1998 to second quarter 2003

City or area	Percent change
Chicago	-0.78
Los Angeles	3.1
New York	4.4
Montreal, Canada	18.1
Toronto, Canada	19.2
Vancouver, Canada	24.0
Canada	18.7
Frankfurt, Germany	10.1
London, England	13.8
Tokyo, Japan	3.2
Houston	8.8
Minneapolis	17.1
Washington, DC	14.1
Detroit	18.6
Charleston, sc	23.5
Colorado Springs	7.0
Des Moines	-1.3
Albany	10.8
Dayton	7.2
Tucson	4.0

class service, indicating that there is no systematic bias associated with the unit-value indexes produced through second-stage matching. The “big dipper” movement of the restricted business-class series during 1997–98 may be due in part to the earlier mentioned changes in reporting codes. Changes in frequent-flier upgrade behavior also may be partly responsible.

The bottom panel of chart 3, showing the series for first-class service, reveals almost no difference between the preliminary and final versions of the series for restricted first-class service, except for a slight divergence during the 1997–98 break. The series for unrestricted first-class service are similar to those for unrestricted coach (second panel of the chart): the final series differs from the preliminary one only in that it suffers a milder 1997–98 break. Moreover, during the period from the fourth quarter of 1998 to the fourth quarter of 2000, the restricted first-class series displays movements similar to those of the series for restricted coach service. This similarity may reflect a growing number of frequent-flier passengers who upgraded and flew first class during the period, together with an increase in the number of coach service seats classified as first class by some carriers when reporting data for the O&D Survey.¹⁹

The indexes shown in the last three panels of chart 3 generally indicate steeper price increases for unrestricted air service than for restricted service. Because special discount fares apply almost exclusively to restricted service, these indexes provide evidence that the divergence of the BLS and ATPI series (see chart 2) is due in part to the O&D Survey’s inclusion of such discount fares.

Index series by place of origin. This section examines O&D Survey index series computed for various cities of origin in

a passenger’s itinerary. These series are local-area economic indicators reflecting changes in the airfare component of the cost of living for residents of the cities in question. Particular cities, representing a wide range of geographic areas and sizes, were selected to serve as examples. Note that, for these detailed itinerary-level points of origin, second-stage matching is not practical due to the small number of segments in most of the resulting second-stage categories. For these characteristics, the preliminary series are therefore final.

The series in the top panel of chart 4 for the three largest U.S. cities indicate similar price movements for itineraries originating in these cities. The series run roughly parallel to, though slightly above, the U.S. Origin ATPI series shown in chart 2. Much more disparity appears in the movements of the series for Canadian²⁰ cities of origin (middle panel of chart 4), with Toronto exhibiting the largest increase by far over the period shown. Except for the “9/11 effect,” the Canadian city index series tend to gradually level off during the later years of the period. Interestingly, the Toronto series displays a much more pronounced 9/11 effect than the series for the other Canadian cities.

The most striking feature of the index series for large overseas cities of origin (bottom panel of chart 4) is the seasonal pattern. The third-quarter spikes indicate a predominance of vacation travelers paying peak-season fares. Price movements for overseas cities of origin are confounded with changes in currency exchange rates, which may account for some of the overall decrease in the series shown in the chart. Except for seasonality, these series, like those for U.S. and Canadian cities, tend to level off from the fourth quarter of 1998 to the second quarter of 2003. One possible exception, however, is the Frankfurt series, which shows an unusual increase in the final 2 years of the period.

The Houston series (see top panel of chart 5) is similar to the series for Los Angeles (chart 4), except that it shows larger increases in the first quarters of 2001 and 2003. Similarly, the series for Detroit and Minneapolis (top panel of chart 5) track each other quite closely, perhaps due to geographic proximity and the dominance of the same air carriers in the two cities. Although these two series run well below those for the larger cities, they display the same “leveling” trend during the final years shown and a much less pronounced 9/11 effect. For the period from the fourth quarter of 1998 to the second quarter of 2003, the series for Detroit, Minneapolis, and Washington, DC (again, top panel of chart 5), show some of the larger increases among the “city of origin” series examined. The Washington index increased 14.1 percent over this period, while the Detroit and Minneapolis series increased 18.6 percent and 17.1 percent, respectively. In the latter two series, however, the increases followed steady declines seen in the previous couple of years. The city index with the largest decrease (among those shown) for the period from the fourth quarter of 1998 to the second

Chart 2. BLS hybrid airfare CPI and primary ATPI series, not seasonally adjusted, 1995–2003

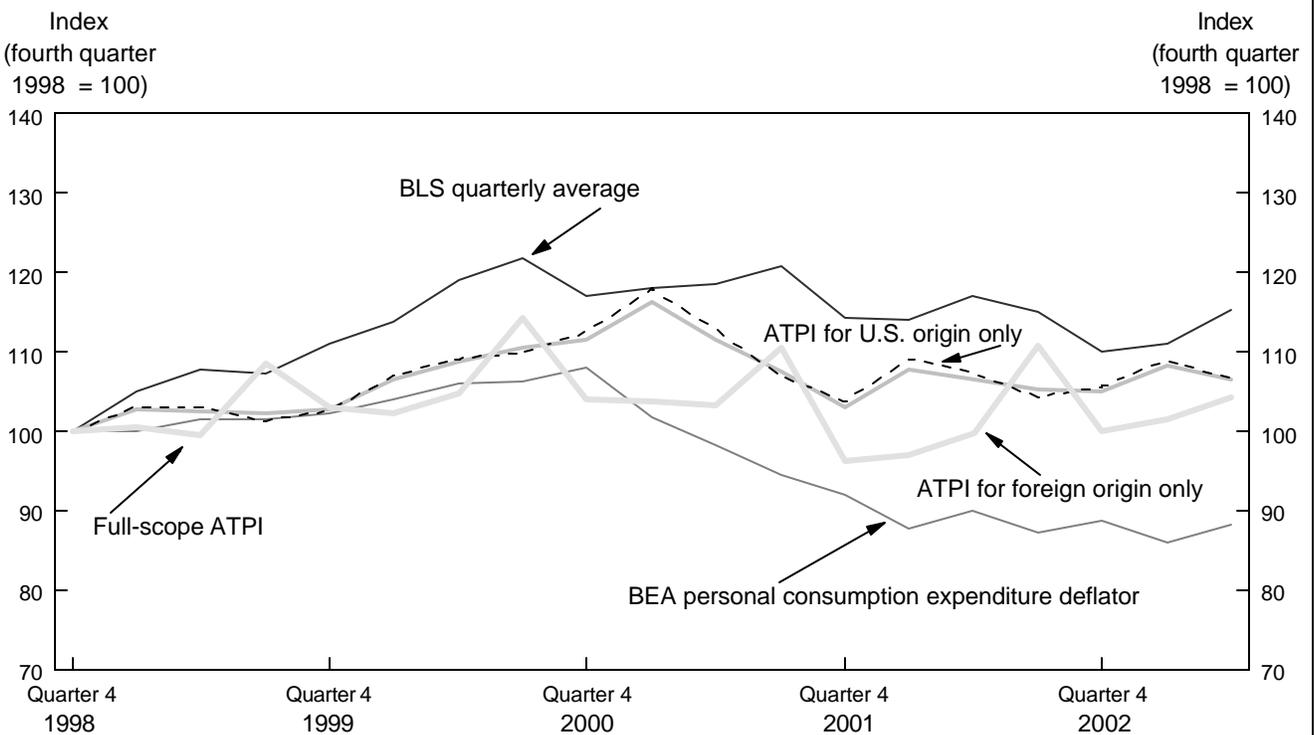
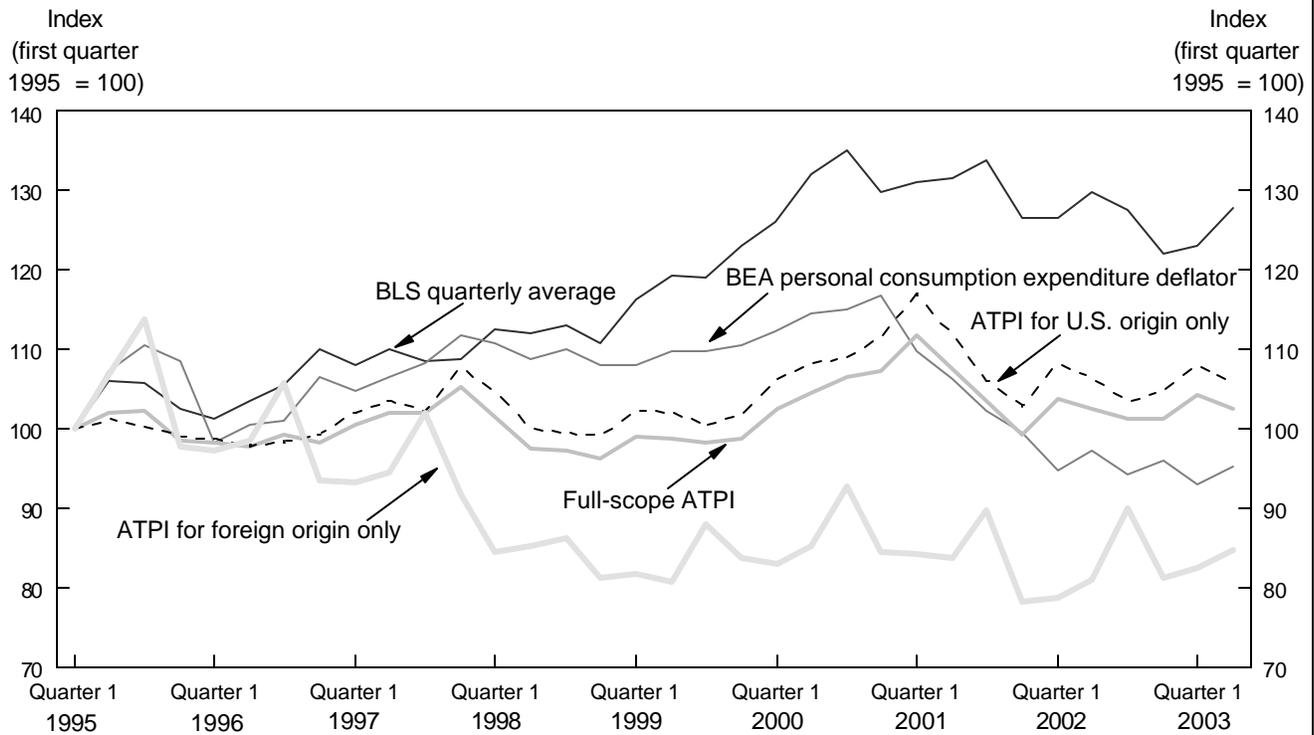


Chart 3. Preliminary and final ATPI series for U.S. and foreign points of origin or for U.S. points of origin alone, 1995–2003

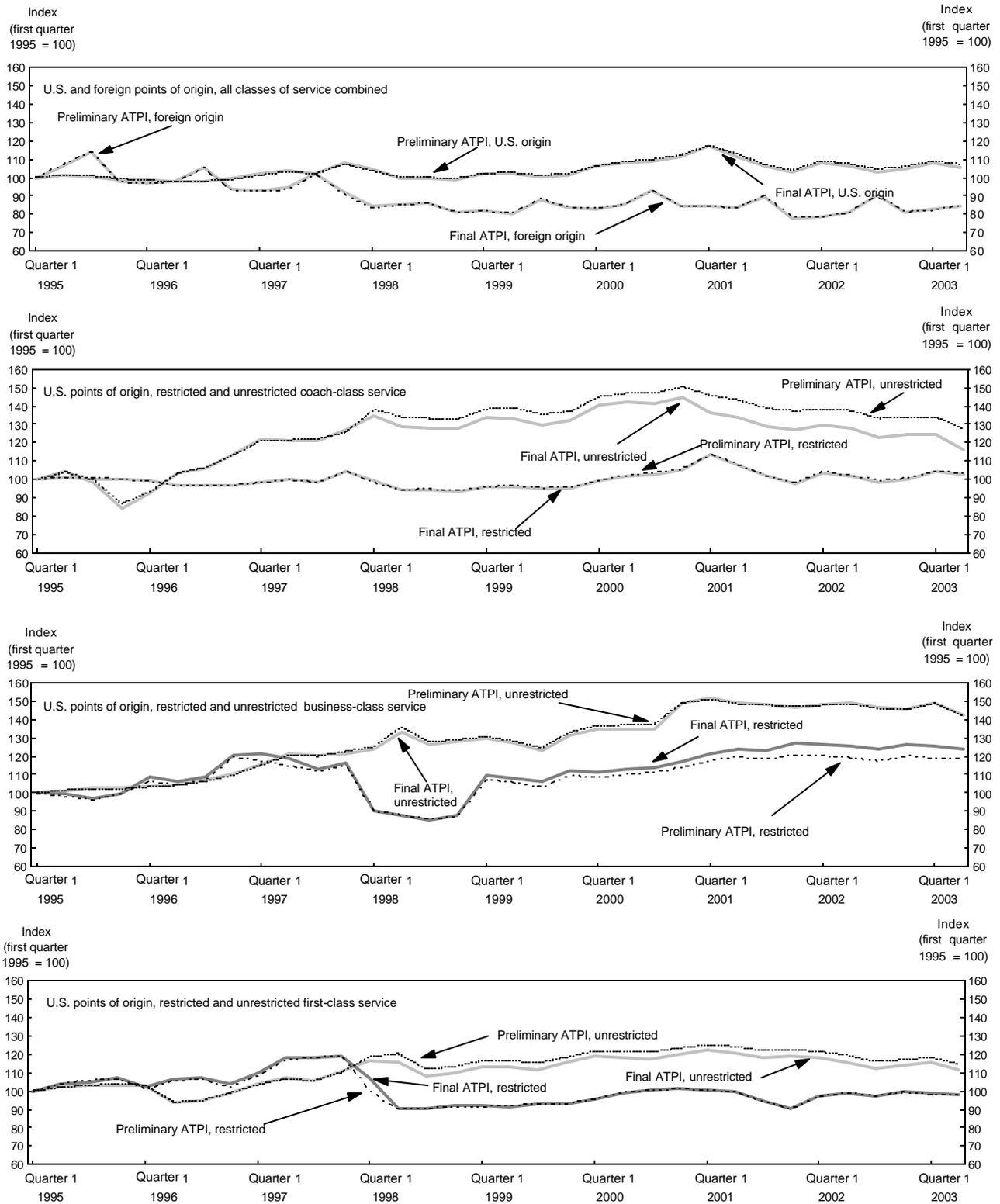
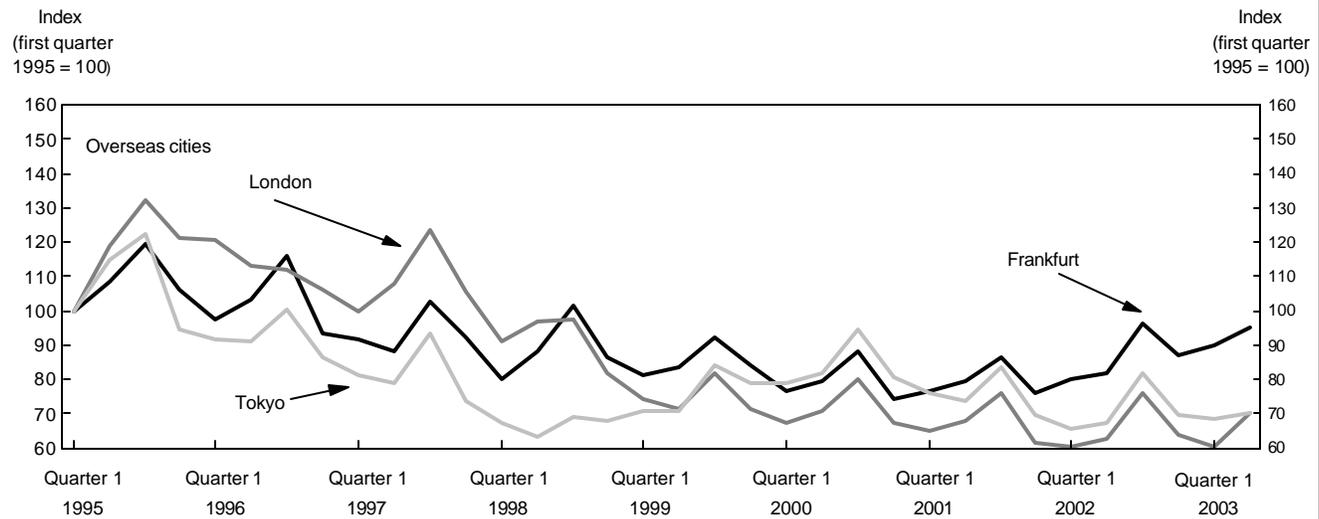
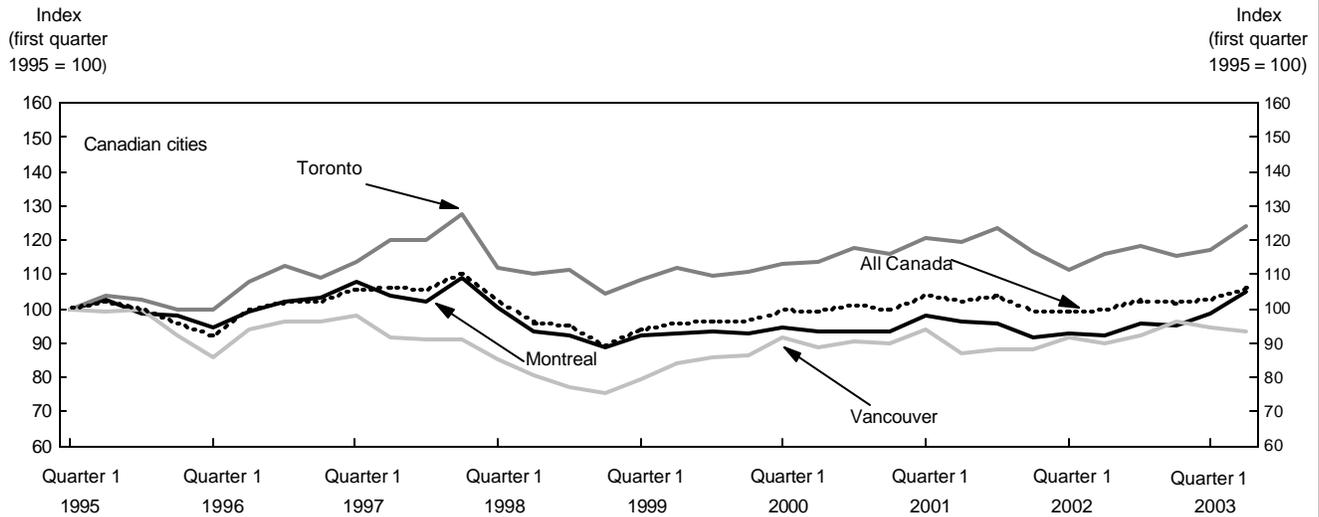
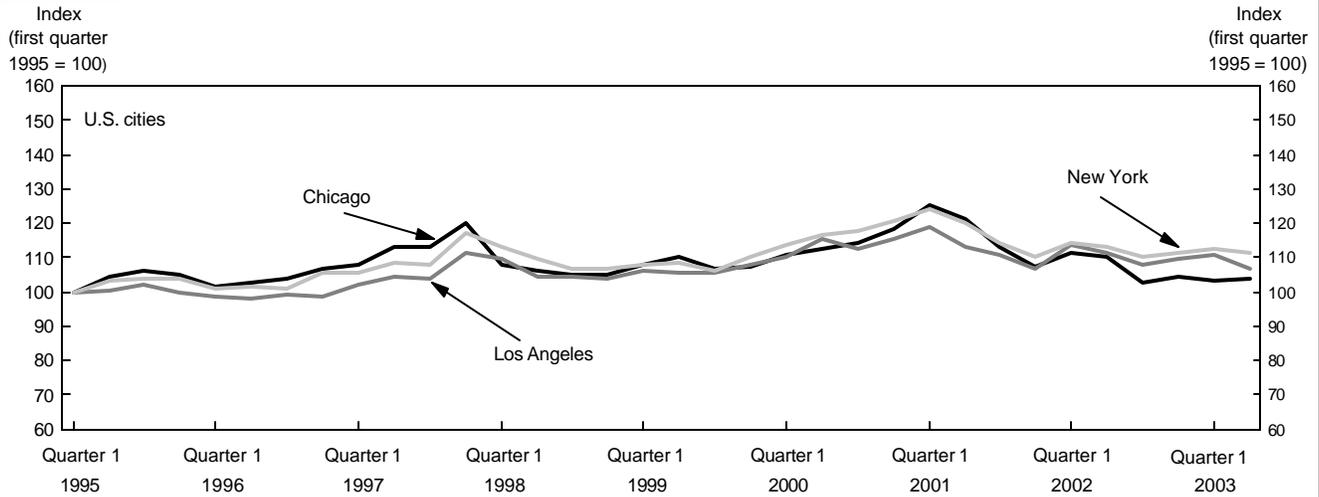
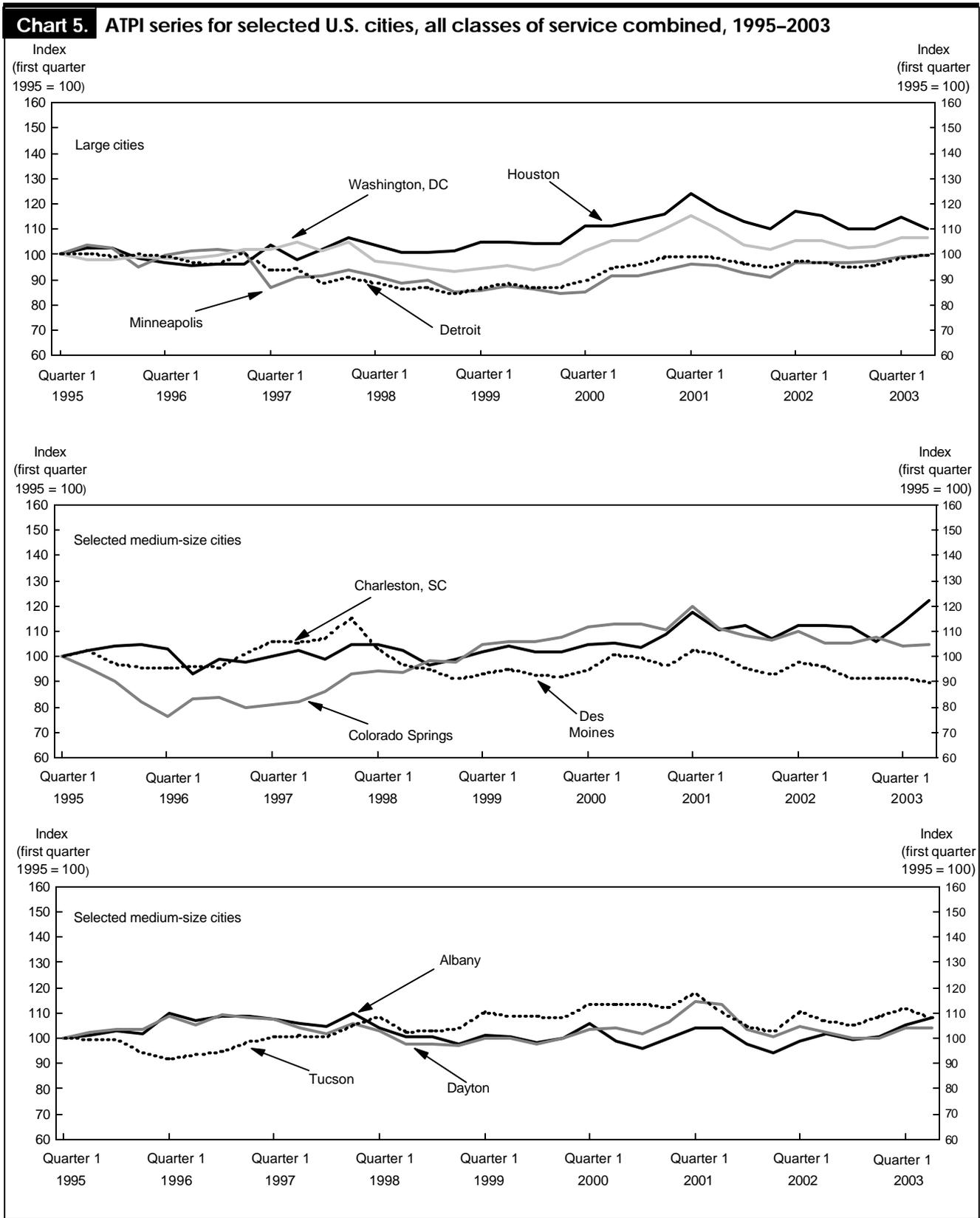


Chart 4. ATPI series for large cities of origin, all classes of service combined, 1995–2003





quarter of 2003 is that of Des Moines, Iowa, with a drop of 1.3 percent. (See middle panel of chart 5.) The series for Charleston, South Carolina, however, gradually climbed 23.5 percent during the same period. The index series for Colorado Springs, Colorado (again, middle panel of chart 5), reflects the impact of Western Pacific, a low-cost airline that began offering discount service from Colorado Springs to Dallas-Fort Worth in the second quarter of 1995. In 1995–96, Western Pacific expanded its operations to other markets, including Seattle and Washington, DC. Larger airlines responded by lowering fares and expanding service in markets served by Western Pacific, which then was forced to curtail its operations, ultimately ceasing all operations in the early part of 1998.

The series for Albany, New York, and Dayton, Ohio (bottom panel of chart 5), track each other fairly closely, except for the dip in the Albany series in the second and third quarters of 2000. Their similarity may reflect regional economic impacts and similar servicing carriers, as do the Detroit and Minneapolis series shown in the top panel of the chart. The Tucson, Arizona, series (bottom panel of chart 5) is atypical, displaying movements somewhat similar to those seen in the Colorado Springs series, though less dramatic. In the case of Tucson, however, there is no firm evidence of a “discount carrier” effect on the index series.

(The presence of Reno Air in the Tucson market may have exerted a downward pressure on airfares from Tucson, but Reno did not exit the market until the second quarter of 1999, well after fares had begun to increase.) BLS employment and unemployment data²¹ indicate a general economic downturn in Tucson in 1996–97, characterized by increased unemployment levels and rates; this decline seems the most likely explanation for the contemporaneous dip in airfares.

Additional developments

The Bureau of Transportation Statistics’ ATPI research project has involved numerous specific methodological studies. In one such study, an empirical investigation into alternative chaining intervals revealed no evidence of chain drift in the quarterly chained Fisher series presented in this article.²² A study of sensitivity to extreme values showed the Fisher index estimator to be more robust than the Törnqvist for the airfare application. In the future, the expanded O&D Survey data will offer the possibility of using shorter chaining intervals—for example, months or even weeks—and of producing timely monthly indexes. Other areas for future research include standard error estimation for the index series and the development of seasonal adjustment methods. □

Notes

ACKNOWLEDGMENTS: Suggestions from Ed Wegman of George Mason University, Sylvia Leaver of the Bureau of Labor Statistics, and Othmar Winkler of Georgetown University have greatly enhanced the work presented in this article. We also thank the *Monthly Labor Review* referees for their helpful comments.

¹ Although the experimental ATPI series were originally computed with data from both foreign and domestic carriers, legal concerns from within the Department of Transportation required the suppression of the data from foreign carriers. Overall, the removal of those data resulted in minimal changes to the series presented.

² For a detailed discussion of CPI methods, see *BLS Handbook of Methods* (Bureau of Labor Statistics, 1997), Chapter 17, “The Consumer Price Index,” available on the Internet at www.bls.gov/opub/hom/home.htm.

³ For a discussion of alternative index formulas, see, for example, Irving Fisher, *The Making of Index Numbers: A Study of Their Varieties, Tests, and Reliability* (New York, Sentry Press, 1922); W. Erwin Diewert, “Index Numbers,” in John Eatwell, Murray Milgate, and Peter Newman, eds., *The New Palgrave: A Dictionary of Economics, Vol. II* (London, MacMillan, 1987), pp. 767–80; or Brent R. Moulton, “Basic components of the CPI: estimation of price changes,” *Monthly Labor Review*, December 1993, pp. 13–24 (on the Internet at <http://www.bls.gov/opub/mlr/1993/12/art2full.pdf>). For more information on price index concepts and design, see Charles L. Schultze and Christopher Mackie, eds., *At What Price? Conceptualizing and Measuring*

Cost-of-Living and Price Indexes (Washington, DC, National Academy Press, 2002).

⁴ See W. Erwin Diewert, “Exact and Superlative Index Numbers,” *Journal of Econometrics*, May 1976, pp. 115–45.

⁵ See, for example, Ana M. Aizcorbe and Patrick C. Jackman, “The commodity substitution effect in CPI data, 1982–91,” *Monthly Labor Review*, December 1993, pp. 25–33; and Matthew D. Shapiro and David Wilcox, “Alternative Strategies for Aggregating Prices in the CPI,” *Federal Reserve Bank of St. Louis Review*, May/June 1997, pp. 113–25. The methods and results described in these articles have been called into question by Alan H. Dorfman, Sylvia G. Leaver, and Janice Lent, “Some Observations on Price Index Estimators,” *Proceedings of the Federal Committee on Statistical Methodology Research Conference, Monday B Sessions* (Federal Committee on Statistical Methodology, 1999), pp. 56–65.

⁶ The O&D Survey fares include zero-value fares (for example, for frequent-flier awards), which are imputed as \$0.01. These imputations often result in extreme values for the unit-value indexes that serve as the “atoms” of the indexes presented in this article. (See later.)

⁷ For a discussion of the performance of the index formulas with respect to outliers in air-travel application, see Janice Lent, “Effects of Extreme Values on Price Indexes: The Case of the Air Travel Price Index,” *Journal of Transportation and Statistics*, vol. 7, nos. 2–3, 2004, pp. 41–52.

⁸ If an itinerary straddles multiple quarters, it is counted in the

quarter in which the first ticket in the itinerary is used.

⁹ See, for example, the findings of Steven Anderson and Richard Leonard, "Domestic Airline Industry Passenger Price Trends," internal document, Bureau of Transportation Statistics, April 26, 2004.

¹⁰ In the terminology used in this article, one segment involves exactly one aircraft takeoff and landing. Due to reporting deficiencies in the O&D Survey, some multiple-stop flights are currently being reported as nonstop flights, and the actual number of stops cannot always be determined. The Bureau of Transportation Statistics is working to correct this data-reporting problem.

¹¹ Tests also were run that used the square root of the distance in place of the distance. The "square root of proportionate distance" method produced the same type of bias as the proportionate distance method, although the severity of the bias was somewhat reduced.

¹² For formulas detailing the method of implicit imputation, see the appendix.

¹³ Copies are available from the authors upon request.

¹⁴ At least one researcher has identified such a bias. (See Jan De Haan, "Generalised Fisher Price Indexes and the Use of Scanner Data in the Consumer Price Index (CPI)," *Journal of Official Statistics*, March 2002, pp. 61–85.)

¹⁵ A description of the BLS estimation method is available on the Agency's Web site at <http://www.bls.gov/cpi/cpifacaf.htm>.

¹⁶ See, for example, Robert B. McClelland, "Evaluating Formula Bias in Various Indexes Using Simulations," 1996; on the Internet at <http://www.bls.gov/ore/pdf/ec960140.pdf>; or Brent R. Moulton, "Bias in the Consumer Price Index: What Is the Evidence?" BLS working paper no. 294, 1996; on the Internet at <http://www.bls.gov/ore/pdf/ec960170.pdf>.

¹⁷ For a discussion of the change in index formulas, visit www.bls.gov/cpi/cpiadd.htm#4_1 on the Internet.

¹⁸ See Anderson and Leonard, "Passenger Price Trends."

¹⁹ For production purposes, the Bureau of Transportation Safety will define a new class of service comprising services provided by carriers that offer only one class of service. Thus, itineraries flown on carriers, such as Southwest, that report all their seats as first class will not be categorized as first class.

²⁰ Note that, for all points of origin outside the United States, the O&D Survey indexes cover only itineraries incorporating some U.S. component.

²¹ Visit http://146.142.4.24/servlet/urveyOutputServlet?series_id=lausm8520003 for the Tucson employment and un-employment figures.

²² For details, see Janice Lent, "Chain Drift in Experimental Index Series," *Proceedings of the Section on Survey Research Methods, American Statistical Association*, Alexandria VA, Joint Statistical Meetings, San Francisco, CA, Aug. 8–12, 2003 (published on CD only).

APPENDIX: Formulas for price index estimation

Price index estimators. A measure of relative change in the price of a particular item j between periods 1 and 2 is the price ratio, $p_{j,2}/p_{j,1}$, where $p_{j,t}$ represents the price of item j at time $t \in \{1,2\}$. Because each quarterly O&D Survey sample is independently drawn, it is impossible to match each individual itinerary with an identical one in the following (or previous) quarter and compute individual price ratios. This article therefore presents a method for computing unit-value indexes for itineraries (or, in the second stage, segments) within each unit value category $c \in C_{1,2}$, where $C_{1,2}$ is the collection of categories populated by sample units in quarters 1 and 2. (See text for definitions of categories.) For simplicity, it is assumed that prices are available for all observations in the data set.

Let $q_{j,t}$ be the quantity of item j purchased in period t . For the O&D data, the item is an itinerary and $q_{j,t}$ is the number of passengers flying the same itinerary at the same fare. (The variable denoting the number of passengers is included in each O&D Survey itinerary record.) Because the O&D sample is self-weighting, we may directly apply the standard population price index formulas. Let

$$q_{c,t} = \sum_{j \in c} q_{j,t}.$$

The unit-value index estimator for category c is defined as

$$u_{c,1,2} = \frac{\sum_{j \in c} q_{j,2} p_{j,2} / q_{c,2}}{\sum_{j \in c} p_{j,1} q_{j,1} / q_{c,1}}.$$

In words, the unit-value index is the average price paid for an item in category c during period 2, divided by the average price paid for an item in category c during period 1.

Once the unit-value index estimates are computed for all $c \in C_{1,2}$, they are treated as price ratios in the standard index formulas. For $t \in \{1,2\}$, let

$$w_{c,t} = \frac{\sum_{j \in c} p_{j,t} q_{j,t}}{\sum_{c' \in C_{1,2}} \sum_{j \in c'} p_{j,t} q_{j,t}}$$

be the expenditure share for category $c \in C_{1,2}$ during period t . (Note that $w_{c,t}$ is dependent on $C_{1,2}$ and would be more clearly denoted by $w_{C(1,2)t}$. For ease of notation, however, this dependence is left implicit; note also that all indexes described in this appendix indicate price changes between periods 1 and 2.) Then the following indexes may be estimated for all desired categories of aggregation $C_{1,2}$:

Laspeyres index:

$$\hat{L} = \sum_{c \in C_{1,2}} w_{c,1} u_{c,1,2}.$$

Paasche index:

$$\hat{P} = \frac{1}{\sum_{c \in C_{1,2}} (w_{c,2} / u_{c,1,2})}.$$

Fisher index:

$$\hat{F} = \sqrt{\hat{L}\hat{P}}.$$

Jevons (or geometric mean) index with weights from period 1:

$$\hat{G} = \prod_{c \in C_{1,2}} u_{c,1,2}^{w_{c,1}}$$

Törnqvist index:

$$\hat{T} = \prod_{c \in C_{1,2}} u_{c,1,2}^{(w_{c,1} + w_{c,2})/2}$$

Implicit imputation through unit-value indexes. When some prices are missing from the data set, they may be implicitly imputed through the computation of unit-value indexes. As noted in the text of this article, such imputation occurs in the computation of second-stage unit-value indexes. Let c' be the set of observations in category c with nonmissing price values, and let

$$\bar{p}_{c,t} = \frac{\sum_{j \in c'} q_{j,t} p_{j,t}}{\sum_{j \in c'} q_{j,t}}$$

be the average of the nonmissing prices in category c . Then the unit-value index for category c is defined as

$$u'_{c,1,2} = \frac{\bar{p}_{c,2}}{\bar{p}_{c,1}}$$

The weight for category c in time t is

$$w'_{c,t} = \frac{\bar{p}_{c,t} q_{c,t}}{\sum_{c \in C_{1,2}} \bar{p}_{c,t} q_{c,t}}$$

where $q_{c,t}$ is the total quantity of items in category c at time t (including those items with missing prices). The Laspeyres, Paasche, Fisher, Jevons, and Törnqvist indexes are then calculated from their given formulas, but with $q_{c,t}$ and $w'_{c,t}$, for $t \in \{1,2\}$, replacing $u_{c,1,2}$ and $w_{c,t}$, respectively.

Using second-stage unit values to compute indexes for first-stage categories. The second-stage unit-value index $u_{c,1,2}^{(s)}$ for a first-

stage category¹ c is calculated as follows:

Let K_c denote the collection of second-stage (segment-level) categories k corresponding to category c . For a given quarter t , let

$$\bar{p}_{k,t} = \frac{\sum_{l=1}^{q_{k,t}} \hat{p}_{l,k,t}}{q_{k,t}},$$

where $q_{k,t}$ is the number of passenger itinerary segments (possibly from itineraries in different first-stage categories) in second-stage category k for quarter t and, for $l=1, \dots, q_{k,t}$, $\hat{p}_{l,k,t}$ is the imputed price of segment l in category k . Then

$$u_{c,1,2}^{(s)} = \frac{\sum_{k \in K_c} \bar{p}_{k,2}}{\sum_{k \in K_c} \bar{p}_{k,1}}$$

As noted in the text, a second-stage category k may correspond to many first-stage categories c ; that is, it may be that $k \in K_{c_1}$ and $k \in K_{c_2}$, where $c_1 \neq c_2$. Note also that $u_{c,1,2}^{(s)}$ is a Fisher index indicating price change from period 1 to period 2 for itineraries in category c , with the quantity associated with each $\bar{p}_{k,t}$ set equal to unity and the segment-level unit-value indexes serving as price relatives. That is,

$$u_{c,1,2}^{(s)} = \sum_{k \in K_c} \left(\frac{\bar{p}_{k,1}}{\sum_{k \in K_c} \bar{p}_{k,1}} \right) u_{k,1,2},$$

where

$$u_{k,1,2} = \frac{\bar{p}_{k,2}}{\bar{p}_{k,1}}$$

To compute the Fisher indexes shown in table 1, the $u_{c,1,2}^{(s)}$ were aggregated with the use of the Fisher formula, with expenditure share weights $w_{c,t}$ computed from itinerary-level data, as described in the text.

Note to the appendix

¹ See text for a list of the variables that define a first-stage category.

Data for 2003 (on pages 32, 40, and 41 of this article) were corrected online on July 8, 2005.

Preliminary estimates of multifactor productivity growth

Final multifactor productivity measures take more than a year to complete; using a simplified methodology and preliminary data, it is estimated that private business multifactor productivity grew 3.1 percent in 2003 and 3.3 percent in 2004

Peter B. Meyer
and
Michael J. Harper

Labor productivity growth supports long-term improvements in standards of living. Productivity can increase because of investments in equipment and structures, a more educated and experienced workforce, and improvements in technology. The BLS *multifactor productivity* (MFP) measures are designed to isolate the effects on labor productivity of capital growth and of the changing composition of the labor force. These input effects are reported separately, and multifactor productivity growth represents the unexplained portion of labor productivity growth.

The multifactor productivity measures are designed along the lines of Solow's method of growth accounting.¹ Substantively, multifactor productivity change results from joint influences on economic output of technological change; efficiency improvements (for example, because of better transportation or communications); returns to scale; reallocation of resources (such as shifts of labor among industries); and other factors, after allowing for the effects of capital and labor growth. An example of a source of efficiency improvement is the construction of the interstate highway system. It has been argued that this raised multifactor productivity and, analogously, that the Internet and the World Wide Web have done so.

Multifactor productivity change is defined and measured as the growth rate of output minus the growth rate of measured inputs. Let Y be output, L be a measure of labor inputs, and K be a measure of capital services inputs. Define s to be the share of income paid to labor, and assume that

the remaining fraction $(1-s)$ is paid to capital. Delta (Δ) means the change since the previous year, so $\Delta Y/Y$ is the annual growth rate of output. BLS measures the quantities on the right side of the equation below to calculate the growth rate of multifactor productivity.

$$\frac{\Delta MFP}{MFP} = \frac{\Delta Y}{Y} - s \frac{\Delta L}{L} - (1-s) \frac{\Delta K}{K} \quad (1)$$

In the BLS approach, labor and capital inputs are divided further as discussed below. For example, labor input is a weighted combination of hours worked and can be divided into hours and changes in workforce composition. The notation we use later is that labor input $L=H*LC$, where H is a measure of hours worked and LC is an index of labor composition, adjusts for changes in the education and work experience of the employed population. Capital services can increase from growth in productive stocks of assets and from shifts within and across asset classes. A capital-income-weighted average of growth rates yields capital services. BLS publishes both index numbers and growth rates of multifactor productivity that averaged 0.96 percent from 1993 to 2002.

BLS calculates the annual growth of multifactor productivity for the U.S. private business sector. This measure is generally released about 14 months after the end of the year being measured, often called the *target year*.² The lag occurs because the process of calcu-

Peter B. Meyer is a research economist, and Michael J. Harper is the chief of the Division of Productivity Research and Program Development, Office of Productivity and Technology, Bureau of Labor Statistics.
E-mail:
Meyer.Peter@bls.gov
Harper.Mike@bls.gov

lating multifactor productivity requires detailed data from many sources.³

Some users of productivity measures, including policy and budget organizations in the U.S. Government, have made their own preliminary estimates of multifactor productivity while awaiting the official BLS measures. For its frequent short-term economic forecasts, the Federal Reserve routinely needs multifactor productivity growth figures before the BLS measure becomes available. Therefore, Oliner and Sichel of the Federal Reserve developed a method to make forecasts of the Bureau's estimates of multifactor productivity.⁴

This article summarizes a simplified methodology that BLS plans to adopt to make preliminary estimates of private business sector multifactor productivity change available within a few months after the end of target year t . The simplified methodology involves making estimates of the growth rates of output, and of labor and capital inputs, and of the shares of each input. (See equation 1). The simplified methodology works with fewer categories of capital and labor than the full methodology, as will be described below. The resulting simplified measure, called MFP^S_t , will later be supplanted by the full measure called MFP^F_t when complete data become available. The simplified measure is usually based on information from the full calculation from the previous year and on up-to-date information about approximate rates of change in output, labor, and capital in the target year. The estimates of the rates of change use information from the National Income and Product Accounts (NIPA) and other sources that become available early in the year following the target year.

The simplified methodology is designed to estimate multifactor productivity in a way that closely approximates that which is calculated by the full methodology, using the same basic structure and assumptions. For example, both methodologies estimate a productive capital stock for each of several kinds of assets. The productive stock is an aggregate of past investments weighted by estimates of their declining capacity to contribute to production because of deterioration and obsolescence. In the simplified method, such stocks are estimated for only a few summary asset categories instead of many detailed ones. In addition, rates of deterioration are determined from the recent average rate over all asset types in a class as developed in the full method. High-tech computer-related capital is still kept separate from other equipment in the simplified model because this category has grown substantially (representing half of nominal investment in the late 1990s) and has been influential on productivity trends in recent years.

The simplified methodology is relatively transparent and robust. Simplicity will help make the estimate available as early as possible. The procedure is transparently related to the full measure, and has been designed to approximate the full measure with fairly modest degrees of random error and

bias. The computation is robust in that it is designed to work even when there are changes in accounting categories or procedures within the statistical agencies. For this reason, published data series were used wherever possible, not data series used only internally to the BLS or BEA. Although this may slightly lower the accuracy of the simplified measure, it reduces potential obstacles to producing the measure at an early date. The procedure is also meant to be relatively robust to structural change in the economy. A carefully tuned procedure might make better estimates for the 1990s data series than this one, but it might also be more sensitive to unexpected economic changes in the future.⁵

There is a tradeoff between meeting these goals of simplicity, transparency, and robustness and the natural goal of reducing the discrepancy between the preliminary statistic and the full-method statistic. BLS expects to evaluate this methodology when there is a longer data series of simplified and full measure statistics with which to work.⁶ The accuracy of the simplified measure should improve with experience.

The purpose of this article is to describe the simplified method and the evaluation of its reliability. The article first reviews the estimation procedure for each component of multifactor productivity, providing summary statistics on the reliability of each estimate. After summarizing the simplified method and results for output, labor input, and eight components of capital, the article discusses the assembly of these estimates into the simplified measure of multifactor productivity. Contributions of errors in each component to this measure are discussed, and it is noted that these errors often offset. The resulting simplified multifactor productivity measure is fairly reliable. This article also reports and evaluates simplified estimates of productivity prepared for the second year ahead of the last year for which full model estimates are available. These "second-year" estimates are denoted MFP^{S2}_t . The latest published BLS measures of multifactor productivity are for the year 2002. Finally, this article presents preliminary estimates of multifactor productivity for 2003 and 2004 using the simplified methodologies.

The methodology is tested using annual data for each year since 1993. The simplified measures are estimated for each year, extrapolating from the previous year's full estimation. To evaluate the usefulness of this approximation, the simplified estimate for each year t , denoted MFP^S_t , is compared with the most recently published full measure for that same year, MFP^F_t .

The evaluations in this article use the most recently available data for the full model, and therefore examine how well the simplified methodology replicates the full methodology for a given version of the data. In practice, when the BLS revises its simplified estimate to obtain a full estimate, the revision will reflect both the difference in methodologies and also any concurrent revisions to the underlying source data that will become available.⁷

Estimating output and labor inputs

Background. The BLS private business multifactor productivity measures compare output to the combined inputs of labor and capital. The output measures used by BLS are derived from gross domestic product (GDP) and other data from the National Income and Product Accounts (NIPA) for BLS by the Bureau of Economic Analysis (BEA). The NIPA measures of “final product” exclude the value of intermediate inputs like the leather used to make shoes, and these output measures are appropriately compared to labor and capital inputs.⁸

Productivity measures are meaningful only if outputs and inputs are measured independently. The NIPA measures of real output for general government, nonprofit institutions, private households and owner-occupied dwellings are excluded from published productivity measures in part because they depend on input measures to derive estimates of real output.⁹

BLS publishes measures of labor productivity (output per hour worked) for the business sector on a quarterly and annual basis in its Productivity and Costs (P&C) news

releases.¹⁰ BLS publishes annual measures of multifactor productivity for the *private* business sector. The private business sector differs only slightly from the business sector in that it excludes the BEA estimate of the output of government enterprises. Government enterprises include the U.S. Postal Service and local government water and sewage services among other activities.¹¹ The private business sector accounts for about three-quarters of U.S. Gross Domestic Product.¹²

The simplified method of measuring multifactor productivity estimates output growth and labor hours growth by applying the growth rates of output and hours in the business sector—from the published P&C measures—to the previous year’s measures for the *private* business sector. The data for the simplified estimate are available soon after the conclusion of each year.

Next, we describe the simplified approach and characterize how well the simplified estimate of each variable approximates the full computation. Exhibit 1 summarizes the inputs to the simplified multifactor productivity calculation.

Exhibit 1. Components of simplified MFP calculation

Component of multifactor productivity (MFP) calculation	Sources and methods
Structures and equipment investment (each of six categories)	Apply growth rates of new investment from NIPA tables listed in exhibit A-1 in the appendix to BLS private business sector investment level from the previous year’s “full-MFP” report
Depreciation rates on existing capital assets	Hold constant the depreciation rates in the most recent full-MFP report
Structures and equipment productive capital stocks	By perpetual inventory method; deduct estimated depreciation of the previous year’s stock of each asset type and then add new investment
Inventory capital stock	The previous year’s stock in the full-MFP report is extrapolated with the percentage change in the NIPA inventory series for the business sector (see exhibit A-1 in the appendix)
Land capital stock	Extrapolated using the structures capital stock
Income shares of capital categories	Detailed asset shares from the previous year’s full-MFP report are aggregated into these eight categories and assumed constant
Capital service inputs	Chain index combining stocks of the eight categories of equipment, structures, inventories and land, weighted by capital-income shares
Labor hours	Extrapolated from hours in the Productivity and Costs (P&C) news release
Labor composition	Computed from previous year’s wage coefficients and current year hours from the Current Population Survey
Labor share	Previous year’s full-MFP labor share is adjusted for change in labor share in P&C
Output in private business	Extrapolated from output measure in P&C

Procedures for estimating each component are discussed below. For each component, table 1 presents estimates corresponding to the full and simplified methodologies and the gap between these estimates, expressed by the average absolute value of the difference in the growth rates of the variables calculated from the full and simplified approaches. Errors in capital and labor figures are measured in growth rates because these are the form relevant to multifactor productivity calculation. The errors in growth rates are the ones directly relevant to the this calculation, because multifactor productivity is defined to be the difference between the growth rates of output and of inputs. Errors in levels are shown in table A-1 in the appendix.

Output. The simplified estimate of output, Y^S_t , comes from the following computation. From the previous year's full multifactor productivity measures, we obtain the private business sector output level in year $t-1$, Y^F_{t-1} . From BLS's Productivity and Costs (P&C) news releases, we obtain the percentage change in business sector output from year $t-1$ to year t . We make the assumption that the slightly smaller private business sector grew by the same percentage. This gives us an estimate of private business sector output in year t . On average, this assumption is reasonable because the two sectors

cover nearly identical portions of the economy, although there are fluctuations in accuracy attributable to the use of preliminary data and the difference in scope. Over the 1993–2002 period, when output growth averaged 3.8 percent per year, the absolute value of the difference between annual growth rates of output (that is, $|Y^F_t - Y^S_t|/Y^F_{t-1}$) averaged 0.05 percent.

Labor inputs. The simplified measure of hours worked, H^S_t , comes from applying the percent change in hours worked in the business sector from the P&C report to the measure of private business hours in the previous year's multifactor productivity report, H^F_{t-1} . The hours measure is based mainly on the BLS Current Establishment Survey, but is supplemented by information from the Current Population Survey (CPS). On average, the simplified estimate of the growth rate of hours worked differs from the full estimates in the most recent multifactor productivity data, H^F_t , by 0.04 percent.

For the *labor composition* measure in the full methodology, the hours worked measure is adjusted for changes in the composition of the workforce. Rather than simply adding up hours worked, labor composition input is derived by aggregating the hours for groups of workers after weighting the hours of each group by shares in total compensation.¹³ The

Table 1. Differences in growth rates of MFP components between the simplified and full methodologies

[in percent]

Estimated component (capital stock, labor input, output, or MFP)	Full model annual change, average (1993–2002)	Simplified model annual change, average	Average discrepancy in annual change between models	Annual change in second year, average (1994–2002)	Average discrepancy in second-year change
Capital services	4.38	4.30	0.28	4.1	0.46
Structures stock	1.74	1.76	.09	1.9	.12
Computer stock	30.4	29.9	3.4	31.8	5.3
Software stock	13.6	13.2	3.1	13.9	2.4
Other information technology stock	7.2	7.0	.71	7.7	.4
All non-information technology equipment stock	3.2	3.2	.39	3.5	.5
Rental residence stock	1.1	1.1	.23	1.3	.4
Inventory stock	3.8	3.9	.34	4.0	.4
Land stock .....	.6	.5	1.3	.6	2.5
Labor services	2.0	1.6	.24	1.8	.24
Labor hours	1.8	1.8	.04	1.6	.07
Labor composition .....	.5	.4	.23	.4	.25
Output	3.8	4.0	.05	3.9	.05
MFP change .....	.96	.87	.22	1.07	.19

NOTE: "Discrepancy" means absolute value of differences in growth rates, expressed in percentages, from the previous year to the target year.

groups are classified into about 1,000 types based on their education, experience, and gender. The *labor composition index* is the ratio of the labor input measure to the simple hours worked measure. The labor composition index reflects the effects on productivity of changes in the education and experience of the workforce.

In the full methodology, the labor composition measure is constructed from data from the March Supplement to the CPS. Hours worked for each group are obtained from the survey data. The relationship between wage levels and education and work experience is estimated by a linear regression, from which it is possible to estimate wages for each group.¹⁴ Then the shares of all labor income received by each group are estimated. Each group's income is its hours worked multiplied by its estimated wages. These shares are used to construct the measure of labor composition, which is a Tornqvist chain index of the groups.¹⁵ After excluding the effects of hours growth, on average the labor composition index rose by 0.4 percent annually between 1973 and 2001 as the working population became more educated and more experienced.

A simplified estimate of the labor composition index is developed here. An estimate of the distribution of hours worked, by education, work experience and gender, is constructed from the CPS for the middle month of each quarter of the target year. The information used to measure the work experience of each group of workers is also less complete than in the full method. It relies in part on more complete information from the previous year. Furthermore, in the simplified method, measures of hourly wages for each education-experience group are drawn from the previous year. Provided that the *relative* wages for each group have not changed substantially, these wage rates should provide a strong basis for constructing income share weights for each subgroup of the workforce. Shifts in hourly wage rates contribute to labor composition growth over long periods of time, but historically account for little of the year-to-year change in labor composition. Once hours and wage rates are estimated, a Tornqvist index of a simplified labor composition index is calculated. Again, subtracting hours growth, the average absolute value of the difference between the simplified and full estimates of labor composition from 1993–2002 is 0.25 percent.

The labor input figure for the multifactor productivity calculation is then the labor composition index multiplied by hours worked. On average from 1994 to 2002, the simplified aggregate labor input growth differs from the full procedure by an average absolute value of 0.24 percent.

Because labor represents two-thirds of the input costs, this difference by itself would lead to approximately a 0.16-percent difference between the multifactor productivity estimated by the simplified method and the full method—although in some years, errors in other components (capital, labor share, or output) may be in the opposite direction, and therefore off-

setting in their effects of the multifactor productivity measure. Overall, roughly half of the discrepancy between the full model and simplified model multifactor productivity measures comes from variation in labor composition. The other half comes from capital estimation.

Measures of capital inputs

Background. The BLS multifactor productivity measures reflect the contributions of growth in capital service inputs, as well as labor inputs. The full procedures used to estimate capital are complex. Before describing the simplified procedures used to measure capital, it is helpful first to summarize how capital inputs are measured in the full procedure.

Capital includes fixed reproducible business assets (equipment and structures), inventories, and land. The BLS capital input concept is designed to reflect the flow of services from these assets. These capital services measures are constructed through three stages of aggregation, two of which are reflected in the simplified methodology. The first stage involves vintage aggregation, where past investments in each of 74 types of asset are deflated, weighted and added together, resulting in *productive capital stocks*. This procedure is sometimes called the perpetual inventory method (PIM). In addition, capital stocks are measured, by methods other than PIM, for three types of inventories and for land, completing a set of 78 categories of assets. The second stage combines stocks for the 78 types of assets, using estimates of implicit rental prices to form an index of capital inputs, and the third stage involves aggregation of capital inputs across a set of industries. In the full methodology, the first two stages are repeated for each of 57 detailed industries.¹⁶

The PIM is designed to adjust older capital goods for deterioration and obsolescence that reduce their productivity. The BLS specification of the PIM assumes that investments only slowly lose their effectiveness, like cars and light bulbs do. In the full methodology, we assume that the productivity of equipment declines as a function of lifetime (L)¹⁷, age (τ), and that the fraction

$$\frac{L - \tau}{L - .5\tau}$$

of the investment remains productive.¹⁸ Similarly, structures are assumed to remain productive according to the slower-moving fraction

$$\frac{L - \tau}{L - .75\tau}$$

The parameters of the efficiency formula (average service life and shape) represent the effects of obsolescence and deterior-

ration of past investments. BLS has made efforts to fit them to evidence on declining equipment productivity. Chart 1 shows how an investment in structures with a 10-year life span would decline in productivity according to this relationship:

The simplified calculation groups the 78 asset types into the following 8 asset classes:

- Structures
- Computers and peripherals
- Software
- Communication and other information technology
- Equipment other than the three information technology categories
- Rental residences
- Inventories
- Land

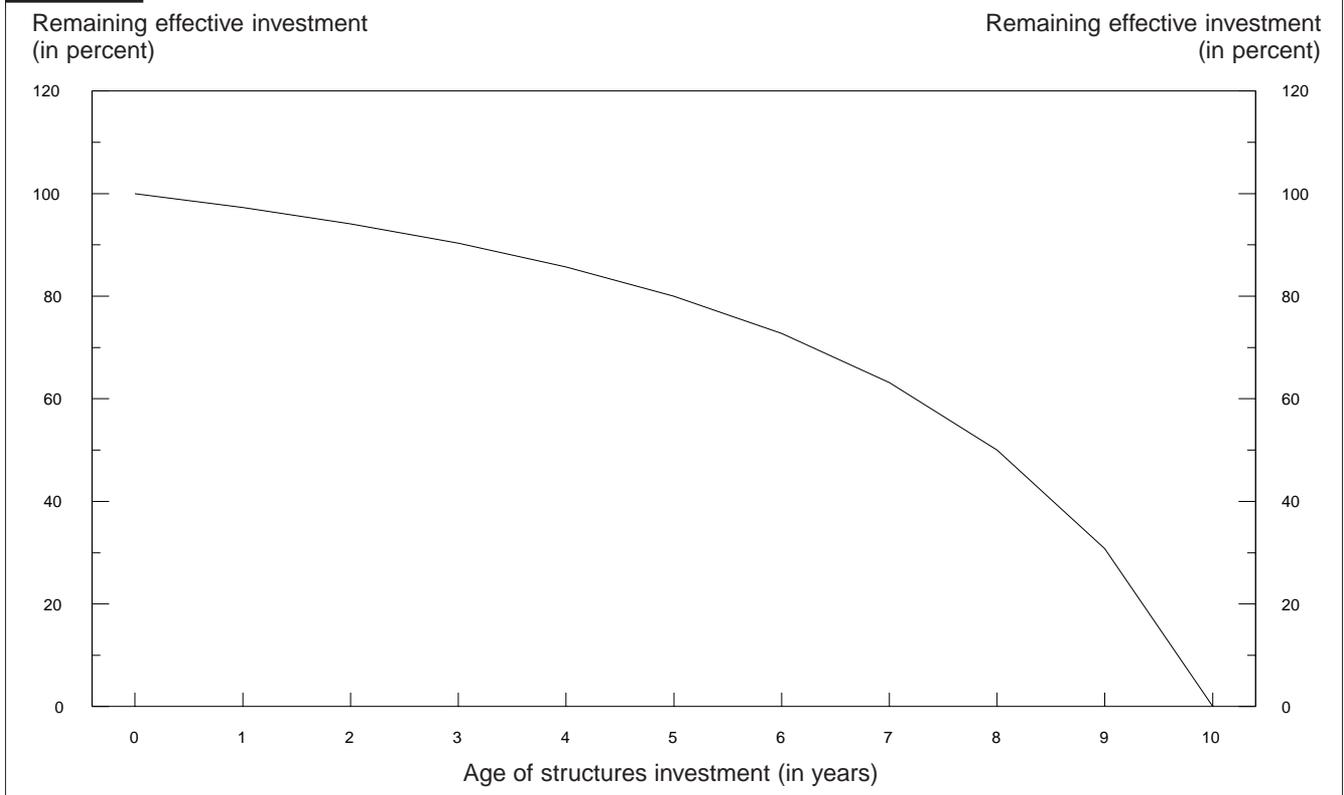
For the first six of these categories, we calculate a productive capital stock by applying the PIM to data on investment published by the BEA during February following the target year. Exhibit A-1 in the appendix specifies the tables from which we have drawn source data. Investment by nonprofit institutions is included in the data that are available early, whereas the full-

method multifactor productivity estimates exclude this. However, for most of the six categories, movements in the two investment series track one another closely. So the simplified method uses the percentage changes of the series that are available early to extrapolate the previous year's level of investment in each category. This provides an estimate of the level of investment in the target year. Then an estimate of the productive capital stock of that asset type is constructed as the sum of the new investment and of prior investments (weighted by remaining efficiency). Efficiency is assumed to decay at a rate derived from the full method for the previous year.

Productive stocks of inventories and land are estimated without using a PIM calculation in both the simplified and full methods. However, the simplified estimates are constructed using different sources and simpler methods, which we will discuss below. Once stocks are prepared for each of the eight categories, the simplified procedure assigns cost shares to each and the eight are aggregated into a unified measure of capital service inputs. Category cost shares in the target year are assumed to be unchanged from the cost shares in the previous year, available from the full calculation.¹⁹

Below we discuss the construction of each of the eight capital input components and assess the difference between the

Chart 1. Assumed decline in productivity of an investment over time



simplified procedure and the full procedure in each recent year. The comparison is made using data available at the end of March 2005.²⁰ Early estimates for future years will have only preliminary information (for example, on investment) so subsequent revisions would reflect the incorporation of final data as well as the more complete methodology.

In a later section, we list the components used to generate the major sector multifactor productivity estimates as published by the BLS and the components estimated by this procedure that uses data of the kind available shortly after the end of each target year. Details on the capital stock errors are shown in table 1 and table A-1 in the appendix.

Structures. An early estimate of business investment in structures is published by the BEA in February of the year following the target year. This estimate includes nonprofits, whereas multifactor productivity calculations exclude them. For the target year t , the simplified procedure adjusts the investment figure from the full multifactor productivity calculation in year $t-1$ using the movement in BEA's early estimate. Because structures investment is stable from year to year, this estimate for investment is reasonable. Over the 1993–2002 period this method produces, on average, a 1.8-percent discrepancy in the estimate of the percentage change of annual investment into structures compared to the later full estimate.

The next step in converting investment figures to a capital stock requires two procedures. First, we apply a deterioration rate to the productive capital stock existing the previous year, year $t-1$. The deterioration rate for the simplified measure is based on the average deterioration rate for the asset class. We apply the last known rate to the stock in year $t-1$, to produce an estimate of the remaining stock of used assets in year t . Second, we add the estimated new investment to get an estimate for structures in the private business sector in year t . Because deterioration of structures is slow, this produces accurate estimates for the stock of structures. Over the 1993–2002 period, the absolute value of the difference between the growth rate of the stock of structures measure by the two methods averaged 0.09 percent.

The calculations for the other asset categories are analogous where possible, though they are less accurate than the structures estimate. Equipment deteriorates more quickly than structures, so differences in recent investment estimates have a greater effect on the total capital stocks for equipment than for structures.

Equipment. We separate information processing equipment and software from other categories of equipment. This improves our estimate of multifactor productivity because high-tech investment grew so much in the 1990s and has such a high rate of obsolescence. As in Oliner and Sichel's work,

three categories of information processing investment are distinguished: computers and peripherals; software; and communications and other information technology equipment. All other equipment, taken together, makes up the fourth equipment category.

For each of the equipment categories, investment estimates are calculated as they are for structures. Capital stocks are constructed in the same way as for structures. Capital stocks are reasonably well estimated for two of the categories but poorly estimated for computers and software. Because computer investment was booming and volatile with short life cycles and quickly evolving applications, our simple linear projections were not very close to the full measure in these categories. Much of this discrepancy is attributable to the differences between the early estimate of investment in computers and the later full estimate, an average absolute difference of 13.9 percent, as shown in table A-1 in the appendix. Another, smaller part of the discrepancy of 2.6 percent between the simplified and full estimates of the productive stock of computers is attributable to the depreciation rate that is inferred on previous computer stocks, which fluctuated widely in the 1990s and which was therefore not well estimated by the simplified procedure. These differences contribute substantially to the discrepancy in the final simplified measure of multifactor productivity.

Rental residences. Investment figures for this category are not available early enough after the target year to be used in the simplified calculation. The simplified estimates simply assume investment was the same in year t as it was in year $t-1$. This estimate for investment is not very accurate, but new investment is small compared to the existing housing capital stock, so the absolute discrepancy between the two measures of the growth rates of the stock averages only 0.2 percent.

Inventories. The full MFP calculation defines inventory capital for each industry to be a weighted average of the values of private business inventory stocks in recent quarters. BEA's aggregate inventory investment figures for the whole business sector taken together are available soon after the target year ends, and percentage changes from the previous year replicate the aggregate inventory stock in the full model well.

Land. In the full calculations, land stocks are not calculated as an accumulation of past investments. Rather, nonfarm land stock is assumed to have one of three fixed proportions to the structures stocks depending on whether the land is used for residential structures, manufacturing structures, or other structures. The simplified calculation uses the overall ratio of the official capital stock of land to that of structures from year $t-1$, and applies this ratio again to the estimated value of struc-

tures in year t , which was estimated previously. This gives estimates of the growth rates of the productive stock of land that differ from the full estimates by 1.3 percent on average. The discrepancy is largely attributable to farmland, which in the full estimation is measured with data from the U.S. Department of Agriculture. In our simplified calculations, farmland is in effect estimated from farm structures.

Capital services. Having computed simplified estimates of each type of productive capital stock, we proceed to estimate aggregate capital services provided in the target year. We assume that capital services are proportional to the productive stocks for each of the eight types of assets.²¹ The productive stocks are combined into a measure of combined capital services inputs using implicit rental prices to determine weights for each type of capital. BLS uses BEA's measures of property income and allocates a portion of this income to each type of asset. The resulting capital income shares do not vary much from year to year. To estimate the simplified measure of combined capital service inputs for year t , these asset shares are taken to be the same as in year $t-1$.

Shares for categories of capital inputs and for labor input. Capital income is apportioned to various asset types by assuming the same distribution as in the previous year's full multifactor productivity estimation. For capital types aside from equipment, this introduces only small errors, but the computer and software categories grew a lot. Details of this are in tables 1 and 2.

On average, rental residences accounted for 10 percent of capital income over the 1993–2002 period; inventories accounted for 7 percent; and land, 11 percent. Structures accounted for a declining share, averaging about 28 percent. Equipment of all kinds together rose from about 42 percent to 49 percent, because of growth in computer and software investment in this period.

Capital and labor inputs are then combined using a Tornqvist index formula to create a single index of combined inputs. The capital and labor shares are estimated from changes in the corresponding figures from the BLS Productivity and Cost measures. In the full calculation, labor's share was in the 66–69 percent range. The absolute values of discrepancies from the fully-estimated figure in the simplified estimates of this share average 0.76 percent.

Estimates of multifactor productivity

All of the components discussed above are combined to make a simplified multifactor productivity estimate. The focus of this article is to assess the accuracy of the simplified method. During the 1993–2002 test period, the average of the absolute values of the annual errors between the percentage change in the preliminary (first year ahead) estimate and the published multifactor productivity was 0.22 percent. Table 2 presents an analysis of how much each component contributed to that error. Output errors contribute directly to multifactor productivity error, and input errors for specific input components can contribute in proportion to their weights in total input. In the final column of table 2, the input category

Table 2. Approximate magnitudes of error, by source, for 1993–2002

[in percent]			
Components (1)	Range of share of capital income (2)	Average absolute error in growth estimate, from table 1 (3)	Approximate absolute error induced into MFP Product of averages of (1), (2), and (3)
Capital services (31.5 to 34 percent of inputs):			
Structures	25.3 to 30.3	0.09	0.01
Computers	3.6 to 6.1	3.4	.06
Software	4.4 to 7.6	3.1	.06
Other information and communications technology	8.3 to 9.3	.71	.02
Other equipment	25.0 to 27.9	.39	.03
Rental residences	9.2 to 10.4	.23	.01
Inventories	5.6 to 8.4	.34	.01
Land	9.6 to 11.5	1.3	.05
Labor services (66 to 68.5 percent of inputs):			
Hours worked	All	.04	.03
Labor composition	All	.23	.15
Output	All	.05	.05
Total .....			.47
Net effect on MFP .....		.22	

ries have been multiplied by their average cost share weights during the test period to assess their potential contribution to measurement error in multifactor productivity. For example, the growth of computer stock was estimated with an average absolute error of 3.4 percent, but their input cost share was small, averaging about 1.7 percent of the value of all labor and capital inputs. We estimate they contribute only 0.06 percent to the multifactor productivity error. Not all sources of error can be identified in this share-weighted framework. Asset shares are assumed to be the same in year t as in year $t-1$, and this is a source of some of the discrepancy between the simplified and full measures, especially for computers and software. However, in assembling the components into a multifactor productivity measure, the error contributions of the capital categories, of labor, and of output often offset. As a result, the total component contribution, of about 0.47 percent for the period, was reflected in a multifactor productivity error of only 0.22 percent.

Table 3 presents annual time series for the simplified (columns 1) and full (column 2) estimates of multifactor productivity for recent years. The trends in these measures, presented near the bottom of the columns, are very similar. Annual errors (differences) in the simplified measure are presented in column 3. Because some errors are positive and

some negative, the average of this column is very small: -0.09 percent. However, this represents only the difference in trends. To assess the effectiveness of the simplified method, we averaged the absolute values of column 3. That figure was 0.22 percent, as we mentioned earlier. Table 3 also presents the second-year-ahead estimates, MFP^{S2}_t (column 4). These were constructed by applying the simplified methodology for two consecutive years. The data presented are growth rates of multifactor productivity for the second year. The second-year simplified estimates (column 4) are compared to the published measures (column 2) in column 5. The average absolute error, during 1994–2002, for the second year estimates was 0.19 percent. By comparison, the average of published multifactor productivity growth rates is 0.96 percent, and they fluctuate substantially from one year to the next. The simplified estimates may serve as fairly reliable preliminary numbers. The accuracy of the second year estimates is comparable to that of first-year estimates, reflecting the stability of input shares and the similarity of the data used to estimate growth rates. While the simplified method can provide reasonable measures for a few years, it is not capable of replacing the full method. The simplified model draws heavily on the most recent full model for data on rental prices, cost shares, and deterioration rates. These values gradually change over

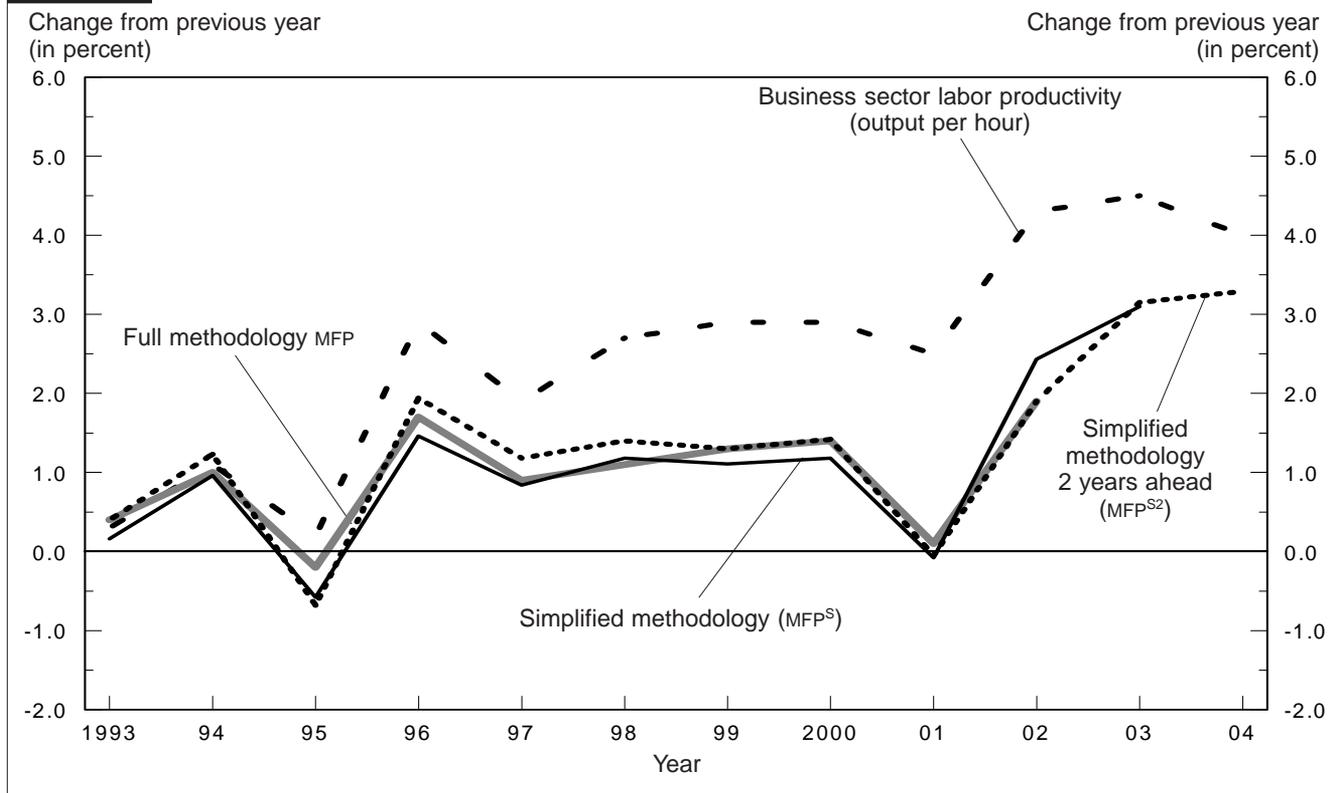
Table 3. Multifactor productivity (MFP) change estimates by simplified and full procedures

[In percent]

Year	Simplified estimate of MFP change (MFP ^S) (1)	Full MFP change estimate (MFP ^F) (2)	Discrepancy of 1-year simplified estimate from full estimate (1)–(2) (3)	Simplified estimate of MFP change 2nd year after last full model, MFP ^{S2} (4)	Discrepancy between simplified 2nd-year and full estimates (4)–(2) (5)	Best estimate of the MFP series, based on (1), (2), or (4) (6)
1993	0.16	0.40	–0.24			0.4
1994 .....	.96	1.00	–.04	1.23	–0.23	1.0
1995	–.58	–.20	–.38	–.68	.48	–.2
1996	1.46	1.70	–.24	1.94	–.24	1.7
1997 .....	.84	0.90	–.06	1.18	–.28	0.9
1998	1.18	1.10	.08	1.40	–.30	1.1
1999	1.11	1.30	–.19	1.30	0.00	1.3
2000	1.18	1.40	–.22	1.42	–.02	1.4
2001	–.08	.10	–.18	–.05	.15	0.1
2002	2.43	1.90	.53	1.90	0.00	1.9
2003	3.10			3.15		3.1
2004				3.29		3.3
Average .....	.87 (1993–2002)	.96 (1993–2002)	–.09 (1993–2002)	1.07 (1994–2002)	–.05 (1994–2002)	
Mean absolute error: .....			.22 (1993–2002)		.19 (1994–2002)	

NOTE: Figures reflect percent changes from previous year's private business sector MFP.

Chart 2. Productivity measures



time, and so the simplified model will tend to become inaccurate unless data from the full model are available for a recent year.

Table 3 also includes a series providing our best current estimate of a multifactor productivity time series (column 6). This column is the published full multifactor productivity measure (column 2) for 1993–2002, but then reflects the simplified estimate for 2003 (column 1), and the simplified estimate for the second year ahead for 2004 (column 4). Private business multifactor productivity grew 3.1 percent in 2003, and 3.3 percent in 2004. The last time this published series grew by more than 3 percent was in 1976. Rapid private business multifactor productivity growth in these recent years occurred at a time of high business sector labor productivity growth rates of 4.5 percent in 2003 and 4.0 percent in 2004—reported in the BLS Productivity and Costs news release. Capital growth and labor composition account for the difference between trends in labor productivity and multifactor productivity. The labor composition index grew 0.6 percent in 2003 and 0.2 percent in 2004, compared with a trend of 0.4 percent during the previous 10 years. In both 2003 and 2004, capital inputs grew 2.6 percent, less than their average of 4.5 percent per year during the previous 10 years.

The annual rates of change in the full and simplified estimates are graphed in chart 2 along with growth in labor pro-

ductivity. While there are noticeable differences between the simplified and full estimates, the movements are very similar. BLS presents multifactor productivity measures in the context of a framework that explains changes in labor productivity. Aside from multifactor productivity, labor productivity growth reflects the contributions of capital and of labor composition. In chart 2, the simplified multifactor productivity measures account for about the same fraction of labor productivity growth as do the full measures.

Conclusion. The simplified method uses preliminary information to estimate the components of multifactor productivity. The method is relatively transparent and avoids any kind of model that fits the 1990s but might not apply in the future. Based on the span of years for which we made the comparison, the largest sources of the discrepancy between this multifactor productivity estimate and the full measure come from differences in estimates of information technology capital and labor composition.

In the future, BLS expects to make these simplified method multifactor productivity measures available before the results from the full methodology can be ready. The results of the full methodology can be published as revisions to the preliminary statistics. □

Notes

ACKNOWLEDGMENT: We are indebted to Dan Sichel of the Federal Reserve Board, who described to us how Oliner and Sichel (2000) forecasted multifactor productivity (MFP). We thank our colleagues Ryan Forshay, Randal Kinoshita, Marilyn Manser, Larry Rosenblum, Steve Rosenthal, and Leo Sveikauskas for their advice and assistance. The authors are responsible for any errors.

¹ Robert Solow, "Technical Change and the Aggregate Production Function," *The Review of Economics and Statistics*, August 1957, pp. 312–20.

² The target year is sometimes called the *reference year*. Changes are measured between the target year and the previous year. In this study the present year is never measured, only past years.

³ Most of the data items are obtained shortly after the year is over from the National Income and Product Accounts (NIPA) published by the Bureau of Economic Analysis (BEA), and from BLS labor data sources. The MFP calculation also requires information on investment expenditures and property income at the industry level from BEA and this takes longer to produce and obtain.

⁴ Their measures were reported by Oliner, Stephen D. and Daniel E. Sichel, "The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?" *Journal of Economic Perspectives*, Fall 2000, pp. 3–22. Our measure is similar, with less detail on equipment and structures than their 60 asset categories, but adding measures of inventories and land. The authors are indebted to Dan Sichel, who kindly discussed this work with us and who also provided valuable comments on an earlier draft of this article.

⁵ For example, in the 1990s, computer purchases rose dramatically as a fraction of all business investment. If particular categories of investment continue to grow rapidly, more accurate estimates would take recent trends into account. Instead, the calculation simply used the asset shares from the most recent year for which full calculation is available.

⁶ For example, the calculation could incorporate empirically observed relationships between the state of the business cycle and components of the calculation (such as the labor force composition and the shares of durable goods in investment) to make slightly more accurate estimates.

⁷ Revisions to the underlying data can be substantial. Edge, Laubach, and Williams (2004) discuss the significance of using real time data in evolving expectations about productivity trends; see Edge, Rochelle M., Thomas Laubach, and John C. Williams, "Learning and Shifts in Long-Run Productivity Growth," Working Paper No. 2004–04 (San Francisco, Federal Reserve Board of San Francisco, 2004). Orphanides (2001) demonstrates that monetary policy can look meaningfully different in retrospect when considered in the context of the economic data actually available to policymakers, not the best measures later available. (See Orphanides, Athanasios, "Monetary Policy Rules Based on Real-Time Data," *The American Economic Review*, Sept. 2001, pp. 964–85.) Though we recognize the issue, this study does not measure how much this would have affected preliminary MFP measures in recent years.

⁸ Gullickson and Harper (1999) discussed why this is the appropriate concept of output to compare to capital and labor inputs at the aggregate level. See William Gullickson and Michael J. Harper, "Possible Measurement Bias in Aggregate Productivity Growth," *Monthly Labor Review*, February 1999, pp. 47–67.

⁹ Output from these sectors is included in GDP, but the estimates for the value of output are largely based on inputs or input costs and assumptions about their productivity change. If these sectors were included in aggregate productivity measures, the assumptions about their productivity would affect the measure.

¹⁰ These are available on the Internet at http://www.bls.gov/schedule/archives/prod_nr.htm.

¹¹ Government enterprises are those activities of government that bring in approximately enough revenue to cover their variable costs. They generate approximately 1.3 percent of GDP. Government enterprises are excluded from MFP because of difficulties in estimating an income share for capital. Government enterprise capital is often heavily subsidized. Revenues often are sufficient to cover operating costs but insufficient to repay capital costs.

¹² In recent years, nonprofits and households produced 11.5 percent of GDP, general government 11.3 percent, and government enterprises 1.3 percent. Sources

for those approximations are BEA's online NIPA Table 1.3.5 on the Internet at <http://www.bea.gov/bea/dn/nipaweb> and "Value Added by Industry in Current Dollars as a Percentage of Gross Domestic Product" table in the Industry Economic Accounts available on the Internet at http://www.bea.gov/bea/industry/gpotables/gpo_action.cfm?anon=619&table_id=2921&format_type=0; (visited June 2004).

BLS also publishes multifactor productivity growth estimates for subsets of private business, such as the following: private business excluding farms; manufacturing; durable manufacturing; nondurable manufacturing; and for selected industries. There are also "KLEMS" multifactor productivity growth that take more inputs into account: capital, labor, materials, energy, and purchased business services. Access to these estimates is available on the Internet at <http://www.bls.gov/mfp/>. This article does not consider preliminary estimates for these other statistics.

¹³ In theory, firms competing for workers and trying to make profits will minimize costs by paying each type of worker a wage that equals the worker's "marginal product" or labor productivity.

¹⁴ Other researchers, such as Jorgenson, Gollop and Fraumeni (1987) have used hourly wages directly instead of inferring them from a wage regression. See Jorgenson, Dale, Frank Gollop, and Barbara Fraumeni, *Productivity and U.S. Economic Growth* (Harvard University Press, 1987).

¹⁵ A chain index is a time series assembled by adjusting successive year's observations by growth rates. The Tornqvist growth rate is an aggregate of growth rates of the hours worked by each group, weighted by their average shares in labor costs in successive years. For more on the index, see <http://www.bls.gov/mfp/mpriabor.pdf> and *Labor Composition and U.S. Productivity Growth, 1948-90*, Bulletin 2426 (Bureau of Labor Statistics, Dec. 1993).

¹⁶ The full methodology also treats investments by corporations differently than other investments. For further information on the construction of the capital stock for the multifactor calculation, see *Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), p. 107; see also Harper, Michael J., "Estimating Capital Inputs for Productivity Measurement: An Overview of U.S. Concepts and Methods," *International Statistical Review* Vol. 67, 1999, pp. 327–37.

¹⁷ Service lives of individual assets are assumed to have a normal distribution that is truncated at age zero and at twice the average service life. The average service lifetimes used in this calculation are consistent with the depreciation rates that BEA uses when estimating the net national product. In some cases, the service lifetime changes over calendar time.

¹⁸ The relationship of the productivity of a capital investment to its age and lifespan represented by these equations are sometimes called *efficiency schedules*. These particular efficiency schedules are *hyperbolic* functions of age.

¹⁹ In the full methodology, asset-type cost shares are determined by allocating NIPA property income (the difference between revenues and labor cost) to the assets, under the assumption each asset type earns the same rate of return. Property income data comes from the BEA's GPO (Gross Product Originating) reports. The stock of each type, and structural rental price formulas for each type are used. For further details see *Trends in Multifactor Productivity*, Bulletin 2178 (Bureau of Labor Statistics, Sept. 1983), especially pp. 49–50.

²⁰ In the comparison of the full method to the simplified method over a series of years, the investment data are drawn in slightly different categories from the ones used at the time. First, investment amounts for all years are taken in year 2000 dollars, based on chained-dollar adjustments between years which vary by the kind of investment good. Second, they are drawn in from NAICS (North American Industrial Classification System) category data whereas the figures historically used for the MFP calculation had been in SIC (Standard Industrial Classification) categories. Third, investments for all years are also taken as restated by the BEA's December 2003 comprehensive revisions. These changes introduce small differences between the multifactor productivity estimated by what is called the full methodology here and the multifactor productivity figures the BLS published for those years.

²¹ In the full procedure, the capital services from each of the eight components has been constructed from finer subcomponents. Our simplified procedure overlooks some composition effects that emerge from working with the greater detail. It might be possible to improve our simplified procedure by trying to estimate these composition effects within the components. We have not done so for these estimates.

APPENDIX: Sources of data and average discrepancies in levels of investment and capital stocks

Exhibit A-1. Data sources for investment in the simplified multifactor productivity (MFP) calculation

Component of MFP calculation	Source for investment data
Structures investment	Tables 5.4.6A and 5.4.6B
Computers investment	Table 5.3.5 (deflated by price index privately sent from BEA)
Inventories stock	Tables 5.7.6A and 5.7.6B
Software	Table 5.3.6 or Table 5.5.6
Other information processing equipment	Table 5.3.6
Residential structures	Table 5.3.6
Other equipment	Line 16 of Table 5.3.6
Land stock	Imputed from structures as discussed in text

NOTE: Investment data come from tables from the Bureau of Economic Analysis, available on the Internet at <http://www.bea.gov/dn/nipaweb/>. Figures in year-2000 dollars are used in the simplified MFP calculation. Where possible, data without seasonal adjustments are used.

Table A-1. Differences in levels between simplified and full methods

[in percent]

Measured component of multifactor productivity (MFP)	Average discrepancy between full and simplified estimates, 1993-2002	Average discrepancy between full and 2-year simplified estimates, 1994-2002 (cumulative, in levels)
Structures investment	1.8	2.2
Productive stock .....	.1	.2
Computers and peripherals investment	13.9	24.1
Productive stock	2.6	3.9
Software investment	1.0	1.1
Productive stock	2.7	5.1
Communications and other IT equipment investment	1.8	1.9
Productive stock .....	.7	1.0
Other equipment investment	1.0	1.8
Productive stock .....	.4	.8
Rental residences investment	8.6	10.2
Productive stock .....	.2	.7
Inventories stock .....	.3	.6
Land stock	1.3	3.8
Labor hours (1994-2002) .....	.04	.07
Labor compensation index .....	.23	.25
Labor input (the above two combined), 1994-2002 .....	.24	.24
Share of income paid to labor .....	.76	.67
Output estimates (Y_i^F vs. Y_i^S) .....	.06	.10
MFP estimates (MFP^S vs. MFP^F) .....	.22	.19

NOTE: MFP discrepancies are annual averages of absolute differences in percentage changes from preceding years.

BLS and the Marshall Plan: the forgotten story

The statistical technical assistance of BLS increased productive efficiency and labor productivity in Western European industry after World War II; technological literature surveys and plan-organized plant visits supplemented instruction in statistical measurement

Solidelle F. Wasser
and
Michael L. Dolfman

The European Recovery Program (Marshall Plan) has been recognized as the most successful foreign-aid program ever undertaken by the United States. The Bureau of Labor Statistics (BLS) role in the accomplishments of the Marshall Plan's Technical Assistance Program has largely been ignored. This article highlights the BLS achievements in the Marshall Plan.

The Marshall Plan was named for then Secretary of State George C. Marshall, who, on June 5, 1947, proposed his solution to war-devastated Europe. The proposal was enacted into law in April 1948 as the European Recovery Program, which created an Economic Cooperation Administration Agency to organize and administer the program. The Marshall Plan recognized that the economies of Western European countries had continued to deteriorate in the immediate post-World War II period and that provisions of massive loans to individual countries had proven to be a failure.¹ Marshall's recovery plan proposal was revolutionary in that it required mutual cooperation among those 16 countries (a 17th, the German Federal Republic, joined in 1949) that responded to the invitation to participate. Recipients of American assistance under the Marshall Plan joined together to produce multilateral solutions to common economic problems. The result was a massive effort to improve the economic condition of 270 million people in Western Europe through increasing their domestic production by

collaborative effort. The participants proposed to do this by strengthening the economic superstructure of Western Europe.

An important component of the Marshall Plan was the statistical technical assistance offered by BLS and directed at increasing productive efficiency and labor productivity in Western European industry. Because of the special circumstances caused by the war crises, BLS efforts widened to include foreign assistance. These efforts "reached almost every plant in every industry, marketing agency, and agricultural entity in Western Europe, introducing them to a technology more than a generation in advance of what they were using."² Increases in industrial efficiency and productivity have been acknowledged as a major contributing factor to Western Europe's postwar economic recovery. Analysis by BLS of dislocations caused by the crises of war gave it good preparation to analyze post-war production problems. Therefore, BLS was not only capable of using its statistical measures to identify problems of inefficiency, but also could instruct Europeans in the most modern American industrial practices. Surveys discussed in technological literature and, more directly, plan-organized plant visits supplemented BLS instruction in statistical measurement.

On June 7, 1940, Congress passed an act authorizing BLS "to make continuing studies of labor productivity" and appropriated funds for the estab-

Solidelle F. Wasser is a Senior Economist and Michael L. Dolfman is the Regional Commissioner for the Bureau of Labor Statistics in New York, New York. E-mail: Dolfman.Michael@bls.gov Wasser.Solidelle@bls.gov

lishment of a Productivity and Technological Development Division. The vehicle for the Marshall Plan's Technical Assistance Programs in each Western European country was a high priority national productivity drive, an area in which BLS had developed expertise through congressional mandate. Two basic methods of productivity calculation were advanced by BLS: (1) calculation from existing figures by dividing a time series on output by a time series on labor input; and (2) preparation of productivity reports by direct collection of comparable data for output and labor input in special studies. The latter approach examined the labor requirements per unit of output. The direct collection methods were effectively used during the European Recovery Program, and the funding for this approach was eventually transferred to the Marshall Plan's Agency, the Economic Cooperation Administration.³

In retrospective comments on the productivity studies that BLS performed for the Marshall Plan, BLS Commissioner Ewan Clague remarked, "It would be a gross exaggeration to say that statistics did the trick, but it is fair to say that these studies played a significant role in the spectacular economic recovery of Western Europe."⁴ It may have been a gross exaggeration to say that *statistics* did the trick, but this statement cannot be said of the BLS statisticians and economists who *applied* the statistics.

Key roles

Isador Lubin. To fully understand and appreciate the contribution of BLS staff to the success of the Marshall Plan, it is necessary to initially focus on Isador Lubin, Commissioner of BLS from 1933 until 1946. Sworn in during the depths of the Depression, "Lubin provided the impetus for the Bureau's development into a modern, professionally staffed organization equipped to deal with the many tasks assigned."⁵

Prior to and during the Second World War, Lubin was assigned an office in the White House West Wing and served as special statistical adviser to President Franklin Roosevelt. Thus he expanded not only his own personal influence but also, by extension, that of BLS.

Philosophically, Lubin was among the new breed of economists who postulated an increased role for government in the economic affairs of the Nation. In 1932, as adviser to Senator Robert LaFollette, he pioneered the notion of government responsibility for the national accounts.⁶ He stimulated passage of the Senate resolution, which reads in part, "That the Secretary of Commerce is requested to report ... estimates of the total national income for each of the calendar years 1929, 1930, 1931..."⁷

Most importantly, Lubin recognized the importance of relevant data to the success of New Deal economic programs and worked to improve BLS statistical programs.

Not only must raw data be improved but the Bureau must be enabled more fully to analyze the data it now has, so that evidence may be available as to where the recovery program is having the greatest effect and where it is falling down.⁸

Soon after assuming his position of leadership within BLS, Lubin, along with U.S. Secretary of Labor Frances Perkins, worked to implement President Roosevelt's Executive Order establishing a Central Statistical Board. The Board was soon legislatively established for a 5-year period "to ensure consistency, avoid duplication, and promote economy in the work of government statistical agencies."⁹

Lubin's professional career had begun during the First World War, when he was employed by the Food Administration to analyze governmental labor and price policy in order to increase production of foodstuffs needed by Allied Nations. He later joined the War Industries Board's Price Section where he studied the effect of price shifts on the petroleum and rubber industries' output.

A most important period in his professional development was his work at the Brookings Institute. Founded in 1922 by Robert Brookings, who had served as chairman of the Price Fixing Committee of the War Industries Board, the Institute strived to develop adequate economic information that could be used in governmental policymaking.

Lubin had a unique role at the Institute. He was hired as an instructor in its graduate program, that is, at that time the Institute was a Ph.D. granting institution; he was also awarded his own Ph.D. in 1926 with his book, *Miners Wages and the Cost of Coal*, accepted as fulfilling his dissertation requirements.¹⁰ During his years at the Institute, he developed a national reputation for scholarly work in the field of industrial labor economics.

Early in 1947, after having stepped down as BLS Commissioner, Lubin extolled the excellence of BLS in collecting and analyzing data. In his presidential address to the American Statistical Society in January of that year, Lubin emphasized both the place of statistics in modern economic society and the value to the free world of pertinent data. Even before the announcement of the Marshall Plan, he understood that the challenge facing America was to help Europe recover from the devastation of war.¹¹

He concluded his presidential address with the following:

Our ability to meet this responsibility...will to a large degree be determined by the availability and intelligent use of pertinent data. Never before have facts, figures and intelligent economic judgments been as important as they will be in the years immediately before us. Never before has adequacy of data and statistical integrity been so essential. For never before in history have the stakes been so high.¹²

The Truman Administration. During the early days of the Truman Administration, in the postwar period, there had been some debate as to how best to seek a remedy to the devastation that had engulfed Western Europe. Two schools of thought emerged.¹³ One, known as the “fundamentalist” approach, favored the granting of charity and loans to these countries and the continuing implementation of the efforts of the United Nations Relief and Rehabilitation Administration. A second approach, motivated by enlightened self-interest, was forwarded by American big business and gained influence within the Administration. Known as the “progressive” approach, it reasoned that if America could tutor Europe in the techniques of American productivity, the problem would be permanently solved.¹⁴ The progressives also looked to a tariff-free and integrated European economy as a solution to postwar recovery. It was the belief of U.S. Under Secretary of State William Clayton that Europe’s interwar failure to keep pace with American economic growth had sprung from national rivalries, which had led to tariff restrictions throughout Europe and constraints on international trade. America viewed European markets as too local and advocated their integration and expansion. It was a belief shared by Lubin.¹⁵

A key component of the Marshall Plan, put forward in 1947, called for cooperative meetings of the 16 European nations who would be its beneficiaries. These nations met in Paris in 1947 and formed what came to be known as the Organization for European Economic Cooperation. It was the belief that this Organization would unanimously determine what Europe’s economic needs would be and help give shape and substance to the Marshall Plan. Chief among the issues to be resolved would be the opening of tariff-free European markets to the products of American industry.

As the Organization for European Economic Cooperation considered Europe’s needs, other economic issues were drawn into focus. The report from the 1947 meeting pointed out that “before World War II, the sixteen participating nations were...highly efficient in trade, industry, and agriculture and derived a substantial income from international trade...Trade, industry and agriculture had been twisted out of shape by the forces of war.”¹⁶ (However, BLS surveys of European productivity had revealed significant longer term deficiencies.) It became clear that if a meaningful recovery was to take place, problems associated with increasing industrial production throughout Western Europe would have to receive a high priority.

BLS and productivity measures. During the prewar period and during World War II, BLS increased its capabilities, stature, and expertise. Although not a war agency itself, BLS “cooperated with and serviced practically every war agency that was established...as well as the pertinent defense agencies, such as the Departments of War and Navy, and the

Maritime Commission.”¹⁷

BLS responsibilities were directed at the collection and analysis of data for war agencies concerned with:

Wages, prices, employment, factors affecting production with emphasis on wage stabilization, price control, rationing manpower, labor turnover, accident prevention, maximum hours of labor, extent and causes of strikes, productivity of labor, and labor conditions in the United States and other countries (especially countries that were or might be occupied by Allied forces).¹⁸

As noted previously, the Productivity and Technological Development Division was established within BLS as the result of a congressional act passed in 1940. The function of the division was to provide government and private agencies:

With current information on productivity, technological developments, and factors influencing productivity; and to maintain files and issue reports on technology and other topics relating to utilization of materials and human resources in peace or war.¹⁹

The Division became operational in 1941, and by 1942 had organized itself into an administrative unit with two functioning divisions—the Productivity Statistics Section, which compiled indexes of output per person hour of labor and unit labor cost; and the Productivity Studies Section, which produced reports focusing on labor requirements per unit of output in specific industries and factors influencing the output trends in these industries. By 1944, three additional divisions had been added: the Absenteeism Studies Section, the Technological Relationships Section, and the Current Technological Development Section.

A specific example of BLS importance to war procurement is its report on the air frame industry. Procurement for war materiel had created mass markets for previously specialized industries. One of the BLS most relevant direct productivity studies to address the adaptation to a mass market was that of the airframe industry.²⁰ The industry was, in a sense, new. The demand for airframes was expected to grow in the postwar period due to airplanes being manufactured for civilian use.

The BLS study in the airframe industry found that there had been a phenomenal 200-percent increase in output between Pearl Harbor and 1944. This rise in productivity was made possible by a concentration of effort on standard designs produced in large volumes. Conversion of the industry to mass production was achieved through minute specialization of labor machinery and hand tools. Productivity data relating to individual plants and types of aircraft suggest that unit labor requirements in all plants tended to decline at fairly similar rates with production increasing 27 per-

cent to 35 percent with every doubling of cumulative output. This study also demonstrated that one model does not fit all, that is, in one plant much of the work may be done on a single line, while in another producing identical planes, a series of subassemblies may be built first. Output per person hour may, nevertheless, be similar. The production technique actually adopted may depend on the nature of existing buildings and equipment or on the traditional methods of the company. The flexibility demonstrated in these analyses helped prepare BLS economists for the variety of situations they would encounter abroad.

German reparations. President Franklin Roosevelt appointed Isador Lubin as Minister to the Allied Reparations Commission in 1945 after recognizing Lubin's current service on the War Production Board, his experience with the War Industries Board during World War I, and his intimate knowledge of the mistakes that had led to hyperinflation.²¹

The immediate issue facing Lubin, therefore, was an approach to the handling of German reparations in a way that would not further devastate Germany's industrial productive capacity. He knew that German industry was central to the recovery of Western Europe, but that its importance had to be measured in commodity terms in order to be effectively noninflationary. To tackle the problem, Lubin needed standardized measurements, that is, statistical data on the reparations Germany could afford, the state of German industrial capacity, and the living standards of the German population. For answers, he turned to BLS, of which he was still technically the Commissioner.

He addressed the following query to A. Ford Hinrichs, the BLS Acting Commissioner during Lubin's assignment to the White House.

In calculating Germany's capacity to pay reparations and in scheduling reparations details in kind, the United States Mission to the Reparations Conference will need a great deal of actual information on the input of resources and output of products in all various sectors of the German economy. Accordingly, I should greatly appreciate it if your Employment and Outlook Branch would prepare for us a study of the input and output relations in the German economy similar to studies that have been published for the American economy. It would be desirable to have as quickly as possible an initial report for some recent prewar year, say 1936. It would be desirable to have also a report on the postwar situation that would prevail under alternative plausible assumptions as to war damage, and possible capital removal and destruction in every industry.²²

Lubin was aware that the interindustry data and analysis that he had requested was already in the development process at

BLS. Lubin had authorized BLS to create a small research unit at Harvard University in 1941; the unit, under the direction of Wassili Leontief, constructed the first official input-output table.²³ Leontief's new technique employed a system of double-entry bookkeeping that tabulated the transactions of any one transactor group industry with all other groups. It included the flow of intermediate as well as final output.

The technique had proved useful to the Office of Strategic Services during the war, helping to pinpoint bombing targets of those German industries crucial to the war effort. Its earliest domestic application had been an estimate made in 1944 for the Planning Division of the War Production Board.²⁴

Within months, BLS had prepared a table of 27 industry groupings by applying the 1939 American coefficients to German industry, that is, the proportion of each industry's input to particular outputs. Detailed comment and analysis from German industrial experts accompanied the tables, thus modifying the methodology in light of what was known about German industry. Additionally, tables were prepared on consumer expenditures by German families. These data formed the basis for estimates on the effect on both industrial and household income of German reconversion to peacetime production.

Lubin was named U.S. Representative to the Temporary Subcommittee on the Economic Reconstruction of Devasted Areas, which was created by the Economic and Employment Commission of the United Nations Economic and Social Council, serving from 1946 to 1949. He was one of the group of State Department officials who saw Germany as the key to the integration of Europe. They felt that German unity could not be achieved without the unity of Europe, and that the unity of Europe could best be approached "crabwise" through technical cooperation in economic matters. These ideas were the beginning of the concepts that led to the Marshall Plan proposal.²⁵

James Silberman. Following the European Recovery Program's initiation, President Harry Truman signed in 1948 the act creating the Economic Cooperation Administration to administer the Marshall Plan. Paul G. Hoffman, C.E.O. of Studebaker Motors, was appointed its Administrator. He recognized immediately the backwardness of European production as a major problem that BLS would subsequently identify statistically.

One enterprise Sir Stafford Cripps and I jointly inaugurated was the Anglo-American Council on Productivity. This turned out to be one of the most effective innovations introduced by the Marshall Program. Almost all European countries faced the necessity of a rapid increase in productivity. Their factories were filled with out-dated tools and they were employing old-fashioned methods.²⁶

W. Duane Evans, Chief of the BLS Office of Labor Economics, was appointed adviser to the Anglo-American Council on Productivity. Evans oversaw the work of James Silberman, Chief of Productivity and Technology Development, and his colleague Kenneth Van Auken. Silberman and Van Auken were sent to England and then to France in May 1948, shortly after passage of the European Recovery Program. Their assignment was to investigate industrial production in each country. After visiting 35 factories in 5 or 6 industries in England, Silberman pinpointed inefficiency in production management as the major problem.²⁷

Countering claims by Europeans that the major problem was the war's destruction, Silberman pointed out that in the prewar period, Europe had fallen so far behind the United States in output per person that trade relations had been seriously disrupted. His analysis prompted the rallying cry of "productivity" that swept over Europe. Many European economists eventually accused Americans of believing that they had been the discoverers of productivity.

In actuality, it was the British economist Laszlo Rostas who that same year had noted, "British productivity was substantially below that of the United States, despite her having at one time been the industrial leader of the world."²⁸ Silberman's analysis of English as well as 16 French factories uncovered similar findings.²⁹ Thus, BLS could be viewed as the logical entity to provide ground level measurement standards for productivity. BLS economists in the postwar period were experts in industrial organization both through training and experience. Many BLS economists, including Duane Evans, also held engineering degrees.

By 1948, BLS had had many years of experience in the systematic collection and appraisal of productivity measures covering almost every type of industry in the United States. Each year, more than 3,000 American factories were visited, and BLS representatives conferred with plant managers, engineers, comptrollers, and cost accountants, among others. Detailed company output per person hour and production statistics were collected and factual information obtained regarding the numerous factors affecting operational efficiency. With this experience in the analysis of productivity data, BLS maintained a body of specialized knowledge relating to productivity measurement, which could be found nowhere else in the country. Additionally, the BLS technical abstract service, initiated in 1942, had served throughout the war as the official source for abstract information on factory equipment and methods.

The *Factory Performance Reports* (discussed later) created for the Technical Assistance Program were rooted in this experience.³⁰ A number of personal plant visits led to additional funding in 1945 to develop a sizable project for the preparation of industrial productivity measures by an entirely new approach using cost accounting data.

These reports were detailed case studies of manufacturing operations in individual American plants, designed primarily for use in Europe. In this program, BLS agents collected detailed information which yields person hours per unit required to make a given product, for a plant as a whole, for each department, and for each important operation. The data were supplemented by a description of each plant's equipment, layout, manpower, materials handling methods, and other similar plant characteristics.

Ewan Clague. Ewan Clague, Commissioner of Labor Statistics (1946–65), grasped the importance of the opportunities created by Silberman's productivity comparisons studies in England and France and brought them to the attention of U.S. Secretary of Labor Maurice Tobin. In a memo written to Under Secretary of Labor John Gibson, Clague suggested:

Either you, or the Secretary should make a report to Mr. Hoffman...I believe it is important to see Mr. Hoffman this week—before he attends the hearings on his budget which takes place this week.³¹

Clague's intent was to have BLS "secure parallel data collection programs which will provide the basis for reasonably precise and accurate international comparisons." The architects of the Marshall Plan had assumed that financial aid, in the form of new investment, would quickly restore European productivity levels to U.S. levels, but BLS "techno-economic studies" had demonstrated otherwise.³² Observations at 200 factories in 6 countries revealed dramatic differences between European and American productivity. Despite the fact that Europe was at least as advanced as the United States in terms of scientific and technical theory, BLS studies demonstrated that Europe had fallen behind America in applying this knowledge to industrial production.

Western European managers and engineers were not aware of the productivity gap between them and their U.S. counterparts, and did not realize the need for substantial technology transfer until the Bureau of Labor Statistics' studies.³³

At the time (1949), Clague noted this distinction in remarks presented to a conference on productivity.

It may not be generally realized that, in large measure, the high living standard in the United States is the direct result of higher productivity. Productivity levels in the United States are more than twice those in Great Britain, and recent figures indicate that our productivity is more than three times that of Belgium, France and other industrial countries of Europe.³⁴

James Silberman, in a 1992 summary of the accomplishments of the Marshall Plan, stated it in a different way:

The technical assistance program of the Marshall Plan was the largest and most comprehensive program of assistance to civilian industry ever undertaken. In a few years, and at low cost, those programs reached almost every plant in every industry, marketing agency, and agricultural entity in the war-devastated countries of Western Europe, introducing them to a technology more than a generation in advance of what they were doing. These programs accelerated the postwar economic recovery, raising the annual rate of increase in labor productivity of Western European industry from its historic level of about 1 percent per year to 4 percent or more. Within individual enterprises, productivity commonly increased by 25 to 50 percent within a year with little or no investment.³⁵

Formalizing the efforts

The BLS studies indicating that net investment, by itself, was not the remedy placed an emphasis on increasing productivity through greater efficiency. Greater attention to operational efficiency had the advantage of being cost effective because it did not put pressure on the dollar scarcity which prevailed in these debtor countries of Western Europe. During the Marshall Plan period, \$19.4 billion were allocated for capital costs. The cost of the Technical Assistance Program was \$300 million; only one-third was contributed by the United States.

A means of realizing the potential in the Technical Assistance Program was noted by Sol Ozer, labor adviser to the Economic Cooperation Administration, who wrote the following memo to Ewan Clague:

I was impressed by (the) thesis, namely that a few American labor production experts brought here to Europe—to France in particular—might make a few changes but would not correct the basic situation. However, if a few thousand of the brighter management and production people of France had the opportunity to see the operations in the United States in factories similar to theirs here, a revolution in technique might begin after they returned. If enough Frenchmen were involved they would stimulate each other to do in France what production planners and technical engineers have done in the States.³⁶

The idea behind the suggestion of Silberman to bring a few thousand management and productivity people to the United States was that European business practices were more traditional and less adaptable than were those of their American counterparts. The suggestion was an attempt to

introduce Europeans to the elusive quality of American “know how,” a quality demonstrated by America’s response to the war effort. The results achieved are shown in the following report:

The technical assistance program has emerged as one of the Marshall Plan’s most successful activities in France. To date, about 60 teams of 700 specialists from nearly every French industry and profession have come to the United States to study productivity in specialized fields. Inside France, it has...resulted in the first breakdown of the traditional iron-clad trade secretcies.³⁷ Team members now visit each others plants—usually for the first time in their lives—before going to the United States in order to have a rounded picture of their own industries.³⁸

Secretary of Labor Maurice Tobin foresaw that bringing people together from the same occupational culture could make a positive effect on European recovery and, thus, had moved to formalize these relationships. On August 20, 1948, he sent a memo to Paul Hoffman and several leaders of organized labor, who had been involved in the recovery program, with the four recommendations:

1. Department productivity personnel should participate in the technical staff for American-European Councils of productivity;
2. productivity targets, based on American performance standards, should be included as part of programs to increase productivity;
3. there should be a general exchange of information and the publication of information; and
4. the technical abstract service should be used as the central clearing point for information.

In forwarding these recommendations, Tobin was aware of the overall capabilities of BLS. Early in 1949, Paul Hoffman discussed these proposals with a delegation from the Department of Labor that included Secretary of Labor Tobin and BLS Commissioner Clague. BLS accepted responsibility for making statistical surveys of technology and labor productivity in American industry in order to provide guidelines for stimulating the productivity of Western European industry. European countries were encouraged to establish national productivity centers, which would both improve the productivity of their own workforces and make parallel studies for comparison with those made in the United States.

These efforts were summed up in a report released by the International Cooperation Administration.

While no complete accounting for TA (technical assistance) activities in Europe from 1948–1957 is available, it

may be readily estimated that about \$60 million in direct U.S. aid was expended on TA projects over this period. These expenditures financed TA study trips of Europeans to the U.S., the use of American specialists in Europe and the provision of technical information and services. Reliable data indicate that through March 1957, nearly 19,000 European technicians, specialists and leaders of industry, labor, and government had visited the United States. Nearly 15,000 U.S. specialists had served abroad in the direct implementation of the national programs. Extensive technical services were provided including over 35,000 technical and scientific books, periodicals, and other literature; over 2,500 replies by mail to technical inquires, over 3,000 digests of articles from U.S. technical and trade magazines; some 48 Bureau of Labor Statistics' factory performance reports.³⁹

Factory Performance Reports/productivity

As noted previously, a unique contribution of BLS to the Technical Assistance Program was the preparation and issuance of *Factory Performance Reports*. These studies made use of a new technique in direct productivity analysis, that is, the utilization of the vast sum of information contained in industry cost accounting records. Never before had accounting data been used in the systematic study of productivity. Therefore, it was necessary to develop methodologies for adapting these accounting records to an application entirely different from that for which they were designed.

Factory Performance Reports required direct observation in the field, and these field-based reports of actual productivity contributed substantially to European recovery. The reports were designed to present operational profiles of U.S. plants. Businessmen in other countries could then use these profiles to evaluate their own operations, isolate their areas of good or poor performance, and improve those areas that needed improvement. The case studies covered factories of similar size and products generally comparable with those in foreign companies.

Extensive field-based research was conducted in order to adapt these records to the case study methodology. At each plant, BLS representatives discussed and analyzed cost accounting data to derive unit employee hours for each selected product. Also included in these examinations were classifications of labor accounts, scope of operations, parts and equipment purchased, the ratio of various indirect labor accounts to total direct employee hours per person, extent and type of hours paid for but not worked, and the basis for reporting capacity data. Use of these studies permitted the evaluation of similar plants in other countries and presented a standard for gauging

“good” or “poor” performance. The data were supplemented by an outline of each plant’s equipment, layout, manpower, materials handling methods, production and work scheduling methods, and operating policies.

BLS also organized two types of teams to close the productivity gap between the United States and Western Europe. In one, experts were sent to Europe to work closely with individual country productivity centers to provide information on turning statistical data into useful knowledge. The other program brought a total of 24,000 Europeans to the United States to see firsthand new approaches to organizing workplaces, new concepts of business and marketing organization, new products, new design and engineering functions, and new equipment.

In this effort, teams of between 12 and 17 Europeans, organized by industry and representing a cross-section of functions, visited their American counterparts. Each team prepared a comprehensive technical report that documented their findings. On their return, these reports were disseminated to plants within industries.

The analyses provided by BLS *Factory Performance Reports* and the “hands-on” approach of having European productivity teams visit their American counterparts challenged the institutional barriers to modernization in European industries. The effectiveness of these programs was based on the analytical and practical application of BLS data. Their use as tools in identifying organizational production deficiencies in European industry presented a rational basis for measuring success.

BLS CONTRIBUTED SIGNIFICANTLY to the overall success of the Marshall Plan’s Technical Assistance Program. As the Marshall Plan was coming to a close in 1953, Arynness Joy Wickens, who had served as acting BLS Commissioner, made the following point in a presidential address to the American Statistical Association:

In the past few years, statistics in the United States have come to be used as determinants of private and public actions affecting millions...Statistics have come to be one of the great descriptive and analytical tools of modern industrial society, comparable to the other new tools of science.⁴⁰

It is to the BLS credit that it was able to apply the new “tool of science” to help in the recovery of the postwar world. Still, however useful many of these statistical programs proved to be, the most remarkable achievement of BLS was in the field of productivity. Its productivity achievement extended beyond just showing that productivity depended on many factors and also demonstrated the extent to which each factor influenced the entire result. □

Notes

¹ See <http://www.marshallfoundation.org> (visited May 24, 2004). Summary of the Marshall Plan: “The idea of massive U.S. loans to individual countries had already been tried (nearly \$20 billion – mainly long-term, low interest loans –since the war’s end) and had failed to make any headway against Europe’s social and economic problems.”

² James M. Silberman and Charles Weiss, Jr., *Restructuring for Productivity: The Technical Assistance Program of the Marshall Plan as a Precedent for the Former Soviet Union* (Washington, Global Technology Management, Inc., Under contract for the World Bank, 1992) pp. vii–viii.

³ Joseph W. Duncan and William Shelton, *Revolution in United States Government Statistics, 1926–1976* (Washington, U.S. Department of Commerce, 1978), p. 97.

⁴ Ewan Clague, *The Bureau of Labor Statistics* (New York, Praeger Publishers, Inc., 1968), p. 158.

⁵ Joseph P. Goldberg and William T. Moye, *The First Hundred Years of the Bureau of Labor Statistics*, Bulletin 2235 (U.S. Bureau of Labor Statistics, September 1985), p. 140.

⁶ Duncan and Shelton, *Revolution in United States Government Statistics*, p. 77.

⁷ Carol S. Carson, “The History of the United States National Income and Product Accounts: The Development of an Analytical Tool,” *Review of Income and Wealth* 1975, Vol. 21, Issue 2, p. 155f. “In February, 1932, two groups interested in pursuing information on national income were brought into contact...officials of the Commerce Department...and...what was known as the LaFollette group.”

⁸ *Annual Report, 1933* (U.S. Department of Labor), p. 41.

⁹ Goldberg and Moye, *First Hundred Years*, p. 145.

¹⁰ Lewis Lansky, *Isador Lubin* (Ph.D. diss. typescript, Case Western Reserve University, Cleveland, Ohio), p. 16.

¹¹ Richard D. McKinzie, Oral History interview with Dr. Isador Lubin (Harry S. Truman Library, Independence, Missouri, January 1976), p. 31.

McKinzie: “At the end of the war there was a view about the postwar world which economists had been nurturing during the war, particularly those who were close to Will Clayton. It was that there would be a new order of things and it would be characterized by more integration of economiesBut, at least, the economic integration would create a mutual dependence and, therefore, stability. Did you share that view?” Lubin: “Very definitely, yes.”

¹² Isador Lubin, “Social and Economic Adjustments in a Democratic World,” *Journal of the American Statistical Association*, March 1947, p. 19.

¹³ Ernie Englander and Allen Kaufman, “The End of Managerial Ideology: From Corporate Social Responsibility to Corporate Social Indifference,” *Enterprise & Society*, September 2004, pp. 407–08. Formed in 1942, the Committee for Economic Development gave corporate management their first public voice. [Paul Hoffman was the president of the organization, which promoted the idea of the Marshall Plan in order to create a receptive public opinion.] It gained prominence when it helped to coordinate the transition from war to peace by establishing regional offices that reported data on local business plans.

¹⁴ David McLellan and Charles E. Woodhouse, “The Business Elite and Foreign Policy,” *The Western Political Quarterly*, 1960, p. 172.

¹⁵ McKinzie, Oral History, p. 23.

¹⁶ “Development of the European Recovery Program,” *Monthly*

Labor Review, January 1948, p. 40.

¹⁷ “Activities of the Bureau of Labor Statistics in World War II,” *Historical Reports of War Administration*, No. 1, June 7, 1947, p. 9.

¹⁸ *Ibid.*, p. 10.

¹⁹ *Ibid.*, p. 59.

²⁰ Kenneth A. Middleton, “Wartime Productivity Changes in the Airframe Industry,” *Monthly Labor Review*, August 1945, pp. 215–25.

²¹ McKinzie, Oral History, p. 29. McKinzie: “If Mr. Pauley didn’t have any appreciation of the problems which reparations caused after World War I, did the Department of State?” Lubin: “Definitely, yes. The people in the Economic Section were very conscious of what had happened in Germany as a result of inflation and as a result of reparations. [President Roosevelt] was very conscious of what had happened to Germany as the result of reparations. He made it perfectly clear that we would not talk dollars. We would talk physical things that they needed to rebuild their country and he emphasized that to me.”

²² Isador Lubin, Letter to A. Ford Hinrichs, May 19, 1946 (U.S. National Archives and Records Administration (NARA), Roosevelt Library, Lubin Papers).

²³ Martin C. Kohli, “The Leontief-BLS partnership: a new framework for measurement,” *Monthly Labor Review*, June 2001, p. 31.

²⁴ W. Duane Evans and Marvin Hoffenberg, “The Interindustry Relations Study for 1947,” *Review of Economics and Statistics*, May 1952, pp. 97–142.

²⁵ Charles P. Kindleberger, “Charles P. Kindleberger on the Economic Background (of the Marshall Plan)” (U.S. National Archives and Records Administration, State Department records, Record Group 59 [Central Decimal File 840.50 Recovery/7–2248]).

²⁶ Oral History interview with Paul G. Hoffman (Truman Museum and Library, October 25, 1964) on the Internet at www.trumanlibrary.org/oralhist/hoffmanp.htm (visited Dec. 26, 2004).

²⁷ Memo from W. Duane Evans to Ewan Clague, SG405, June 28, 1948 (U.S. National Archives and Records Administration).

²⁸ Ewan Clague: “A British economist, L. Rostas, estimates that output per worker in manufacturing in the United States was over two times that in the United Kingdom for the years 1935–1939. According to French sources, recent statistics indicate that output of steel per year is four times that of France, and productivity in agriculture is three times the French level. In Belgium, another highly industrialized country, average production per hour according to recent estimates, is less than one-third the levels for corresponding industries in the United States...In order to explain these productivity differentials, it is necessary to examine the techniques of production. Basic scientific research and technology are at least as far advanced in Europe as in the United States, but the application of technology to industrial methods has not progressed so far. In short, America has more ‘know how.’” See Ewan Clague, “Productivity, Employment and Living Standards,” “Conference on productivity, held in Milwaukee, Wisconsin), p.7.

²⁹ James Silberman and Kenneth Van Auken, “Factory Visits, May 29 to July 11, 1948, England and France,” W. Duane Evans papers (Typescript report, W. Duane Evans Collection, Cornell University archives), transmitted by Labor Advisor Clinton Golden: “I am very much impressed by [the work of Jim Silberman and Kenneth Van Auken] and the content of the preliminary report, which in this case, was first submitted to David Bruce, Chief of the ECA Mission in France,” in a Letter from Labor Advisor Clinton Golden to Under Secretary of Labor John Gibson, Economic Cooperation Administration, RB174 (U.S. National Archives and Records Administration).

³⁰ Foreign Operations Administration Technical Aids Branch in cooperation with BLS *Factory Performance Reports*. Undated introduction: *Factory Performance Reports* are designed to present operational profiles of U.S. plants against which businessmen in other countries can evaluate their own operations, isolate their areas of good or poor performance, and then improve those areas which may need improvement. The reports are not engineering studies, nor do they tell a novice in the industry how to establish and operate a plant. They are designed for practical use by foreign manufacturers who are already familiar with production techniques and practices in the industry.

³¹ Memo from Ewan Clague to John W. Gibson, December 27, 1948 (U.S. National Archives and Records Administration).

³² *Ibid.*

³³ *Ibid.*

³⁴ Clague, *op.cit.*

³⁵ James M. Silberman and Charles Weiss, Jr., *Restructuring for*

Productivity, p. vii.

³⁶ Memo from Sol Ozer, Labor Adviser to the ECA, to Ewan Clague, December 23, 1948 (U.S. National Archives and Records Administration).

³⁷ James Silberman, "Survey of French Productivity" (Typescript report, W. Duane Evans Collection, Cornell University archives) p. 11, "The unwillingness of plant managements to visit other French plants, or be visited themselves (to guard their secrets of production), is wholly different and less effective than the free exchange of ideas found in American plants."

³⁸ *Ibid.*, 3 years into the Marshall Plan.

³⁹ *European Productivity and Technical Assistance Programs, a summing up (1948–1958)* (Paris, International Cooperation Administration, Technical Cooperation Division, May 15, 1958), p. 7.

⁴⁰ Arynnes Joy Wickens, "Statistics and the Public Interest" *Journal of the American Statistical Association*, March 1953, pp. 1–14.

Reinserting labor into the Iraqi Ministry of Labor and Social Affairs

Craig Davis

The U.S. Department of Labor has been actively involved in the reconstruction of Iraq. During the summer of 2003, Assistant Secretary for Policy Chris Spear served as Coalition Provisional Authority (CPA) senior advisor to the Iraqi Ministry of Labor and Social Affairs (MOLSA). Elissa Pruett acted as senior press officer in Strategic Communication at CPA. Later that summer, the Department's Bureau of International Labor Affairs (ILAB) assigned me to CPA, followed in the fall by James Rude, senior international program manager. Both of us acted as labor advisors to the Iraqi Ministry. In January 2004, the Department sent trial attorney Wade Green to Baghdad, where he served as Attorney-Commercial Law Reform Group, and where, among other things, he worked to revise the Iraqi Labor Code.

In addition to personnel assignments, the ILAB also funded a \$5-million project designed to demobilize, rehabilitate, and reintegrate former Iraqi soldiers within the framework of a larger workforce development program. This grant was the cornerstone of Iraqi labor reform beginning in August 2003. For most of 2004, up to nine U.S. Department of Labor-funded international consultants worked at the Ministry daily, providing technical assistance and building the capacity of the Labor Directorate within MOLSA.

Craig Davis served as an international education program specialist in the Bureau of International Labor Affairs, U.S. Department of Labor from 2002 to 2005. The views expressed in this article are solely those of the author and do not reflect the official positions of the U.S. Department of Labor or the Coalition Provisional Authority.
E-mail: Craigsd23@hotmail.com

The Ba'athist legacy in the Ministry of Labor and Social Affairs. The "Labor" component within MOLSA—the entity of the Ministry with the mandate of securing workers' rights and training and preparing the workforce for the labor market—suffered severely during the last decades under the Ba'athist regime. The MOLSA was underfunded, received little political attention, and was afflicted by widespread corruption and lethargy. Low institutional capacity on the part of the staff and leadership was widespread.¹ Skilled civil service workers and professional management gravitated toward the more prestigious, better-paid government jobs in the military and the foreign service. For example, a vocational trainer with 15 years experience in the Ministry of Military Industries² earned approximately the equivalent of \$100 per month, while an equally qualified counterpart at MOLSA would earn between \$6 (Social Welfare) and \$25 (Social Security).³ Management consisted of little more than endless bureaucratic paperwork, while decision-making entailed top-down dictatorial orders barked by a high-level Ba'athist official intimidating his (all top management were men) staff into submission for fear of some type of punishment.⁴ Initiative and critical thinking were not rewarded. As a result, through the spring of 2003, capacity, diligence, and resourcefulness were not plentiful at MOLSA.

Historical background

Before the war in 2003, the Ministry of Labor and Social Affairs consisted of four departments or directorates (*dawar*): Social Welfare, Social Security, Prisons, and Administration (*diwan*). Social Welfare provided benefits to about 68,000 widows, orphans, and disabled Iraqis. This figure—capped by Saddam Hussein—limited the number of beneficiaries to a fraction of those who qualified while strategically discriminating against the needy, particularly those in the Shiite south.

Social Welfare also was responsible for a number of social care institutions, including rehabilitation centers for the disabled and orphanages. Social Security operated a private pension system that paid retirement benefits to some 18,000 recipients. Within Social Security was a vocational training unit that had training facilities in 5 cities in the southern 15 governorates. The Prisons Department was responsible for the nation's prisons, including the infamous Abu Gharib prison outside of Baghdad. (This department was removed from MOLSA in the summer of 2003). Although each of the pillars housed separate offices, such as engineering, finance, legal, and auditing, the Administration Department was a redundant bureaucratic body comprising parallel offices that functioned as an overlapping and cumbersome oversight or coordination mechanism. In essence, due to corruption, apathy, incompetence, and bureaucracy, the Ministry was largely dysfunctional. Funding failed to reach the governorates; social welfare benefits were paid to but a fraction of those who qualified; malnourished and neglected children languished in orphanages while salaries were paid to ghost employees; contracts were diverted to Ministry engineers and other officers and their families; and corrupt officials took money targeted for, or demanded bribes from, the most vulnerable Iraqi populations: widows, orphans, and the disabled.

Employment centers. The 1987 Labor Code designated MOLSA as the mechanism to provide employment services and vocational training to unemployed Iraqis.⁵ In theory, employment centers (*marakaz al-tashghil*) had existed since 1971 seeking to fill government vacancies. At one point, Baghdad had three employment centers. The Labor Code expanded this mandate for MOLSA by extending its obligation to match jobseekers with private-sector jobs. MOLSA employment centers were legally

responsible for registering jobseekers. Employers were obligated to announce job vacancies through the employment centers. If the centers failed to respond within 15 days, the employer was free to hire workers outside the centers.⁶ According to the law, jobseekers were to be selected in chronological order, not merit.⁷ The centers were also responsible for providing work permits to foreign workers.⁸ Employment services—such as employment training, career counseling, or other services for unemployed workers—were not articulated in the Labor Code as part of the employment center mandate.

In practice, however, MOLSA's employment centers during that period failed to match jobseekers with private- or public-sector vacancies. Government hiring was a product of nepotism and corruption. By the time the Labor Code became law in 1987, jobseekers had lost all faith in MOLSA's employment centers and no longer made any effort to register for jobs there. By the early 1990s, just one of the original three MOLSA employment centers in Baghdad remained open—and only as a token display of government effort to assist the unemployed. None of the centers across the country any longer made an effort to secure employment for jobseekers; they merely made attempts to record government positions filled, a process that was also eventually abandoned. By 2003, the primary purpose of the centers was to authorize work permits to foreign workers. The entire Baghdad employment center consisted of five workers, while Ministry offices in most other governorates (or provinces) had only one or two officials, if any. While unemployment reached an estimated 50 percent after the 1991 Gulf War,⁹ jobseekers had no official government office to which they could turn for assistance. The surest way to secure employment in Iraq was to rely on favors from friends, family, or tribe members (a process still popular today).

Vocational training: Despite the mandates established in the Labor Code, during the last several years of Saddam Hussein's rule, the regime had little interest in providing vocational training through MOLSA as a means of job preparation for Iraqi jobseekers. MOLSA's vocational training program had weakened over the years under the Social Security Department. The Ministry's compound on Palestine Street in Baghdad was commandeered by the Ministry of Military Industries. Instead of computer-skills training for the unemployed, Hussein's military machine taught chemical engineering. In place of air-conditioner repair instruction, the compound produced or assembled Rocket Propelled Grenade (RPG) cylinders. Rather than housing auto repair equipment, the center stored Scud missile nosecones.

Emerging from the rubble. By the spring of 2003, the MOLSA was in shambles. Decades of Ba'athist oppression, an economy severely crippled by 8 years of the Iran-Iraq War (1980–88), the devastation of the Persian Gulf War in 1991, and 12 years of subsequent U.N. sanctions had brought the Ministry to its knees. Any semblance of a ministry functioning to provide protection and services for Iraqi workers was a thing of the past. The final blow to the labor function at the Ministry came after the regime's fall in April 2003, as looters took to the streets on a path of pillage and destruction. The Ministry's buildings were gutted; equipment hauled off; wiring stripped from the walls for copper; records burned (some by the staff itself); vehicles stolen; light fixtures and air conditioners removed; glass broken; and books and documents strewn about. All that remained of MOLSA's vocational training center in Baghdad were shells of buildings; tool-making equipment too heavy to haul away; pallets of Scud missile nosecones; barrels of gun powder; and crates of RPG cylinders.

Implementing a new strategy

Workforce development. Just as MOLSA's infrastructure and facilities had to be rehabilitated in order to raise the physical structures from the rubble of Saddam Hussein's legacy, so too the human capacity of the Ministry needed revitalization and an injection of fresh ideas, approaches, and training.

In the summer of 2003, the CPA advisors to MOLSA faced the daunting challenge of how best to invest in human capital at the Ministry. Because the CPA's De-Ba'athification policy entailed releasing the top three layers of management from service, the Ministry was left with a staff with unproven leadership and inexperienced management. The first step for the CPA advisors was to assess the management, professional, and technical capacity of the Iraqi staff. The advisors quickly learned that the potential for capacity building from within the Ministry was poor. During the summer of 2003, for instance, the Ministry's top information technology director left a shipment of new computers donated by USAID in their boxes for 2 weeks because he was unable to solve the problem of how to adapt a European plug to a Middle Eastern outlet. (The solution was to purchase a \$1 adapter readily available in the market.)

The existing staff members that demonstrated the most initiative and promise were often women, who had been marginalized under the former regime. Although cultural and religious biases routinely stood in the way of women's careers, the CPA advisors made strong efforts to move a handful of talented women into strategic supervisory positions within the Ministry. Three newly promoted female MOLSA officials visited Washington, DC, in October 2003 to attend workforce development training courses and visit one-stop employment centers.

Nonetheless, there was simply not enough talent at MOLSA to undertake a

multi-million dollar workforce development program across Iraq. Steps were taken to recruit young, strong, and skilled Iraqis—most of which were college graduates who had not been corrupted by the system—in both the private and public sectors. These dedicated Iraqis were hired and trained in Iraq and Jordan, and mentored by international consultants at the Ministry. The International Organization for Migration—implementing agency for the U.S. Labor Department grant—conducted training in Amman, Jordan, for some 130 MOLSA employees—both men and women—and two Iraqi staff members attended International Labor Organization (ILO) training in Turin, Italy, in the fall of 2003. Beginning in the winter of 2004, the CPA staff established an inhouse training program for MOLSA staff. A wide variety of management skills and ethics, computer skills, English as a foreign language, and labor-reporting systems courses were provided to labor officials in Baghdad and other governorates. By late spring of that year, nine U.S. Labor Department-funded international consultants had launched a program to build capacity of (and to mentor) Iraqis through the end of the year.

Before the war, there was no labor department (or directorate) within MOLSA. Vocational training and employment centers (as well as a dysfunctional wage regulatory committee) fell under the Social Security Department. Key labor components of employment services—such as matching jobseekers with vacancies in both for the private and public sector, career counseling, and referral services—simply did not exist. Therefore, one major goal of the CPA advisory staff was to establish an independent Labor Department at MOLSA that would be responsible for labor-related issues. As a result, in the spring of 2004 the MOLSA Labor Department was formed with a separate revised Iraqi budget of \$14 million to improve em-

ployment centers, vocational education, and support other labor programs.

A key element in the CPA's strategy for the Labor Department since the fall of 2003 had been the establishment of 28 employment *service* centers across the country. Unlike employment centers during the Saddam Hussein era, the new centers would provide valuable employment services to Iraqis, such as matching jobseekers with immediate employment opportunities; career counseling; and referrals for jobseekers to vocational and technical training, rehabilitation (for demobilized military and militia), and other services, whenever possible. By the end of May 2004, MOLSA had opened centers in 18 cities—Amarah, Baghdad, Baqubah, Basrah, Diwaniyya, Fallujah, Irbil, Khanaqin, Kirkuk, Mosul, Najaf, Karbala, Kut, Nasariyyah, Ramadi, Samawah, Sulaymaniyyah, and Tikrit—and had secured funding for the remaining 10 centers.¹⁰

MOLSA also initiated a plan to rehabilitate, equip, staff, and provide training for Iraq's six existing vocational training centers, and 26 additional training centers across the country. In addition to the traditional vocational training classes in electronics, household appliance and auto repair, welding, machine tool technology, and construction skills, MOLSA expanded its curriculum to include sewing, English as a foreign language, remedial and accelerated learning, and computer-skills training. By the end of May 2004, six training centers were operating, and funding for the remainder had been secured.¹¹

In addition, CPA and MOLSA succeeded in establishing a number of other mechanisms to secure worker rights, training, and opportunities for workers before the transition. They opened the nation's first child labor unit, first on-the-job training program, first labor statistics office, first career counseling unit, and first veterans' services program—all programs in their infancy and in need

of technical assistance and capacity building.

Security. In the best of times, the rebuilding of the Iraqi Ministry of Labor and establishing such an aggressive workforce development program would have been a challenge. Since the summer of 2003, however, Iraq has presented a most difficult implementing environment. The simplest of tasks proved frustratingly complicated, difficult, and dangerous. For instance, restrictions imposed by UNSECOORD (the Office of the U.N. Security Coordinator)—as a result of the August 19, 2003, bombing of the U.N. headquarters in Baghdad that killed 22 people—have severely impeded access to Iraq for U.N. international staff. The International Labor Organization and the International Organization for Migration, two of MOLSA's most active partners, have been unable to send international experts to Iraq since September 2003. Training, the implementation of programs, and capacity building, therefore, must be conducted by "remote control" from Amman, Jordan, or halted entirely.

Ironically, MOLSA, the Iraqi mechanism legally responsible for monitoring and enforcing labor laws, became a curious microcosm of workforce-related violence and threats that plagued the country on a larger scale. Beginning in the fall of 2003, a series of violent incidents struck MOLSA. In the presence of a CPA military lieutenant, a former Iraqi intelligence officer threatened to kill the director of the Baqubah Employment Center if the director failed to resolve an employment dispute. A few weeks later when no resolution was forthcoming, two of the director's brothers were attacked—and one was killed—allegedly by the same former intelligence officer. On October 26, 2003, two mortars directly hit the Al-Rashid Hotel room of ILAB's two CPA Labor advisors to MOLSA—Jim Rude and myself. Both of us were injured in the attack. Rude

underwent emergency surgery for a serious injury to his left arm and was evacuated to Germany and then back to the United States.

After months of warnings to blow up the Minister's residence at the Shaheen Hotel in Baghdad, terrorists finally made good on their threats in January 2004. The Minister survived a car bomb driven into the hotel, but one of his bodyguards and two other guests did not. Later that spring, a number of jobseekers raided the Al-Amarah employment center, broke into the director's home, and threatened his life if they were not given jobs. An employment center staff member in Fallujah was killed in April under unclear circumstances. A MOLSA official who was instrumental in opening 18 employment centers across the country was temporarily reassigned from Baghdad for his own protection after receiving a series of death threats. A number of attackers, presumably trying to flush the official out, assassinated his mother and one brother, wounding a second brother, while on their way to school. On a routine visit of an employment center in Mosul on March 14, 2004, my convoy of three white Land Cruisers was ambushed by insurgents. A Kurdish liaison was killed, and his driver was injured. Only through the quick action taken by my Iraqi bodyguards and driver did I survive.

Labor Code reform. In the fall of 2003, the CPA undertook an effort to revise the 1987 Labor Code, in order to encourage foreign investment and to protect worker rights. The final product was a CPA revision closely resembling U.S. labor law.¹² This version addressed most of the shortcomings of the 1987 Labor Code, such as concerns over child labor, freedom of association, and unionization in the public sector. Early in the spring of 2004, MOLSA in cooperation with the ILO began drafting a second revision based on the 1987 Labor Code.

The ILO final product was presented to CPA in late spring. Because of time constraints, CPA was unable to secure an agreement by all parties, including the Iraqi Governing Council, on a final version before the June transition date. Therefore, upon transition, CPA handed to the Iraqi Interim Government a copy of the CPA revision as a legislative proposal with the hope that the newly elected government in 2005 would act upon and pass this version, or a very similar version. As a result, the 1987 Labor Code, with all its shortcomings, is still in effect.

Fortunately, a number of measures taken by CPA and the Iraqi Governing Council have helped secure worker rights. For instance, Order 89 signed into law in May 2004 amends the 1987 Labor Code by securing the minimum age for working children at 15; forbidding hazardous types of work for children until 18 years of age; and prohibiting the worst forms of child labor.¹³ Article 13 of the Interim Constitution, or the Transitional Administrative Law, secures the right of association and freedom to form unions.¹⁴

Unemployment. With estimates of unemployment rates up to 65 percent circulating about, the Ministry of Planning's Central Statistics Organization undertook an unemployment study based on a household survey sample of 24,900 families in the last quarter of 2003. According to the resulting *Report of the Employment and Unemployment Survey Results for 2003* published in January 2004, unemployment in Iraq for 2003 averaged 28.1 percent (not including Kurdistan) and underemployment 23.5 percent. The survey was not without shortcomings. For instance, the study did not include the three Kurdish governorates in the north, where unemployment is relatively low. Moreover, the unemployment rate included minors, ages 15 to 17.¹⁵ It is also unclear how the study measured some 750,000 Ira-

qis who currently receive salaries or stipends, such as state-owned enterprise workers and former military. This group constitutes about 10 to 15 percent of the workforce.

Despite these shortcomings, the report remains the only reliable source for unemployment statistics for the country through December 2003. Because this report was not widely circulated, other less reliable unemployment estimates, ranging from 20 percent to 65 percent, continue to surface in the media. The following estimates demonstrate the range of such reports:

- Based on an eclectic analysis of various estimated figures, CPA's Private Sector Development office estimated Iraqi unemployment at approximately 20 percent.¹⁶
- The *United Nations/World Bank Joint Needs Assessment*, published in October 2003, estimated 50 percent of the labor force to be unemployed or underemployed, the same figure as before the war.¹⁷
- The International Labor Organization's own needs assessment estimated unemployment at 60-65 percent (4.5-5.2 million) of the workforce.¹⁸

Both of the latter assessments were based on gross estimates and failed to take into account the stipends and salaries being paid to some 500,000 state-owned enterprise workers and some 250,000 former military, many of whom are already working elsewhere.¹⁹ In addition, these assessments did not include the new jobs created in reconstruction efforts, emerging private sector, new government hires, and the informal sector employment.

MOLSA's newly-formed Labor Statistics Office primarily reports on employment secured through its centers and

does not conduct unemployment studies. However, it has undertaken its own survey of jobseekers who enter employment service centers across the country. In this way, MOLSA has determined that approximately 44.7 percent of jobseekers registering for job opportunities at the Baghdad Employment Services Center are already employed full time elsewhere. In fact, the Baghdad center has experienced an unexpected phenomenon: the center cannot fill all available job vacancies. In the absence of further scientific data, and taking into account the lower unemployment in Kurdistan, it is not unreasonable to imagine that an accurate jobless rate of the Iraqi workforce ranges between 20 and 28 percent. In sum, while unemployment is high and a source of major concern, it may not be as extreme as commonly reported.

Challenges in the evolving Iraqi labor market

As is the case with unemployment estimates, the paucity of solid labor market data and information in the decade or so leading up to the 2003 war serves as an obstacle to adequate analysis in the current environment. During that period, most employment comprised government or state-owned enterprise (SOE) workers, as well as family-owned small and medium-size enterprises, most of which were in the informal sector.

The SOEs are government-subsidized industries, often referred to as mixed businesses.²⁰ The industries—such as concrete, chemical, textile, carpet, and others—produced services or goods primarily for government consumption. The potential of many to survive in the emerging private sector is questionable. In order to survive as independent profit-making establishments able to compete with foreign enterprises in foreign or domestic markets, most SOEs needed an infusion of capital; reconstruction and revitalization of equipment and

resources due to looting or disrepair; and restructuring and modernization of management, staffing, and production techniques. But with bloated workforces (approximately 500,000), it became politically unpopular—if not untenable—to restructure the SOEs—including the privatization of some viable SOEs—in such a way that might threaten social stability by possible layoffs or firing of workers. Thus, throughout 2004, the CPA decided to pay SOE workers full salaries, whether or not they came to work. As a result, many SOEs today operate below capacity or not at all. Many enterprises produce no goods, while workers remain at home collecting salaries or, as is often the case, have taken second jobs and earn additional salaries.

Beginning in 1995, the United Nations developed a Public Distribution System—commonly referred to as the *food basket*—which essentially provided basic staples to all Iraqis each month.²¹ The U.N. funded the food basket with Oil-for-Food revenues, and the former Ba’athist government was only too happy to assume credit for feeding the entire Iraqi public. The food basket coupled with a reliance on government positions in the SOEs, public sector jobs, and armed services fed into a public perception that the socialist government was ultimately responsible for providing livelihoods for all Iraqis. The underlying public sentiment that government *must* provide sustenance to the entire Iraqi population has proven a large obstacle for MOLSA employment centers attempting to match jobseekers with vacancies in the private sector. The overwhelming majority of jobseekers have little or no interest in private-sector jobs. When filling out jobseeker forms, middle age Iraqis routinely refuse to include any previous work experience. For Iraqis, work experience *only* means government work experience. Most Iraqis see no value in listing experience in

the private sector. When private companies contact unemployed Iraqis through the MOLSA centers for potential interviews, the jobseekers often simply refuse. Unless this public perception that the government is ultimately responsible for the welfare of all Iraqis is overcome, the transition to an open, democratic market economy will face serious difficulties.

Wages. Another issue contributing to the evolving labor market is the rapid increase in salaries. Despite reports to the contrary,²² salaries in Iraq, by and large, have spiked since the end of the war.²² During the last years of Saddam Hussein’s rule, as mentioned above, some experienced and trained government employees earned as little as \$6 per month. Typical salaries for unskilled laborers in the private sector ranged between \$5 and \$10 per month, while professionals made as little as \$30 per month.²³ The CPA, Iraqi security forces, Iraqi government, and international contractors have increased wages substantially across the board. But while the purchasing power of many Iraqis is increasing rapidly, and spending on consumer goods—such as home appliances, clothes, cell phones, satellite dishes, and jewelry—may reach record highs, the new pay scales are resulting in many huge complications in the labor market.

Unfilled positions. The dynamics of unemployment and employment in Iraq are extremely complicated and deserve careful study. Increased wages, for instance, while a welcomed development for Iraqi workers, has created complications in the labor market. While there are simply not enough jobs to go around, the Iraqi officials at the Baghdad Employment Services Center have been increasingly frustrated by the inability to fill vacancies. The fact that 44.7 percent of the jobseekers are already employed full time elsewhere helps explain

why “unemployed” Iraqis routinely refuse to accept employment. But there are other factors.

One huge obstacle is the predominant attitude—inculcated from the former Ba’athist regime’s policies—that public-sector jobs are superior to positions in the private sector, an attitude Iraqi Labor officials are struggling to change.²⁴ MOLSA officials explain that many Iraqi jobseekers believe it is the government’s obligation to support them on the one hand, and the innate sentiment that government jobs are less demanding, secure, and permanent on the other.

The security risks associated with some positions rendered the jobs unattractive for some Iraqis. The high-paying salaries, however, usually offset the risks. Skilled workers, ranging from untrained translators to engineers in the second half of 2003, began drawing salaries ranging from several hundred dollars to a few thousand dollars per month, previously unheard of for normal Iraqis. Similarly high wages were paid to unskilled workers. Salaries were so high, in fact, that—despite the overwhelming dangers—large numbers of Iraqis continue to seek and maintain high-risk jobs. For example, in January 2004, suicide bombers killed some 25 Iraqi workers at Assassins’ Gate as they entered the checkpoint into Baghdad’s protective compound known as the Green Zone. Despite this incident, few of the remaining Iraqi workforce were deterred. Within a few days, almost all Iraqis had resumed their duties under CPA. In April, May, and June, when insurgents began a new program of targeted assassinations of Iraqis working within the Green Zone, dozens of innocent Iraqis were followed home and executed. Still, the majority of Iraqi workers continued to show up for work.²⁵ Despite repeated suicide bombings and targeted assassinations of security forces and recruits, jobseekers

continue to run the risks of applying for jobs at recruitment centers.²⁶

A lack of qualified candidates to fill job vacancies—such as those for English-speaking accountants, sales clerks, or translators—has served as a great source of frustration for Iraqi MOLSA officials. Throughout 2004, the Baghdad employment center failed to fill a number of vacancies. Below are unfilled positions and reasons that candidates refused to accept the employment.

- *Experienced bricklayers:* Salary of \$150 per month. Low wages.²⁷
- *Bank tellers:* Salary of \$33 per month. Low wages.
- *Engineers:* Salary of \$83 per month. Low wages.
- *Unskilled workers* in plastic bag production, vending, metalwork shops, and other fields:
 - Long working hours (8 a.m. to 5-7 p.m.).²⁸
 - Low wages \$50-\$100 per month.²⁹
- *Metalworkers:* Salary of \$133 per month. Low wages, distance to work, and no transportation allowance.³⁰
- *Unskilled workers for a newspaper:* Cramped working conditions.
- *Experienced plumbers:* Salary of \$66 per month. Low wages and long hours: 8 a.m.-4 p.m.
- *Unskilled workers at candy factories:* Salary of \$60 per month. Low wages.
- *Beauty salon workers:* Wages are 50 percent of customer receipts: Terms of wages.
- *Experienced automobile painters:* Salary \$66 per month. Low wages.
- *Unskilled workers at tailoring shops:* Terms of wages.
- *Doctors for private hospital:* Salary of \$100-\$133 per month. Working conditions (double shifts) and low wages.
- *Administrative assistants:* Salaries of \$47 per month. Low wages and long office hours.
- *Pharmacists:* Salaries of \$166 per month. Low wages.
- *Sales managers, truck drivers, engineers, technicians:* Salaries of \$50-\$66 per month. Low wages.
- *Maintenance:* Salary of \$66 per month. Low wages.

Conflict in the public sector. Increased wages also created conflicts in the public sector in a variety of ways. Government salaries were increased substantially in the summer of 2003 upon the introduction of a four-tier pay scale that paid government workers between \$50 and \$400 per month. The lowest paid government employees saw an immediate 10-fold increase in their salaries, from \$5 to \$50 per month. Others saw pay raises of 15 to 20 times their former salaries.³¹

In the spring of 2004, for instance, inexperienced security guards with no high school education often earned as much as \$200-\$250 per month, including danger pay, which surpassed that of many college graduates, creating widespread animosity.³² Iraqi government officials with bachelor’s degrees complained that salaries should be based on education, not risk.

By January 2004, in an effort to bring all ministries in line with a fair and equitable salary scale—established under Order 30: Reform of Salaries and Employment Conditions of the State Employees—the CPA and the Iraqi Ministry of Finance offered an incentive of further salary increases of 40 percent to each ministry willing to adopt the new system. Again, virtually every government worker received some type of a salary increase; the average increase was 40 percent.³³

Order 30. Unfortunately, the implementation of this order resulted, in some cases, in a near disaster. The motivation and intent behind the design of the Order 30 was sound. The drafters of the law had envisioned a system of fair hiring procedures and an 11-grade pay scale that established a fair and equitable salary structure for state employees, with salaries determined by position, years of service, and performance. (See table 1.) An employee’s salary was based on his or her grade on the 11-scale tier, which was “determined by the classification of the employee’s position.” Within each grade, there were 10 steps upon which an employee would advance according, in part, to “the employee’s length of service” and in part to his or her performance.³⁴

Although the letter and spirit of the law were clear to the CPA ministerial advisors tasked with ensuring each ministry adhered to the law, their Iraqi counterparts in the ministries saw the lucrative salaries as an opportunity to cash in. Because the Ministry of Finance, not the Ministry of Labor, had enforcement responsibilities, MOLSA was not consulted on the law’s implementation. The instructions for implementation drafted by Ministry of Finance officials were based not on the law itself, but on old Ba’athist policies that established salaries—not on position or performance, but simply on years of service and level of education. Worse, the translation of Order 30 from its original English into Arabic was sloppily ambiguous, confusing position, years of service, and performance. Worst of all, most of the Iraqi Ministry of Finance officials and other Ministry counterparts responsible for implementing the salary reform were veterans with 20 to 30 years of government service themselves; they had no incentive, interest, or desire to suddenly adopt a new wage scale based on position or performance.

In the case of MOLSA, the Department of Labor officials who actively implemented the reform according to the letter and spirit of the law faced significant resistance. Because the labor

department had been built from the ground up in 2004,³⁵ most of the management were young, strong, intelligent, and dedicated Iraqis. This new group successfully opened 18 functioning employment centers and six vocational training centers. But the higher salaries posed a potential windfall for older, retirement-aged Iraqi officials who lacked the capacity and/or desire to learn or run the new labor programs, many of whom had suffered under a couple decades of low pay. Now these older officials—approaching or surpassing retirement age—not only refused to retire, but demanded top salaries for themselves and their friends. Many threatened the lives of human resources officers, directors, and managers if they did not receive top salaries. MOF and MOLSA officials, who by now received top salaries themselves and feared a violent backlash, had everything to lose, and nothing to gain, by supporting the letter and spirit of Order 30.

A case in point is the new generation of talented Iraqi managers at the nascent Department of Labor who established and ran the nation’s employment and training programs by communicating through modern technology: sending E-mail attachments across the globe; mastering sophisticated reporting systems, Excel spread sheets, and PowerPoint

Table 1. Monthly salaries of state employees in Iraq

[in thousands of Iraqi dinars (000)]

Grade	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
Super A...	2,250	2,233	2,316	2,400	2,483	2,566	2,650	2,733	2,817	3,000
Super B...	1,500	1,583	1,666	1,750	1,833	1,916	1,999	2,083	2,166	2,249
1	740	760	780	800	820	840	860	880	900	920
2	574	589	605	620	636	651	667	682	698	713
3	444	456	468	480	492	504	516	528	540	552
4	342	352	361	370	379	389	398	407	416	426
5	264	271	278	285	292	299	306	314	321	328
6	204	209	215	220	226	231	237	242	248	253
7	157	162	166	170	174	179	183	187	191	196
8	125	128	132	135	138	142	145	149	152	155
9	102	105	107	110	113	116	118	121	124	127
10	83	86	88	90	92	95	97	99	101	104
11	69	71	73	75	77	79	81	83	84	86

presentations; and planning and establishing complicated systems for implementation and monitoring of employment and training centers. These Iraqis were the backbone of Iraq's labor ministry administration, and through June 2004 were paid according to Order 30.

Months of death threats, chaos, complaining, rebellions, and sabotage of labor programs by older, lethargic, and incompetent Ministry workers who had been on the job for decades ensued. Occupational Health and Safety (OHS) officials boasted of 20 to 30 years of service. Some of the OHS workers, many of whom had been sitting idly at home over the past year, threatened to return to the Ministry with Rocket Propelled Grenades if the acting Labor Director General did not award them top salaries. As a result, in May 2004, the Minister of Labor capitulated to the demands of officials threatening violence and followed the lead taken by other ministries, falling in line with the old Ba'athist policy of awarding wages according to years of service. This decision has created an inverted pyramid, not only in terms of salary, but in terms of capacity, management skills, and leadership. Those earning the highest salaries are the least talented and the least capable of running the highly complex labor projects. Meanwhile, the most talented Iraqi Labor Ministry managers who run the employment and training programs, draw some of the lowest salaries in the Ministry.³⁶ These talented managers will likely be attracted to the emerging private sector, thus leaving the corrupt, incompetent MOLSA officials to sort out the multi-million dollar employment projects.

Conclusion

The MOLSA strategy for the reconstruction and rehabilitation of employment and training for 2004 and 2005 is laden with pitfalls. Security issues and counter-measures continue to hamper the implementation of even the simplest

tasks. Transportation, communication, electricity, fuel, and funding have proven to be daily obstacles that block progress at every step. Communication with the governorates, for instance, is still largely accomplished by one staff member traveling, often treacherous routes, between the capital and the governorate. Because of lengthy historical, political, and ethnic distrust, policy and implementation in Iraq essentially translates into dealing with three separate governments: KDP (Kurdish Democratic Party) and PUK (Patriotic Union of Kurdistan) in the north, and Baghdad Central in the south.

Nonetheless, progress has been made at a respectable pace. The Ministry opened an entirely new department (directoriate)—labor—within which the employment and training administration is housed. Eighteen employment centers and six vocational training centers have been opened, providing employment services and training to hundreds of thousands of Iraqis. Tens of thousands of jobs seekers have found employment through these offices. The Ministry continues to support the child labor unit, labor statistics office, on-the-job training office, veterans' services office, and career counseling office.

KOICA (Korean International Cooperation Agency) has committed to a \$7-million grant to construct, equip, and provide training for, a national vocational training center in Baghdad. In November 2003, the ILO and the former Iraqi Minister of Labor and Social Affairs signed a Memorandum of Understanding in Amman, Jordan. Under this agreement, the ILO has already begun to provide capacity building, labor law review, vocational training expertise, labor market survey, and assistance with the organization of labor unions. In October 2004, USAID awarded an \$88-million contract to provide technical assistance to MOLSA's employment and vocational training centers. MOLSA's labor budget for 2004 alone was \$14 million for employment, vocational training,

child labor, occupational safety and health, and other labor programs, and \$65 million for an expansion of Vocational Training. The most encouraging aspect of the reconstruction is the talent pool of young dedicated Iraqis willing to learn, which is quite extensive. During CPA's tenure, extensive efforts were made to attract talented Iraqis to the Ministry. Through May 2004, the capacity at MOLSA had been increasing slowly, but consistently. In many ways, the dynamics of the Ministry are merely a microcosm of Iraq as a whole. Iraqis are proving that given half a chance—and sufficient encouragement, assistance, and guidance—they can and will succeed in taking their destiny in their own hands and reconstructing their nation.

The challenges for MOLSA's fledgling Labor Directorate over the next months or year are daunting. The Ministry's labor programs already in existence, in one form or another, were designed to mitigate violence through employment. If properly nurtured, the Labor Directorate can play a role in providing security to Iraq. However, every program requires support, staffing, capacity building, and international expertise. Many questions remain as the political commitment to labor programs were drafted and set in motion over the past 18 months—as well as the direction the Labor Department will take in the next year. Only time will tell.³⁷ □

Notes

¹ The majority of the information for this article comes from my institutional knowledge of the Iraqi Ministry of Labor and Social Affairs earned during the reconstruction and rehabilitation of the Ministry in 2003–04 while serving as the Ministry's labor advisor. Most of the Ministry's documentation was destroyed in the looting subsequent to the war against Saddam Hussein in 2003.

² The Ministry of Military Industries (MMI), which provided weapons and military technological training and research for Saddam Hussein's military machine, produced highly coveted jobs for Iraqis. Originally this Ministry was run by

Hussein Kamel, Saddam's son-in-law; see also Khidhir Hamza, *Saddam's Bombmaker* (New York, Touchstone, 2000), pp. 155–56.

³ The base salaries were standardized across ministries, but monthly bonuses awarded to workers varied significantly. MOLSA's vocational trainers in Social Welfare trained disabled Iraqis, while those in Social Security were responsible for training the remainder of the public. For another perspective on the disparity of wages, see Foote, Block, and others, "Economic Policy and Prospects in Iraq," *Journal of Economic Perspectives*, 2004, pp. 47–70.

⁴ Even today, *punishment* and the *threat of punishment* are routinely used at the Ministry as "management" tools, surfacing in official memos and staff meetings. One Iraqi supervisor, who often used threats and on occasion had even been known to throw notebooks and pencils, explained to me that these were effective management tools.

⁵ *Act No. 71 of 1987 Promulgating the Labour Code*, 1987, Articles 15–28.

⁶ *Ibid.*, Articles 17–20.

⁷ *Ibid.*, Article 21.

⁸ *Ibid.*, Article 23.

⁹ UNDP, "Iraq Country Office 1999–2000 Report," 2000, p. 6.

¹⁰ Funding to open the remaining centers was available to MOLSA from a combination of sources: Commander's Emergency Response Program (CERP) funds, MOLSA's \$14-million 2004 revised budget, and an \$88 million USAID contract funded with U.S. supplemental funding.

¹¹ On May 15, 2004, the CPA Program Review Board (PRB) unanimously approved \$65 million for Vocational Training. See CPA, *Program Review Board (Prb) Minutes, May 15, 2004*, on the Internet at http://iraqcoalition.org/regulations20030908_CPAORD_30_Reform_of_Salaries_and_Employment_Conditions_of_State_Employees_with_Annex_A.pdf (visited Oct. 16, 2004); also available on the Internet at http://www.iraqcoalition.org/budget/PRB/May15_PRB.html

¹² The CPA revision became known as the Bearing Point revision, named after the Bearing Point contractor who coordinated the efforts of various CPA attorneys and specialists who contributed to the revision.

¹³ CPA, *Coalition Provisional Authority Order Number 89: Amendments to the Labor Code-Law No. 71 of 1987*, 2004, on the Internet at http://www.iraqcoalition.org/regulations/20040530_CPAORD89_Amendments_to_the_Labor_Code-Law_No.pdf (visited Oct. 16, 2004). The Order actually overturned the earlier Ba'athist Revolutionary Command Council Resolution 368 that allowed children to work in hazardous and non-hazardous conditions at the age of 12.

¹⁴ For the entire TAL text, see CPA, *Law of Administration for the State of Iraq for the Transitional Period-8 March 2004*, 2004, on the Internet at <http://www.cpa-iraq.org/government/TAL.html> (visited Oct. 16, 2004).

¹⁵ Central Statistics Organization is part of the Ministry of Planning, and is also referred to as Central Statistics Office or Central Board of Statistics, often depending on the translation from Arabic. See the Central Board of Statistics, "Report of the Employment and Unemployment Survey Results: Year 2003," (Baghdad, Ministry of Planning, 2004), p. 6; the U.S. Department of Labor uses the age of 16 as a starting point for the civilian labor force. See U.S. Department of Labor-Bureau of Labor Statistics, *Geographic Profile of Employment and Unemployment*, 2004, on the Internet at <http://www.bls.gov/gps/gpsfaqs.htm#Q2> (visited Oct. 16, 2004).

¹⁶ This analysis assumes as employed all beneficiaries of stipends programs. For example, former military officers currently receiving stipends, whether seeking employment or not, are considered employed.

¹⁷ United Nations and World Bank, "United Nations/World Bank Joint Iraq Needs Assessment," 2003, p. 18. See also UNDP, "Iraq Country Office 1999–2000 Report," p. 6.

¹⁸ International Labor Organization, "Needs Assessment of the Employment Sector in Iraq," 2003, p. 5. The Iraqi Central Statistics Office has conducted two additional unemployment surveys in the first and second quarter of 2004, but the findings were not released at the time this article went to publication.

¹⁹ As early as August 2003, more than half of the 2,300 civilian workers from the former Ministry of Defense had already secured government jobs. A huge number of officers who were skilled workers (doctors, engineers, computer specialists, and many others) were also working in other ministries, as well as collecting stipends.

²⁰ Much has been written about the SOEs. For more information, see Foote, "Economic Policy and Prospects in Iraq." See also CPA, *State-Owned Enterprise Company Profiles*, 2004, on the Internet at <http://www.cpa-iraq.org/business/industries/index.html> (visited Oct. 17, 2004).

²¹ While all Iraqis qualify for the food basket, it is estimated that about 90 percent actually receive it, and some 60 percent are reliant on it for subsistence.

²² See, for example, John Howley, "The Iraq Job Crisis: Workers Seek Their Own Voice," *EPIC*, Brief No. 1, 2004. Clarence Thomas and David Bacon, "Report from Iraq: Working Conditions and Labor Rights under the Occupation," *Labor Against the War*, 2003.

²³ For example, MOLSA hired a bilingual accountant from a bank in Baghdad in December 2003 for \$50 per month. Her former salary after 3 years' experience was \$30 per month. See also Foote, "Economic Policy and Prospects in Iraq," p. 48.

²⁴ This attitude toward government jobs was reflected in a poll conducted in December 2003. *Ibid.*, p. 68.

²⁵ Huge salaries notwithstanding, it is important to recognize the dedication of many of these brave Iraqis toward helping the reconstruction of

their country. That the Iraqis returned to work while facing such overwhelming threats on their lives and that of their families is a tribute to Iraqi resolve.

²⁶ The fact that jobseekers continue to apply for these dangerous jobs despite the high risks has been well documented. See for instance Rajiv Chandrasekaran, "Police Recruits Targeted in Iraq: Bomb Kills Scores near Headquarters," *The Washington Post*, 2004, p. A-22.

²⁷ All wages are shown in U.S. dollars based on an exchange rate of 1,500 Iraqi Dinars per dollar. In almost every case, the salaries were higher than wages before the war. In many cases, 5 to 20 times higher.

²⁸ Most of the jobseekers expect government jobs, in which the working hours are officially 8 a.m. through 3 p.m. Sunday through Thursday.

²⁹ This amount for an unskilled worker is substantially higher (10 to 20 times) than for the same position before the war. High salaries paid by public works job programs, CPA, international contractors, and ministries have driven up the price of wages. Daily laborers generally earn as much as \$3 to \$15 per day. For another perspective on wages for daily laborers, see Foote, "Economic Policy and Prospects in Iraq," p. 56.

³⁰ In Iraq, it is customary for employers to pay for transportation.

³¹ For example, many vocational training instructors earning \$5-\$6 per month in March 2003 were likely increased to \$100 per month by late summer 2003.

³² At MOLSA, for instance, each time security guards received salary increases, other Ministry workers demanded higher salaries as well, despite the fact that their salaries were 10 to 20 times higher than 1 year earlier.

³³ For more information on Order 30, see CPA, *Coalition Provisional Authority Order Number 30: Reform of Salaries and Employment Conditions of State Employees*, 2004, on the Internet at http://www.iraqcoalition.org/regulations20030908_CPAORD_30_Reform_of_Salaries_and_Employment_Conditions_of_State_Employees_with_Annex_A.pdf (visited Oct. 16, 2004).

³⁴ See *Ibid.*, Section 3.3 The salary table can be found at Annex A of the same document.

³⁵ Organizationally, the former employment centers and vocational training centers resided in Social Security Department. The birth of the Labor Department did not take place officially until the spring of 2004.

³⁶ For example, the director of the Outreach division has the most important position with regard to employment in the nation. He is responsible for securing job vacancies with the public and private sector, interviewing and providing career counseling for the nation's unemployed, reintegrating demobilized soldiers and militia, and referring the jobseekers to potential jobs or vocational training. He has been moved from Grade 2 to Grade 7 overnight, a reduction of approximately 30 percent of his former salary.

Re-spacing work

Technology, location, contractual arrangements, and time are the four substantive components to consider when defining “telework,” according to an article by Leslie Haddon and Malcolm Brynin in the journal *New Technology, Work and Employment*. Students of the telework phenomenon have gone from leaving technology entirely out of the definition to focus on the knowledge content of the work itself to requiring at least some use of new information and communications technology to be considered any sort of telework at all. The authors acknowledge the crucial role of technology, but suggest that different technologies do more to define the specific type of telework one might be engaged in rather than to define telework itself.

Similarly, on the factor of location, some definitions of telework refer exclusively as work in the home while other broaden out to other “remote” worksites. Again, the authors look at location as more a measure of how telework is being done, and would exclude only those who work only at a standard workplace from being engaged in some form of telework.

The main distinction in the contractual arrangements argument for defining telework is between self-employed and wage-and-salary workers, although some would distinguish between a self-employed teleworker who works for a single client and a self-employed freelancer who works for several clients. Analysts incorporating time in their definitions of telework must take into account arrangements that stretch from an occasional hour of away-from-the-office work in the evening or on a weekend to working

almost exclusively from a home or mobile work space.

In any case, in the six countries Haddon and Brynin studied, working at the standard workplace is by far the most common arrangement, followed by what they call “mobile users”—workers including outside sale and transportation workers—who use a mobile phone but not any of the other advanced technologies. Old-fashioned home-based workers who do not use computers, the internet, or a mobile telephone come in third in Britain, Italy, Germany and Bulgaria, while personal-computer-using homeworkers are third in Israel and Norway. The oft-depicted internet-enabled homeworker is generally in the smallest definitional class.

A case study by Susan Halford of the impacts of that more uncommon arrangement—working from home using a broadband-enabled personal computer for some part of the workweek—appears within the same issue of *New Technology, Work and Employment*. While she acknowledges that studies have found negative outcomes of homeworking by full-timers or the self-employed, her own study concludes that having a hybrid home-workplace arrangement was generally evaluated positively by both management and employees.

Global variety

Many popular discussions of globalization revolve around jobs, while more academic debates about the benefits of international trade focus on the lower prices of existing goods. In a recent issue of *Current Issues in Economics and Finance* from the Federal Reserve Bank of New York, Christian Broda and David Weinstein

summarize their research into another important gain from global trade: increased availability of a wider variety of goods.

Their first finding is that the sheer number of goods available increased, on net, from not quite 8,000 in 1972 to just more than 16,000 in 2001. The total number of “varieties,” each variety defined as a specific good imported from a particular country, was just under 75,000 in 1972 and almost 260,000 in 2001.

As the arithmetic implies, there was a significant increase in the number of countries from which the United States imported goods. According to Broda and Weinstein, not only were there far more goods involved in the import trade, but in addition, “the median number of countries supplying each good doubled, rising from six countries at the start of the period to twelve at the end.”

As part of their calculation of the impact of increased import variety on economic well-being, Broda and Weinstein estimated the substitutability of the varieties of the thousands of goods being imported. The highest degree of substitutability of varieties was found in crude petroleum and shale oil and the lowest was in footwear. “In general,” say the authors, “the degree of substitutability was higher for homogeneous products (petroleum is an apt example) than for highly differentiated products.”

Once the increase in varieties and the substitutability of one variety for another is taken into account, Broda and Weinstein estimate that an import price index would have a rate of change 1.2 percent per year lower than the conventionally calculated index. Such a drop in import prices, they argue, has raised economic well-being in the United States by some \$260 billion. □

A new statistical annual

OECD Factbook 2005: Economic, Environmental and Social Statistics. Paris, Organization for Economic Cooperation and Development, 2005, 235 pp., \$63/paperback.

OECD Factbook 2005 is the first edition of a new statistical annual from the Organization for Economic Cooperation and Development, a Paris-based forum of 30 member countries that work together to address economic, environmental, and social challenges. In this volume, the OECD presents a set of more than 100 indicators organized according to 11 themes in an attractive, user-friendly volume. Each indicator is presented on two facing pages. On the first page, the usefulness of the indicator and its definition and cross-country comparability are briefly described. In addition, long-term trends are discussed, and other OECD sources of data and analysis are listed, often with Internet links to them. On the second page, the OECD presents a table and chart for each indicator, and they are easily downloadable. Putting these diverse OECD datasets under one roof is extremely helpful to the users of international data who previously had to hunt for them in various places or might not have known that they all existed.

The *OECD Factbook* fills a unique niche among the volumes of similar international indicators presently available, such as the International Labor Office's (ILO) *Key Indicators of the Labor Market* and the World Bank's *World Development Indicators*. Both the ILO and the World Bank indicators attempt to cover the entire world, while OECD's focus is on the industrialized countries of Europe, North America, Asia, and Oceania. Thus, the *OECD Factbook* covers 30 countries, while the ILO and World Bank attempt to cover 150 to 200 countries. OECD's narrower focus has several advantages. The major advantage is that the countries it covers have, for the most part, well-developed statistical systems that follow in-

ternational guidelines, allowing for better comparative data. The Foreword of the *Factbook* talks about the importance of comparable data. "Why this *Factbook*?" the Foreword asks. The answer is "Because governments pursue different economic, social, and environmental policies, and it is extremely valuable to policymakers and to the general public to compare cross-country data that they know to be comparable and reliable." In other words, we should be able to use the *Factbook* data as one way to evaluate public policies in a comparative context.

Another advantage of the fewer number of countries covered in the *Factbook* is that it allows OECD to include all member countries for which data are available in each chart. It is valuable to users to be able to see the whole spectrum of OECD countries portrayed in rank order, often with the "OECD average" inserted as a convenient marker. The World Bank and ILO have to contend with many countries that have less developed statistical systems, leading to much missing data and many more comparability issues. The ILO and World Bank both have to make choices as to what countries are to be charted for each indicator. Oftentimes they chart only a few selected countries, or aggregates for world regions that involve estimates for missing data.

For a few indicators, the *OECD Factbook* shows data for selected non-member countries. For example, the steel production indicator includes data for China, India, Brazil, Russia, and the Ukraine. Nonmember countries appear to be selected for coverage where the indicators are relevant and where reasonably comparable data are available. This selectivity seems a good way to expand the *OECD Factbook*'s horizon beyond developed nations, while not trying to cover the entire world like the ILO and World Bank Indicators.

The nontechnical reader (such as a member of the media writing an article on deadline) will be well served by the succinct format of the *OECD Factbook*. It is unburdened by the voluminous number

of footnotes and technical notes that usually accompany an international comparison. The comparability note gives broad guidance to this casual user, and as noted previously, the OECD member countries tend to follow international guidelines. Although international guidelines serve to draw countries toward a common conceptual framework, they still allow room for national variations that can affect cross-country comparability. In the absence of series that are fully comparable, it is important to have adequate documentation of the differences. The no-footnotes policy sometimes results in the omission of important country information that a technical user would want to know, but a good guide to technical sources is provided for experts to consult.

Producing the *Factbook* involved many choices. The OECD has made reasonable compromises to satisfy the needs of a wide range of users of this publication. No one way can satisfy all. To include all the notes would make this an unwieldy encyclopedic volume and could put off the more casual data user. One future modification that could help bridge the gap would be to include more notes on the downloadable tables in the Internet version of the *Factbook*. I will provide two examples of why this is important, with reference to the indicators on annual hours worked and part-time work.

The annual hours worked indicator is one of the most widely cited indicators provided by the OECD. The *Factbook*'s comparability note says that "The data are intended for comparisons of trends over time and not yet suitable for inter-country comparisons." This warning is usually ignored. In its original form in the data annex to the annual *OECD Employment Outlook*, this table includes a warning about comparing levels as well as a great deal of country-by-country notes that assist the data user in assessing comparability among different countries. For example, data for the Netherlands exclude overtime hours—helping to explain the relatively low annual hours for this country. These notes could be attached to the

tables in the Internet version of this table. An alternative to the chart for this indicator that is more consistent with the comparability note in the *Factbook* would be to chart the change in hours worked from 1990 to 2003 for each country rather than the 2003 level for each country.

Another example where a footnote on the Internet version of the tables would prevent false conclusions is for the part-time worker indicator. Countries set the part-time cutoff at different levels of weekly hours. The European Union countries let the respondent define whether he or she works part time. Just one example of the important standardization efforts of the OECD is that it provides data users with a comparative measure by defining part-time work as work of less than 30 hours per week on the main job. The OECD standardizes data to this definition from special data runs submitted by member countries. The part-time employment data for Japan, however, remain at the 35-hour cutoff. Thus, Japan's proportion of part-time workers is among the highest on the OECD's chart, but it is overstated for comparisons with other countries. This was noted in the original source, but such details are missing from the *Factbook*.

The OECD *Factbook* warns on page 230 that "To avoid misunderstandings, the tables must be read in conjunction with the texts that accompany them." This argues for the inclusion of the notes on the downloadable tables. Otherwise, there is the danger that the *Factbook's* tables will be exported into articles and studies devoid of important country notes, such as the one on annual hours for the Netherlands and part-time workers for Japan.

Hours worked is in the Quality of Life section of the *Factbook*, not in the Labor Market section. There does not seem to be a clear relationship between the hours measure in the *Factbook* and what most people consider as quality of life. The measure is annual hours per person employed, and the introduction to this section implies that reduction of working hours improves quality of life. If nonworking spouses enter the part-time labor force,

the average hours worked measure would go down even though the family as a whole is putting in more time in the labor force. How does one interpret this trend in terms of quality of life? Also, the hours indicator is in a subsection of Quality of Life entitled Work and Leisure that includes only one other indicator, arrivals of non-resident tourists staying in hotels and similar establishments. The United States has, by far, the highest rate. The fact that more tourists visit the United States, however, does not appear to translate into anything clearly meaningful about work and leisure of Americans. The OECD may need to reconsider some of its indicator categorizations.

The OECD *Factbook* comes in two forms: the printed version and an Internet version accessible from the OECD Web site (<http://www.SourceOECD.org/factbook>). Many consumers will most likely want to make use of both forms. Having the attractive printed volume at hand gives an immediate sense of the wide range of indicators available. The Internet version of this publication allows for easy downloads of tables with the click of a mouse. There is a charge for the printed volume, whereas the version on the OECD Web site is free of charge. The OECD deserves a great deal of praise for providing this free access to the consumers of international comparisons. Users of the ILO and World Bank indicators must subscribe to Internet access or purchase a CD-ROM in order to download tables.

As an example of how the *Factbook* can be used to enrich one's perspective, let us look at some of the indicators for the United States. The United States ranks favorably among OECD countries with respect to indicators of the labor market that are familiar to BLS data users. Our employment-to-population ratios (employment rates) are relatively high, and we have a lower proportion of part-time workers than most other member countries. U.S. unemployment rates are comparatively low, and our percentage of persons in long-term unemployment is among the lowest in the OECD. The inflation rate

(growth in CPI and PPI) in the United States is well below the OECD average. U.S. business sector productivity growth (as measured by output per employee) is above the OECD average, and higher than in any other Group of Seven (G-7) major industrialized country.

Beyond the labor market indicators, the United States fares well on some indicators and not so well on others. The *Factbook* charts show that the United States has the highest share of investment in information and communication technology, but the proportion of households with home computers and Internet access is just about average. Our high school students perform relatively poorly on international math tests, outranking only Portugal, Italy, Greece, Turkey, and Mexico. On the other hand, we are second only to Canada in percentage of the population attaining a college or university degree. The United States ranks highest on the obesity scale—percentage of the population with a Body Mass Index more than 30—and the U.S. proportion has more than doubled over the past 20 years. We also have the highest health expenditures per capita. Many other interesting comparisons can be made based on this *Factbook* that serve to highlight both a country's successes and problem areas.

The *OECD Factbook* is a major contribution to international comparisons of statistics. It is a work that is designed to appeal to a wide audience. Limiting every indicator to two pages makes the volume attractive and easy to use, but it means that many things had to be left out. More information on comparability could be included on the Internet version of the tables in order to achieve the objective stated in the Foreword—to provide statistics that help evaluate public policies. The *Factbook* goes a long way in that direction already, and the OECD should be congratulated for this accomplishment.

—Constance Sorrentino

Division of Foreign Labor Statistics,
Bureau of Labor Statistics

NOTE: Many of the statistics in the following pages were subsequently revised. These pages have not been updated to reflect the revisions.

To obtain BLS data that reflect all revisions, see <http://www.bls.gov/data/home.htm>

For the latest set of "Current Labor Statistics," see <http://www.bls.gov/opub/mlr/curlabst.htm>

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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 were revised in the February 2005 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14, and 17 were revised in the March 2005 *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 \times 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:

<http://www.bls.gov/cps/>

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

<http://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:

<http://www.bls.gov/lpc/>

For additional information on interna-

tional 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: <http://www.bls.gov/cps/rvcps03.pdf>).

Effective in January 2003, BLS began using the X-12ARIMA 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 <http://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 2002 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 positions. 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

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The March 2003 benchmark was introduced in February 2004 with the release of data for January 2004, published in the March 2004 is-

sue of the *Review*. With the release in June 2003, CES completed a conversion from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) and 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 sub-

ject 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 2001, publications presenting data from the Covered Employment and Wages program have switched to the 2002 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 inter-governmental 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 avail-

able. 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; 30–36)

Compensation and waged data are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

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 uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation

costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, 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 bargaining status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation 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 Employment Cost Index 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 (June 1981=100) are available on the Internet:

<http://www.bls.gov/ect/>

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 691-6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 34 for medium and large private establishments and in table 35 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

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 and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

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

Surveys of employees in medium and large establishments conducted over the 1979-86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employ-

ees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends on the Internet:

<http://www.bls.gov/ebs/>

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 36.

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.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 691–6282, or the Internet:

<http://www.bls.gov/cba/>

Price Data

(Tables 2; 37–47)

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 non-institutional 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 be-

tween 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 38. 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 measured 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 2002 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 com-

pleted 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; 48-51)

Business and major sectors

Description of the series

The productivity measures relate real out-

put 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, non-profit 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 48–51 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 pro-

ducing 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.

International Comparisons

(Tables 52–54)

Labor force and unemployment

Description of the series

Tables 52 and 53 present comparative measures of the labor force, employment, and unemployment approximating U.S. concepts for the United States, Canada, Australia, Japan, and six European countries. The labor force statistics published by other industrial countries are not, in most cases, comparable to U.S. concepts. Therefore, the Bureau adjusts the figures for 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 BLS Web site at <http://www.bls.gov/opus/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

The foreign country data are adjusted as closely as possible to U.S. concepts, with the exception of lower age limits and the treatment of layoffs. These adjustments include, but are not limited to: including older persons in the labor force by imposing no upper age limit, adding unemployed students to the unemployed, excluding the military and family workers working fewer than 15 hours from the employed, and excluding persons engaged in passive job search from the unemployed.

Data for the United States relate to the population 16 years of age and older. The U.S. concept of the working age population has no upper age limit. The adjusted to U.S. concepts statistics have been adapted, insofar as possible, to the age at which compulsory schooling ends in each country, and the Swedish statistics have been adjusted to include persons older than the Swedish upper age limit of 64 years. The adjusted statistics presented here relate to the population 16 years of age and older in France, Sweden, and the United Kingdom; 15 years of age and older in Australia, Japan, Germany, Italy, and the Netherlands. An exception to this rule is that the Canadian statistics are adjusted to cover the population 16 years of age and older, whereas the age at which compulsory schooling ends remains at 15 years. In the labor force participation rates and employment-population ratios, the denominator is the civilian noninstitutionalized working age population, except that the institutionalized working age population is included in Japan and Germany.

In the United States, the unemployed include persons who are not employed and who were actively seeking work during the reference period, as well as persons on layoff. Persons waiting to start a new job who were actively seeking work during the reference period are counted as unemployed under U.S. concepts; if they were not actively seeking work, they are not counted in the labor force. In some countries, persons on layoff are classified as employed due to their strong job attachment. No adjustment is made for the countries that classify those on layoff as employed. In the United States, as in Australia and Japan, passive job seekers are not in the labor force; job search must be active, such as placing or answering advertisements, contacting employers directly, or registering with an employment agency (simply reading ads is not enough to qualify as active search). Canada and the European countries classify

passive jobseekers as unemployed. An adjustment is made to exclude them in Canada, but not in the European countries where the phenomenon is less prevalent. Persons waiting to start a new job are counted among the unemployed for all other countries, whether or not they were actively seeking work.

The figures for one or more recent years for France, Germany, and the Netherlands are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent year measures for these countries are therefore subject to revision whenever more current labor force surveys become available.

There are breaks in series for the United States (1994, 1997, 1998, 1999, 2000, 2003), Australia (2001), and Germany (1999).

For the United States, beginning in 1994, data are not strictly comparable for prior years because of the introduction of a major redesign of the labor force survey questionnaire and collection methodology. The redesign effect has been estimated to increase the overall unemployment rate by 0.1 percentage point. Other breaks noted relate to changes in population controls that had virtually no effect on unemployment rates.

For a description of all the changes in the U.S. labor force survey over time and their impact, see Historical Comparability in the "Household Data" section of the BLS publication *Employment and Earnings* (available on the BLS Web site at http://www.bls.gov/cps/eetech_methods.pdf).

For Australia, the 2001 break reflects the introduction in April 2001 of a redesigned labor force survey that allowed for a closer application of International Labor Office guidelines for the definitions of labor force statistics. The Australian Bureau of Statistics revised their data so there is no break in the employment series. However, the reclassification of persons who had not actively looked for work because they were waiting to begin a new job from "not in the labor force" to "unemployed" could only be incorporated for April 2001 forward. This reclassification diverges from the U.S. definition where persons waiting to start a new job but not actively seeking work are not counted in the labor force. The impact of the reclassification was an increase in the unemployment rate by 0.1 percentage point in 2001.

For Germany, the 1999 break reflects the incorporation of an improved method of data calculation and a change in coverage to persons living in private households only.

For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries*, on the BLS Web site at <http://www.bls.gov/fls/flsforc.pdf>

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691-5654 or flshelp@bls.gov

Manufacturing productivity and labor costs

Description of the series

Table 54 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Australia, Canada, Japan, Korea, Taiwan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among economies.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) with the exception of Belgium and Taiwan, where only employees (wage and salary earners) are counted.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977.

U.S. data from 1998 forward are based on the 1997 North American Industry Classification System (NAICS). Output is in real value-added terms using a chain-type annual-weighted method for price deflation. (For more information on the U.S. measure, see "Improved Estimates of Gross Product by Industry for 1947–98," *Survey of Current Business*, June 2000, and "Improved Annual Industry Accounts for 1998–2003," *Survey of Current Business*, June 2004). Most of the other economies now also use annual moving price weights, but earlier years were estimated using fixed price

weights, with the weights typically updated every 5 or 10 years.

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 48 and 50 in this section). The quarterly measures are on a “sectoral output” basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all economies. The measures are developed from statistics of manufacturing employment and average hours. The series used for Australia, Canada, Denmark, France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the United Kingdom from 1992, an official annual index of total manufacturing hours is used. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked.

Total compensation (labor cost) 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. The measures are from the national accounts of each economy, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For Australia, Canada, France, and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France include parts of

mining as well.

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.

Official published data for Australia are in fiscal years that begin on July 1. The Australian Bureau of Statistics has finished calendar-year data for recent years for output and hours. For earlier years and for compensation, data are BLS estimates using 2-year moving averages of fiscal year data.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691-5654.

Occupational Injury and Illness Data

(Tables 55-56)

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 recog-

nized 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: <http://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: <http://www.bls.gov/iif/>

1. Labor market indicators

Selected indicators	2003	2004	2003				2004				2005	
			I	II	III	IV	I	II	III	IV	I	
Employment data												
Employment status of the civilian noninstitutional population (household survey): ¹												
Labor force participation rate.....	66.2	66.0	66.3	66.4	66.2	66.1	66.0	66.0	66.0	66.0	66.0	6,508.0
Employment-population ratio.....	62.3	62.3	62.4	62.3	62.1	62.2	62.2	62.3	62.4	62.4	62.4	62.3
Unemployment rate.....	6.0	5.5	5.8	6.1	6.1	5.9	5.6	5.6	5.5	5.4	5.4	5.3
Men.....	6.3	5.6	6.1	6.5	6.4	6.1	5.7	5.7	5.6	5.6	5.6	5.4
16 to 24 years.....	13.4	12.6	12.8	13.9	13.7	13.0	12.6	12.9	12.5	12.6	12.6	13.2
25 years and older.....	5.0	4.4	5.0	5.2	5.1	4.9	4.5	4.5	4.4	4.3	4.3	4.1
Women.....	5.7	5.4	5.5	5.7	5.8	5.6	5.6	5.4	5.3	5.2	5.2	5.1
16 to 24 years.....	11.4	11.0	11.2	11.8	11.5	10.9	11.1	10.9	10.9	10.9	10.9	10.4
25 years and older.....	4.6	4.4	4.5	4.6	4.7	4.6	4.5	4.4	4.3	4.2	4.2	4.1
Employment, nonfarm (payroll data), in thousands: ¹												
Total nonfarm.....	129,931	131,480	130,093	129,845	129,890	130,168	130,541	131,125	131,731	132,302	132,772	132,772
Total private.....	108,356	109,862	108,467	108,253	108,320	108,614	108,986	109,737	110,095	110,600	111,038	111,038
Goods-producing.....	21,817	21,884	22,036	21,828	21,700	21,684	21,725	21,868	21,932	22,000	22,047	22,047
Manufacturing.....	14,525	14,329	14,787	14,555	14,377	14,313	14,285	14,338	14,353	14,338	14,338	14,314
Service-providing.....	108,114	109,596	108,057	108,017	108,190	108,483	108,816	109,457	109,799	110,302	110,725	110,725
Average hours:												
Total private.....	33.7	33.7	33.8	33.6	33.6	33.7	33.8	33.7	33.7	33.7	33.7	33.7
Manufacturing.....	40.4	40.8	40.3	40.2	40.3	40.7	41.0	40.8	40.8	40.6	40.6	40.6
Overtime.....	4.2	4.6	4.2	4.0	4.1	4.4	4.5	4.5	4.6	4.5	4.5	4.5
Employment Cost Index²												
Percent change in the ECI, compensation:												
All workers (excluding farm, household and Federal workers).....	3.8	3.7	1.4	.8	1.1	.5	1.4	.9	1.0	.5	1.1	1.1
Private industry workers.....	4.0	3.8	1.7	.8	1.0	.4	1.5	.9	.8	.5	1.1	1.1
Goods-producing ³	4.0	4.7	1.8	.9	.7	.5	2.3	.9	.9	.6	1.5	1.5
Service-providing ³	4.0	3.3	1.5	.8	1.1	.5	1.1	1.0	.8	.3	1.0	1.0
State and local government workers.....	3.3	3.5	.7	.4	1.7	.5	.7	.4	1.7	.6	.9	.9
Workers by bargaining status (private industry):												
Union.....	4.6	5.6	1.6	1.2	1.0	.7	2.8	1.5	.8	.5	.7	.7
Nonunion.....	3.9	3.4	1.6	.8	1.0	.4	1.3	.8	.9	.4	1.3	1.3

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 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	2003	2004	2003				2004				2005
			I	II	III	IV	I	II	III	IV	I
Compensation data^{1,2}											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm.....	3.8	3.7	1.4	0.8	1.1	0.5	1.4	0.9	1.0	0.5	1.1
Private nonfarm.....	4.0	3.8	1.7	.8	1.0	.4	1.5	.9	.8	.5	1.1
Employment Cost Index—wages and salaries:											
Civilian nonfarm.....	2.9	2.4	1.0	.6	.9	.3	.6	.6	.9	.3	.7
Private nonfarm.....	3.0	2.4	1.1	.7	.8	.4	.7	.7	.9	.2	.7
Price data¹											
Consumer Price Index (All Urban Consumers): All Items.....	2.3	3.3	1.8	-3	-2	-2	1.2	1.2	.2	.2	1.0
Producer Price Index:											
Finished goods.....	3.2	4.1	3.7	-8	.3	.0	1.2	1.2	.0	1.1	2.0
Finished consumer goods.....	4.2	4.6	2.4	1.8	.3	.0	1.5	1.4	-1.7	.9	-2.6
Capital equipment.....	.4	2.4	.6	-6	-1	.0	.6	.5	.4	1.6	2.1
Intermediate materials, supplies, and components.....	4.6	9.1	6.5	-2.1	-1	.0	2.5	3.0	1.9	.9	3.5
Crude materials.....	25.2	18.0	28.0	-10.6	3.4	14.4	6.0	7.6	-5.1	8.3	9.7
Productivity data³											
Output per hour of all persons:											
Business sector.....	4.5	4.0	4.1	7.6	8.1	2.1	4.0	2.9	2.0	3.7	2.1
Nonfarm business sector.....	4.4	4.1	4.0	6.7	8.7	2.8	3.8	3.9	1.3	2.1	2.6
Nonfinancial corporations ⁴	4.2	3.9	2.2	7.7	7.9	3.9	.9	3.3	4.9	5.3	-

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 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.

⁴ Output per hour of all employees.

NOTE: Dash indicates data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly change					Four quarters ending—					
	2004				2005	2004				2005	
	I	II	III	IV	I	I	II	III	IV	I	
Average hourly compensation: ¹											
All persons, business sector.....	2.9	5.3	5.8	4.9	4.3	4.5	4.3	4.4	4.7	5.0	
All persons, nonfarm business sector.....	2.1	5.9	5.4	3.8	4.8	4.4	4.5	4.4	4.3	5.0	
Employment Cost Index—compensation:											
Civilian nonfarm ²	1.4	.9	1.0	.5	.5	3.8	3.9	3.8	3.7	3.5	
Private nonfarm.....	1.5	.9	.8	.5	.5	3.9	4.0	3.7	3.8	3.4	
Union.....	2.8	1.5	.8	.5	.5	5.7	6.0	5.8	5.6	3.6	
Nonunion.....	1.3	.8	.9	.4	.4	3.6	3.5	3.4	3.4	3.4	
State and local governments.....	.7	.4	1.7	.6	.6	3.3	3.4	3.4	3.5	3.6	
Employment Cost Index—wages and salaries:											
Civilian nonfarm ².....	.6	.6	.9	.3	.3	2.5	2.5	2.4	2.4	2.4
Private nonfarm.....	.7	.7	.9	.2	.2	2.6	2.6	2.6	2.4	2.4	
Union.....	.6	1.0	.8	.4	.4	2.5	2.9	3.0	2.8	2.3	
Nonunion.....	.7	.6	.8	.2	.2	2.6	2.5	2.5	2.4	2.4	
State and local governments.....	.4	.2	1.0	.5	.5	2.1	1.9	2.0	2.1	2.3	

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

² Excludes Federal and 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		2004										2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
TOTAL																
Civilian noninstitutional population ¹	221,168	223,357	222,757	222,967	223,196	223,422	223,677	223,941	224,192	224,422	224,640	224,837	225,041	225,236	225,441	
Civilian labor force.....	146,510	147,401	146,788	147,018	147,386	147,823	147,676	147,531	147,893	148,313	148,203	147,979	148,132	148,157	148,762	
Participation rate.....	66.2	66.0	65.9	65.9	66.0	66.2	66.0	65.9	66.0	66.1	66.0	65.8	65.8	65.8	66.0	
Employed.....	137,736	139,252	138,645	138,846	139,158	139,639	139,658	139,527	139,827	140,293	140,156	140,241	140,144	140,501	141,099	
Employment-population ratio ²	62.3	62.3	62.2	62.2	62.3	62.5	62.4	62.3	62.4	62.5	62.4	62.4	62.3	62.4	62.6	
Unemployed.....	8,774	8,149	8,143	8,172	8,228	8,184	8,018	8,005	8,066	8,020	8,047	7,737	7,988	7,656	7,663	
Unemployment rate.....	6.0	5.5	5.6	5.6	5.6	5.5	5.4	5.5	5.4	5.5	5.4	5.2	5.4	5.2	5.2	
Not in the labor force.....	74,658	75,956	75,969	75,950	75,809	75,599	76,001	76,410	76,299	76,109	76,437	76,858	76,909	77,079	76,679	
Men, 20 years and over																
Civilian noninstitutional population ¹	98,272	99,476	99,170	99,279	99,396	99,512	99,642	99,776	99,904	100,017	99,476	100,219	100,321	100,419	100,520	
Civilian labor force.....	74,623	75,364	74,908	75,095	75,631	75,567	75,615	75,462	75,632	75,866	75,754	75,594	75,816	75,921	76,173	
Participation rate.....	75.9	75.8	75.5	75.6	75.8	75.9	75.9	75.6	75.7	75.9	75.7	75.4	75.6	75.6	75.8	
Employed.....	70,415	71,572	71,158	71,226	71,575	71,830	71,847	71,701	71,895	71,134	72,020	72,029	72,131	72,429	72,817	
Employment-population ratio ²	71.7	71.9	71.8	71.7	72.0	72.2	72.1	71.9	72.0	72.1	71.9	71.9	71.9	72.1	72.4	
Unemployed.....	4,209	3,791	3,751	3,869	3,786	3,737	3,768	3,761	3,736	3,733	3,733	3,565	3,685	3,492	3,356	
Unemployment rate.....	5.6	5.0	5.0	5.2	5.0	4.9	5.0	5.0	4.9	4.9	4.9	4.7	4.9	4.6	4.4	
Not in the labor force.....	23,649	24,113	24,261	24,184	24,035	23,945	24,026	24,314	24,272	24,151	24,372	24,625	24,505	24,498	24,347	
Women, 20 years and over																
Civilian noninstitutional population ¹	106,800	107,658	107,389	107,483	107,586	107,687	107,801	107,920	108,032	108,129	107,658	108,316	108,403	108,486	108,573	
Civilian labor force.....	64,716	64,923	64,776	64,803	64,989	65,085	64,909	65,008	65,126	65,244	65,260	65,318	65,270	65,051	65,420	
Participation rate.....	60.6	60.3	60.3	60.3	60.4	60.4	60.2	60.2	60.3	60.3	60.3	60.3	60.2	60.0	60.3	
Employed.....	61,402	61,773	61,591	61,723	61,731	61,902	61,877	61,939	62,024	62,145	62,208	62,295	62,202	62,099	62,384	
Employment-population ratio ²	57.5	57.4	57.4	57.4	57.4	57.5	57.4	57.4	57.4	57.5	57.5	57.5	57.4	57.2	57.5	
Unemployed.....	3,314	3,150	3,185	3,080	3,259	3,183	3,032	3,069	3,102	3,099	3,051	3,023	3,068	2,952	3,036	
Unemployment rate.....	5.1	4.9	4.9	4.8	5.0	4.9	4.7	4.7	4.8	4.7	4.7	4.6	4.7	4.5	4.6	
Not in the labor force.....	42,083	42,735	42,613	42,680	42,597	42,603	42,892	42,912	42,906	42,885	42,961	42,998	43,133	43,435	43,153	
Both sexes, 16 to 19 years																
Civilian noninstitutional population ¹	16,096	16,222	16,198	16,205	16,214	16,222	16,234	16,246	16,257	16,293	16,222	16,302	16,317	16,332	16,347	
Civilian labor force.....	7,170	7,114	7,104	7,120	7,036	7,172	7,152	7,062	7,165	7,202	7,189	7,066	7,046	7,185	7,168	
Participation rate.....	44.5	43.9	43.9	43.9	43.4	44.2	44.1	43.5	43.9	44.2	44.2	43.3	43.2	44.0	43.9	
Employed.....	5,919	5,907	5,897	5,896	5,853	5,907	5,934	5,887	5,908	6,014	5,927	5,917	5,811	5,973	5,897	
Employment-population ratio ²	36.8	36.4	36.4	36.4	36.1	36.4	36.6	36.2	36.3	36.9	36.4	36.3	35.6	36.6	36.1	
Unemployed.....	1,251	1,208	1,207	1,223	1,184	1,265	1,217	1,175	1,227	1,188	1,262	1,150	1,235	1,212	1,271	
Unemployment rate.....	17.5	17.0	17.0	17.2	16.8	17.6	17.0	16.6	17.2	16.5	17.6	16.3	17.5	16.9	17.7	
Not in the labor force.....	8,926	9,108	9,094	9,086	9,178	9,051	9,082	9,184	9,122	9,074	9,104	9,235	9,271	9,147	9,179	
White³																
Civilian noninstitutional population ¹	181,292	182,643	182,252	182,384	182,531	182,676	182,846	183,022	183,188	183,340	183,483	183,640	183,767	183,888	184,015	
Civilian labor force.....	120,546	121,686	120,713	120,997	121,212	121,383	121,278	120,995	121,273	121,606	121,509	121,553	121,621	121,484	121,961	
Participation rate.....	66.5	66.3	66.2	66.3	66.4	66.4	66.3	66.1	66.2	66.3	66.2	66.2	66.2	66.1	66.3	
Employed.....	114,235	115,239	114,779	115,006	115,199	115,610	115,526	115,318	115,618	115,966	115,910	116,158	116,022	116,135	116,574	
Employment-population ratio ²	63.0	63.1	63.0	63.1	63.1	63.3	63.2	63.0	63.1	63.3	63.2	63.3	63.1	63.2	63.4	
Unemployed.....	6,311	5,847	5,934	5,991	6,013	5,773	5,752	5,677	5,655	5,640	5,600	5,395	5,598	5,349	5,387	
Unemployment rate.....	5.2	4.8	4.9	5.0	5.0	4.8	4.7	4.7	4.7	4.6	4.6	4.4	4.6	4.4	4.4	
Not in the labor force.....	60,746	61,558	61,539	61,387	61,319	61,293	61,568	62,027	61,915	61,735	61,973	62,088	62,146	62,403	62,054	
Black or African American³																
Civilian noninstitutional population ¹	25,686	26,065	25,967	26,002	26,040	26,078	26,120	26,163	26,204	26,239	26,273	26,306	26,342	26,377	26,413	
Civilian labor force.....	16,526	16,638	16,505	16,480	16,521	16,775	16,721	16,711	16,820	16,728	16,713	16,721	16,708	16,741	16,940	
Participation rate.....	64.3	63.8	63.6	63.4	63.4	64.3	64.0	63.9	62.4	63.8	63.6	63.6	63.4	63.5	64.1	
Employed.....	14,739	14,909	14,893	14,837	14,825	14,937	14,972	14,981	15,012	14,913	14,907	14,946	14,890	15,025	15,184	
Employment-population ratio ²	57.4	57.2	57.4	57.1	56.9	57.3	57.3	57.3	57.3	56.8	56.7	56.8	56.5	57.0	57.5	
Unemployed.....	1,787	1,729	1,612	1,642	1,696	1,838	1,749	1,730	1,808	1,814	1,806	1,775	1,818	1,716	1,756	
Unemployment rate.....	10.8	10.4	9.8	10.0	10.3	11.0	10.5	10.4	10.7	10.8	10.8	10.6	10.9	10.3	10.4	
Not in the labor force.....	9,161	9,428	9,462	9,523	9,520	9,303	9,399	9,452	9,384	9,512	9,559	9,585	9,634	9,636	9,473	

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic or Latino ethnicity															
Civilian noninstitutional population ¹	27,551	28,109	27,879	27,968	28,059	28,150	28,243	28,338	28,431	28,520	28,608	28,642	28,729	28,815	28,902
Civilian labor force.....	18,813	19,272	19,081	19,297	19,302	19,432	19,463	19,444	19,524	19,552	19,544	19,379	19,458	19,541	19,665
Participation rate.....	68.3	68.6	68.4	69.0	68.8	69.0	68.9	68.6	68.7	68.6	68.3	67.7	67.7	67.8	68.0
Employed.....	17,372	17,930	17,724	17,959	18,013	18,102	18,128	18,079	18,213	18,238	18,252	18,198	18,211	18,425	18,412
Employment-population ratio ²	63.1	63.8	63.6	64.2	64.2	64.3	64.2	63.8	64.1	63.9	63.8	63.5	63.4	63.9	63.7
Unemployed.....	1,441	1,342	1,358	1,338	1,289	1,330	1,335	1,366	1,311	1,313	1,292	1,181	1,248	1,117	1,252
Unemployment rate.....	7.7	7.0	7.1	6.9	6.7	6.8	6.9	7.0	6.7	6.7	6.6	6.1	6.4	5.7	6.4
Not in the labor force.....	8,738	8,837	8,797	8,671	8,756	8,717	8,780	8,894	8,907	8,968	9,064	9,263	9,270	9,273	9,237

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Characteristic															
Employed, 16 years and over.....	137,736	139,252	138,645	138,846	139,158	139,639	139,658	139,527	139,827	140,293	140,156	140,241	140,144	140,501	141,099
Men.....	73,332	74,524	74,104	74,118	74,501	74,811	74,824	74,629	74,852	75,188	74,938	74,934	74,964	75,375	75,735
Women.....	64,404	64,728	64,541	64,728	64,658	64,828	64,834	64,898	64,975	65,104	65,218	65,307	65,180	65,127	65,364
Married men, spouse present.....	44,653	45,084	44,759	44,763	44,958	44,948	45,099	45,093	45,127	45,462	45,315	45,171	45,351	45,382	45,482
Married women, spouse present.....	34,695	34,600	34,375	34,536	34,487	34,607	34,494	34,704	34,808	34,961	34,878	34,739	34,601	34,307	34,539
Persons at work part time¹															
All industries:															
Part time for economic reasons.....	4,701	4,567	4,557	4,634	4,504	4,488	4,509	4,476	4,762	4,533	4,474	4,395	4,269	4,344	4,293
Slack work or business conditions.....	3,118	2,841	2,813	2,845	2,801	2,642	2,816	2,805	3,052	2,761	2,735	2,768	2,629	2,643	2,613
Could only find part-time work.....	1,279	1,409	1,431	1,449	1,400	1,472	1,403	1,312	1,385	1,420	1,440	1,329	1,296	1,419	1,363
Part time for noneconomic noneconomic reasons.....	19,014	19,380	19,130	19,570	19,564	19,737	19,657	19,410	19,704	19,499	19,502	19,089	19,555	19,458	19,584
Nonagricultural industries:															
Part time for economic reasons.....	4,596	4,469	4,451	4,567	4,423	4,390	4,408	4,400	4,656	4,404	4,382	4,303	4,153	4,268	4,186
Slack work or business conditions.....	3,052	2,773	2,747	2,801	2,753	2,580	2,722	2,750	2,971	2,685	2,682	2,702	2,572	2,592	2,540
Could only find part-time work.....	1,264	1,399	1,425	1,458	1,382	1,484	1,388	1,320	1,363	1,396	1,397	1,309	1,268	1,411	1,351
Part time for noneconomic reasons.....	18,658	19,026	18,844	19,145	19,123	19,327	19,204	19,061	19,288	19,141	19,176	18,765	19,254	19,182	19,226

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Characteristic															
Total, 16 years and older.....	6.0	5.5	5.5	5.6	5.6	5.5	5.4	5.4	5.5	5.4	5.4	5.2	5.4	5.2	5.2
Both sexes, 16 to 19 years.....	17.5	17.0	17.0	17.2	16.8	17.6	17.0	16.6	17.2	16.5	17.6	16.3	17.5	16.9	17.7
Men, 20 years and older.....	5.6	5.0	5.0	5.2	5.0	4.9	5.0	5.0	4.9	4.9	4.9	4.7	4.9	4.6	4.4
Women, 20 years and older.....	5.1	4.9	4.9	4.8	5.0	4.9	4.7	4.7	4.8	4.7	4.7	4.6	4.7	4.5	4.6
White, total ¹	5.2	4.8	4.9	5.0	5.0	4.8	4.7	4.7	4.7	4.6	4.6	4.4	4.6	4.4	4.4
Both sexes, 16 to 19 years.....	15.2	15.0	15.7	15.6	14.8	14.9	15.4	14.7	15.1	14.4	15.7	14.0	15.5	14.5	15.3
Men, 16 to 19 years.....	17.1	16.3	17.8	18.5	16.2	15.5	15.8	15.9	17.4	15.5	17.9	16.3	18.1	17.7	17.8
Women, 16 to 19 years.....	13.3	13.6	13.3	12.7	13.3	14.2	15.0	13.5	12.6	13.2	13.4	11.8	12.9	11.0	12.8
Men, 20 years and older.....	5.0	4.4	4.5	4.7	4.5	4.3	4.4	4.3	4.2	4.2	4.2	4.0	4.1	4.0	3.8
Women, 20 years and older.....	4.4	4.2	4.2	4.1	4.4	4.2	4.0	4.0	4.0	4.1	3.9	3.9	3.9	3.8	4.0
Black or African American, total ¹	10.8	10.4	9.8	10.0	10.3	11.0	10.5	10.4	10.7	10.8	10.8	10.6	10.9	10.3	10.4
Both sexes, 16 to 19 years.....	33.0	31.7	28.4	32.3	32.7	37.2	29.4	28.6	34.7	32.7	30.8	30.2	31.5	32.6	35.5
Men, 16 to 19 years.....	36.0	35.6	30.7	30.4	34.4	37.9	34.9	35.9	37.1	38.1	37.7	30.0	34.1	35.8	37.8
Women, 16 to 19 years.....	30.3	28.2	26.4	33.9	31.2	36.6	24.2	21.1	32.4	27.0	24.0	30.5	28.6	29.2	32.8
Men, 20 years and older.....	10.3	9.9	9.3	9.4	9.5	10.3	10.4	10.2	10.2	10.5	10.7	10.4	10.9	9.2	9.3
Women, 20 years and older.....	9.2	8.9	8.6	8.4	9.0	9.1	8.7	8.9	8.9	9.0	9.1	8.9	9.1	8.9	8.8
Hispanic or Latino ethnicity.....	7.7	7.0	7.1	6.9	6.7	6.8	6.9	7.0	6.7	6.7	6.6	6.1	6.4	5.7	6.4
Married men, spouse present.....	3.8	3.1	3.1	3.1	3.2	3.2	3.1	3.0	3.0	3.1	3.1	3.1	3.0	3.0	2.7
Married women, spouse present.....	3.7	3.5	3.7	3.3	3.7	3.5	3.5	3.1	3.1	3.4	3.4	3.2	3.2	3.0	3.3
Full-time workers.....	6.1	5.6	5.6	5.7	5.6	5.6	5.5	5.5	5.4	5.4	5.4	5.2	5.4	5.1	5.1
Part-time workers.....	5.5	5.3	5.3	5.2	5.5	5.2	5.2	5.0	5.5	5.4	5.4	5.3	5.4	5.4	5.3
Educational attainment²															
Less than a high school diploma.....	8.8	8.5	8.7	8.7	8.7	8.3	8.2	8.9	8.2	8.0	8.3	7.5	7.8	7.8	8.4
High school graduates, no college ³	5.5	5.0	5.2	5.0	5.1	5.0	4.9	4.8	4.9	4.9	4.9	4.7	4.9	4.7	4.4
Some college or associate degree.....	4.8	4.2	4.1	4.0	4.2	4.2	4.1	4.0	4.2	4.3	4.3	4.1	4.2	4.0	3.9
Bachelor's degree and higher ⁴	3.1	2.7	2.9	2.9	2.7	2.7	2.7	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.5

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.

³ Includes high school diploma or equivalent.

⁴ Includes persons with bachelor's, master's, professional, and doctoral degrees.

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

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks.....	2,785	2,696	2,772	2,731	2,715	2,803	2,605	2,796	2,753	2,611	2,865	2,599	2,755	2,531	2,666
5 to 14 weeks.....	2,612	2,382	2,370	2,376	2,397	2,458	2,521	2,251	2,290	2,361	2,264	2,343	2,317	2,319	2,268
15 weeks and over.....	3,378	3,072	2,956	3,059	3,051	2,885	2,924	2,971	3,032	3,012	2,961	2,824	2,888	2,817	2,698
15 to 26 weeks.....	1,442	1,293	1,165	1,277	1,294	1,198	1,243	1,227	1,261	1,294	1,325	1,201	1,255	1,165	1,093
27 weeks and over.....	1,936	1,779	1,791	1,783	1,757	1,686	1,681	1,744	1,771	1,718	1,636	1,623	1,633	1,652	1,615
Mean duration, in weeks.....	19.2	19.6	19.7	19.8	19.8	18.5	19.2	19.6	19.7	19.8	19.3	19.3	19.1	19.5	19.6
Median duration, in weeks.....	10.1	9.8	9.4	9.9	10.8	8.9	9.5	9.5	9.5	9.8	9.5	9.4	9.3	9.3	8.9

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers ¹	4,838	4,197	4,322	4,190	4,117	4,228	3,978	4,014	4,074	4,066	4,108	4,048	3,980	3,784	3,675
On temporary layoff.....	1,121	998	993	920	1,009	1,068	971	919	947	941	965	966	965	961	838
Not on temporary layoff.....	3,717	3,199	3,329	3,270	3,108	3,160	3,007	3,094	3,127	3,124	3,144	3,082	3,015	2,823	2,837
Job leavers.....	818	858	835	855	909	896	885	830	829	880	898	819	965	855	897
Reentrants.....	2,477	2,408	2,310	2,437	2,426	2,333	2,440	2,417	2,411	2,388	2,361	2,324	2,405	2,364	2,356
New entrants.....	641	686	650	723	642	686	699	697	747	723	709	624	745	711	747
Percent of unemployed															
Job losers ¹	55.1	51.5	53.2	51.1	50.9	51.9	49.7	50.4	50.5	5.1	50.9	51.8	49.2	49.1	47.9
On temporary layoff.....	12.8	12.2	12.2	11.2	12.5	13.1	12.1	11.6	11.8	11.7	11.9	12.4	11.9	12.5	10.9
Not on temporary layoff.....	42.4	39.3	41.0	39.3	38.4	38.8	37.6	38.9	38.8	38.8	38.9	39.4	37.2	36.6	37.0
Job leavers.....	9.3	10.5	10.3	10.4	11.2	11.0	11.1	10.4	10.3	10.9	11.1	10.5	11.9	11.1	11.7
Reentrants.....	28.2	29.5	28.5	29.7	30.0	28.6	30.5	30.4	29.9	29.6	29.2	29.7	29.7	30.6	30.7
New entrants.....	7.3	8.4	8.0	8.8	7.9	8.4	8.7	8.8	9.3	9.0	8.8	8.0	9.2	9.2	9.7
Percent of civilian labor force															
Job losers ¹	3.3	2.8	2.9	2.8	2.8	2.9	2.7	2.7	2.8	2.7	2.8	2.7	2.7	2.6	2.5
Job leavers.....	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.6	.6
Reentrants.....	1.7	1.6	1.6	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
New entrants.....	.4	.5	.4	.5	.4	.5	.5	.5	.5	.5	.5	.4	.5	.5	.5

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and older.....	6.0	5.5	5.5	5.6	5.6	5.5	5.4	5.4	5.5	5.4	5.4	5.2	5.4	5.2	5.2
16 to 24 years.....	12.4	11.8	11.7	12.1	12.0	11.9	11.6	11.8	12.2	11.5	11.7	11.7	12.4	11.6	11.8
16 to 19 years.....	17.5	17.0	17.0	17.2	16.8	17.6	17.0	16.6	17.2	16.5	17.6	16.3	17.5	16.9	17.7
16 to 17 years.....	19.1	20.2	20.5	21.5	20.5	20.3	20.7	19.6	20.6	21.2	20.6	19.3	20.6	19.4	19.9
18 to 19 years.....	16.4	15.0	14.7	14.7	14.4	16.1	14.9	14.9	15.2	13.5	15.4	14.4	15.5	15.0	16.9
20 to 24 years.....	10.0	9.4	9.2	9.7	9.7	9.2	9.0	9.5	9.8	9.2	8.9	9.5	10.0	9.0	8.9
25 years and older.....	4.8	4.4	4.5	4.4	4.5	4.4	4.3	4.3	4.3	4.3	4.3	4.1	4.2	4.0	4.0
25 to 54 years.....	5.0	4.6	4.6	4.5	4.5	4.6	4.4	4.4	4.4	4.4	4.4	4.5	4.2	4.3	4.2
55 years and older.....	4.1	3.7	3.8	3.9	3.9	3.7	3.7	3.7	3.8	3.7	3.5	3.5	3.6	3.5	3.5
Men, 16 years and older.....	6.3	5.6	5.7	5.8	5.6	5.5	5.6	5.6	5.6	5.5	5.6	5.3	5.6	5.3	5.1
16 to 24 years.....	13.4	12.6	12.9	13.0	12.7	12.2	12.5	12.9	13.0	12.4	12.5	12.7	14.1	12.9	13.0
16 to 19 years.....	19.3	18.4	19.2	19.0	18.0	17.8	18.1	18.2	19.2	18.2	20.3	18.2	20.4	19.9	20.4
16 to 17 years.....	20.7	22.0	23.3	23.2	22.3	21.2	21.9	20.6	22.1	23.0	24.3	22.0	25.0	22.9	22.2
18 to 19 years.....	18.4	16.3	16.6	16.6	15.9	15.9	16.1	16.8	17.7	14.8	17.8	16.1	17.7	17.5	19.9
20 to 24 years.....	10.6	10.1	10.0	10.3	10.4	9.7	10.0	10.5	10.2	9.8	9.0	10.2	11.3	9.7	9.5
25 years and older.....	5.0	4.4	4.4	4.6	4.4	4.4	4.4	4.3	4.3	4.3	4.4	4.0	4.1	4.0	3.8
25 to 54 years.....	5.2	4.6	4.5	4.7	4.4	4.5	4.5	4.4	4.4	4.4	4.6	4.1	4.2	4.1	3.9
55 years and older.....	4.4	3.9	3.9	4.1	4.3	3.8	4.0	3.9	4.1	3.7	3.5	3.9	3.7	3.6	3.5
Women, 16 years and older.....	5.7	5.4	5.4	5.3	5.6	5.5	5.2	5.2	5.3	5.2	5.2	5.1	5.2	5.0	5.2
16 to 24 years.....	11.4	11.0	10.4	11.1	11.2	11.6	10.6	10.6	11.3	10.5	10.8	10.5	10.6	10.1	10.4
16 to 19 years.....	15.6	15.5	14.7	15.4	15.6	17.5	15.9	15.0	15.1	14.6	14.8	14.3	14.6	13.7	14.9
16 to 17 years.....	17.5	18.5	17.9	20.1	18.9	19.5	19.7	18.6	19.0	19.3	17.2	16.8	16.5	15.8	17.5
18 to 19 years.....	14.2	13.5	12.5	12.7	12.7	16.4	13.5	12.8	12.5	12.1	12.9	12.7	13.2	12.2	13.9
20 to 24 years.....	9.3	8.7	8.3	9.0	9.0	8.7	7.9	8.4	9.4	8.5	8.9	8.7	8.6	8.3	8.2
25 years and older.....	4.6	4.4	4.5	4.2	4.5	4.4	4.3	4.3	4.2	4.3	4.2	4.1	4.2	4.0	4.2
25 to 54 years.....	4.8	4.6	4.7	4.4	4.7	4.7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.4
55 years and older ¹	3.7	3.6	3.3	3.3	3.8	3.8	3.9	3.5	3.3	3.6	3.2	3.3	3.5	3.2	3.2

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	Mar. 2004	Feb. 2005	Mar. 2005	State	Mar. 2004	Feb. 2005	Mar. 2005
Alabama.....	5.7	5.2	4.7	Missouri.....	5.4	5.8	5.7
Alaska.....	7.5	7.2	6.6	Montana.....	4.4	4.5	4.6
Arizona.....	5.1	4.4	4.7	Nebraska.....	3.8	3.9	4.0
Arkansas.....	5.7	5.5	5.2	Nevada.....	4.6	3.9	3.9
California.....	6.4	5.8	5.4	New Hampshire.....	4.1	3.8	3.7
Colorado.....	5.6	4.9	5.1	New Jersey.....	5.2	4.4	4.3
Connecticut.....	5.1	4.8	4.9	New Mexico.....	5.8	5.6	5.9
Delaware.....	4.0	4.1	3.9	New York.....	6.1	5.1	4.6
District of Columbia.....	7.7	8.1	7.8	North Carolina.....	5.7	5.4	5.2
Florida.....	4.8	4.6	4.4	North Dakota.....	3.4	3.3	3.3
Georgia.....	4.3	5.1	5.0	Ohio.....	6.1	6.4	6.3
Hawaii.....	3.6	3.0	2.8	Oklahoma.....	5.0	4.3	4.4
Idaho.....	5.0	4.1	4.2	Oregon.....	7.6	6.5	6.1
Illinois.....	6.4	5.9	5.6	Pennsylvania.....	5.5	5.3	5.4
Indiana.....	5.2	5.7	5.6	Rhode Island.....	5.4	4.4	4.5
Iowa.....	4.7	5.1	5.1	South Carolina.....	6.7	7.1	6.7
Kansas.....	5.6	5.4	5.4	South Dakota.....	3.6	3.7	3.7
Kentucky.....	5.7	5.2	5.3	Tennessee.....	5.4	5.9	5.8
Louisiana.....	5.5	6.0	5.3	Texas.....	6.2	6.0	5.6
Maine.....	4.6	4.6	4.7	Utah.....	5.3	4.8	4.8
Maryland.....	4.1	4.2	4.3	Vermont.....	4.0	3.5	3.4
Massachusetts.....	5.4	4.9	4.9	Virginia.....	3.7	3.3	3.3
Michigan.....	7.1	7.4	6.9	Washington.....	6.5	5.5	5.2
Minnesota.....	5.0	4.2	4.4	West Virginia.....	5.4	5.0	5.2
Mississippi.....	5.2	6.8	7.0	Wisconsin.....	5.3	4.9	4.6
				Wyoming.....	3.6	2.9	3.1

P = preliminary

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

State	Mar. 2004	Feb. 2005	Mar. 2005	State	Mar. 2004	Feb. 2005	Mar. 2005
Alabama.....	2,143,207	2,161,746	2,153,150	Missouri.....	3,019,555	3,024,179	3,016,881
Alaska.....	331,738	336,367	336,833	Montana.....	479,666	488,716	490,247
Arizona.....	2,755,301	2,803,959	2,810,730	Nebraska.....	981,670	990,858	990,127
Arkansas.....	1,296,314	1,325,679	1,327,837	Nevada.....	1,168,685	1,202,444	1,207,926
California.....	17,478,356	17,742,274	17,656,815	New Hampshire.....	721,526	727,241	729,623
Colorado.....	2,505,450	2,542,845	2,543,820	New Jersey.....	4,383,748	4,398,477	4,396,279
Connecticut.....	1,801,209	1,776,732	1,789,618	New Mexico.....	907,508	930,008	935,178
Delaware.....	422,289	426,313	426,866	New York.....	9,342,255	9,386,310	9,331,794
District of Columbia.....	298,624	306,282	303,350	North Carolina.....	4,244,601	4,281,480	4,286,131
Florida.....	8,335,053	8,564,633	8,560,910	North Dakota.....	353,046	356,551	356,230
Georgia.....	4,361,479	4,448,731	4,456,654	Ohio.....	5,878,044	5,918,703	5,923,898
Hawaii.....	614,769	627,795	626,179	Oklahoma.....	1,708,650	1,723,722	1,720,072
Idaho.....	699,913	724,214	725,376	Oregon.....	1,853,158	1,866,511	1,863,090
Illinois.....	6,380,895	6,465,391	6,448,951	Pennsylvania.....	6,244,806	6,333,481	6,336,022
Indiana.....	3,169,863	3,202,239	3,206,971	Rhode Island.....	562,739	561,746	564,027
Iowa.....	1,621,332	1,636,426	1,643,096	South Carolina.....	2,035,925	2,076,128	2,070,732
Kansas.....	146,094	146,353	1,465,613	South Dakota.....	427,337	430,258	429,917
Kentucky.....	1,979,803	1,980,779	1,983,259	Tennessee.....	2,917,190	2,924,013	2,902,034
Louisiana.....	2,049,645	2,094,263	2,081,643	Texas.....	10,995,767	11,164,843	11,144,714
Maine.....	696,056	701,394	701,658	Utah.....	1,199,198	1,219,979	1,224,262
Maryland.....	2,878,775	2,896,321	2,899,401	Vermont.....	353,313	353,340	352,673
Massachusetts.....	3,397,787	3,377,045	3,369,587	Virginia.....	3,798,642	3,856,856	3,861,448
Michigan.....	5,073,535	5,110,604	5,099,411	Washington.....	3,217,080	3,260,271	3,253,606
Minnesota.....	2,938,851	2,967,413	2,970,372	West Virginia.....	789,355	790,579	797,866
Mississippi.....	1,319,520	1,343,376	1,343,373	Wisconsin.....	3,075,803	3,071,111	3,051,571
				Wyoming.....	279,264	283,157	283,436

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

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

[In thousands]

Industry	Annual average		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL NONFARM.....	129,999	131,480	131,123	131,373	131,479	131,562	131,750	131,880	132,162	132,294	132,449	132,573	132,873	133,019	133,293
TOTAL PRIVATE.....	108,416	109,862	109,516	109,787	109,908	109,976	110,105	110,203	110,462	110,588	110,749	110,863	111,140	111,287	111,543
GOODS-PRODUCING.....	21,816	21,884	21,825	21,888	21,890	21,902	21,946	21,947	21,982	21,996	22,022	22,004	22,066	22,095	22,140
Natural resources and mining.....	572	591	589	592	591	596	595	597	595	599	602	607	602	619	623
Logging.....	69.4	67.8	69.8	68.9	67.6	67.4	67.5	68.0	67.0	66.9	67.9	68.0	67.3	69.2	64.7
Mining.....	502.7	523.2	519.2	523.3	523.8	528.9	527.8	528.5	527.7	532.5	534.4	538.7	545.0	550.1	558.2
Oil and gas extraction.....	120.2	123.1	122.5	123.7	123.2	123.2	123.8	124.0	123.6	124.4	124.1	123.4	122.5	123.5	124.0
Mining, except oil and gas ¹	202.7	207.1	204.8	207.1	208.1	211.8	209.1	208.5	208.4	210.7	211.3	212.9	215.5	215.6	218.0
Coal mining.....	70.0	71.7	70.4	71.3	72.0	73.5	73.1	72.9	72.7	73.7	73.9	75.4	76.1	76.1	76.7
Support activities for mining.....	179.8	193.1	191.9	192.5	192.5	193.9	194.9	196.0	195.7	197.4	199.0	202.4	207.0	211.0	216.2
Construction.....	6,735	6,964	6,913	6,949	6,955	6,965	6,985	6,998	7,043	7,060	7,086	7,090	7,133	7,162	7,209
Construction of buildings.....	1,575.8	1,632.2	1,608.7	1,623.1	1,626.7	1,632.2	1,636.3	1,647.8	1,663.0	1,668.3	1,678.9	1,682.4	1,689.2	1,694.3	1,693.4
Heavy and civil engineering.....	903.1	902.5	903.2	903.0	899.8	899.7	901.1	902.1	904.1	906.4	907.8	908.2	911.7	916.6	924.9
Specialty trade contractors.....	4,255.7	4,429.7	4,401.5	4,423.3	4,428.6	4,433.1	4,447.6	4,447.8	4,476.1	4,484.8	4,499.2	4,499.6	4,531.8	4,550.7	4,591.0
Manufacturing.....	14,510	14,329	14,323	14,347	14,344	14,341	14,366	14,352	14,344	14,337	14,334	14,307	14,321	14,314	14,308
Durable goods.....	10,190	10,083	10,064	10,093	10,095	10,102	10,131	10,117	10,111	10,104	10,097	10,082	10,085	10,085	10,076
Production workers.....	8,963	8,923	8,902	8,925	8,931	8,926	8,965	8,957	8,960	8,954	8,957	8,942	8,962	8,957	8,959
Production workers.....	6,152	6,137	6,114	6,138	6,147	6,144	6,180	6,172	6,172	6,166	6,170	6,166	6,178	6,181	6,184
Wood products.....	537.6	548.4	544.9	547.9	549	550	551.7	550.1	554.5	553.3	555.2	554.7	553.6	555.3	552.7
Nonmetallic mineral products.....	494.2	504.8	501.6	506.3	507.4	507.9	507.6	508.8	509.1	507.9	506.5	504.5	504.0	502.5	505.8
Primary metals.....	477.4	465.9	464.8	466.1	467.4	468.4	467.4	466.4	466.0	465.8	465.2	465.5	466.9	467.1	467.7
Fabricated metal products.....	1,506.8	1,470.3	1,488.6	1,496.5	1,498.3	1,502.6	1,506.8	1,508.5	1,511.5	1,510.9	1,512.8	1,514.3	1,514.1	1,516.8	1,517.3
Machinery.....	1,149.4	1,141.5	1,139.0	1,140.0	1,142.7	1,146.8	1,151.5	1,148.7	1,147.3	1,147.4	1,146.0	1,145.9	1,148.0	1,151.2	1,153.2
Computer and electronic products ¹	1,355.2	1,326.2	1,322.6	1,327.1	1,327.4	1,332.8	1,334.0	1,332.5	1,329.8	1,327.1	1,325.8	1,327.0	1,327.5	1,326.5	1,329.1
Computer and peripheral equipment.....	224.0	212.1	213.1	213.7	212.2	211.4	212.4	211.9	209.7	209.3	210.4	210.2	211.2	211.2	212.1
Communications equipment.....	154.9	150.5	148.5	148.9	150.1	151.3	151.6	151.0	150.7	152.7	153.7	155.1	154.5	153.7	153.8
Semiconductors and electronic components.....	461.1	452.8	451.2	453.3	455.2	457.9	457.4	457.0	454.9	451.9	448.0	447.4	447.1	447.1	446.9
Electronic instruments.....	429.7	431.8	429.1	431.1	431.2	433.9	434.2	434.6	437.0	435.6	435.7	436.4	436.4	436.4	437.6
Electrical equipment and appliances.....	459.6	446.8	445.8	446.1	446.8	447.3	447.7	447.0	445.1	447.4	445.8	445.1	445.3	445.3	446.3
Transportation equipment.....	1,774.1	1,763.5	1,765.1	1,763.6	1,762.2	1,739.1	1,769.5	1,768.5	1,771.0	1,767.2	1,771.9	1,760.1	1,781.8	1,776.1	1,778.7
Furniture and related products.....	572.9	572.7	574.1	574.5	573.6	574.0	573.3	572.1	571.3	572.2	571.7	570.3	567.5	565.5	559.9
Miscellaneous manufacturing.....	663.3	655.5	655.6	656.4	656.4	658.0	655.2	654.5	654.1	654.7	656.4	654.3	653.5	650.9	648.9
Nondurable goods.....	5,547	5,406	5,421	5,422	5,413	5,415	5,401	5,395	5,384	5,383	5,377	5,365	5,359	5,357	5,349
Production workers.....	4,038	3,945	3,950	3,955	3,948	3,958	3,951	3,945	3,939	3,938	3,927	3,916	3,907	3,904	3,892
Food manufacturing.....	1,517.5	1,497.4	1,500.5	1,501.8	1,498.6	1,504.6	1,497.0	1,494.3	1,493.5	1,493.6	1,498.8	1,494.3	1,493.2	1,494.1	1,490.1
Beverages and tobacco products.....	199.6	194.3	194.3	194.0	194.4	194.2	193.4	194.9	192.9	195.1	193.0	192.2	192.5	191.4	190.9
Textile mills.....	261.3	238.5	239.7	239.7	239.3	238.8	238.1	237.3	236.5	235.0	233.2	231.5	230.1	228.7	227.0
Textile product mills.....	179.3	177.7	179.1	180.2	178.5	178.2	177.6	177.8	178.1	178.4	178.0	178.1	177.9	177.7	177.9
Apparel.....	312.3	284.8	291.8	289.1	285.9	283.2	282.6	281.0	276.1	273.4	271.9	269.3	267.2	263.4	261.6
Leather and allied products.....	44.5	42.9	42.6	42.8	42.6	42.5	42.5	42.7	42.8	43.4	43.1	43.1	43.2	43.2	43.2
Paper and paper products.....	516.2	499.1	499.0	498.9	496.7	499.2	500.6	499.3	499.4	498.1	497.9	499.9	500.2	501.7	498.3
Printing and related support activities.....	680.5	665.0	665.7	667.2	668.3	665.2	663.9	661.6	661.0	661.3	660.8	659.6	659.2	659.1	659.5
Petroleum and coal products.....	114.3	112.8	111.4	112.3	112.9	112.8	113.2	113.2	113.3	113.6	113.8	114.5	115.1	114.8	116.2
Chemicals.....	906.1	887.0	890.8	889.0	888.8	887.7	885.8	885.5	884.5	882.4	880.5	877.1	876.4	878.7	877.5
Plastics and rubber products.....	815.4	806.6	805.9	807.3	807.1	808.9	806.6	807.1	806.3	808.6	806.2	804.9	804.1	806.5	806.4
SERVICE-PROVIDING.....	108,182	109,596	109,298	109,485	109,589	109,660	109,804	109,933	110,180	110,298	110,427	110,569	110,807	110,924	111,153
PRIVATE SERVICE-PROVIDING.....	86,599	87,978	87,691	87,899	88,018	88,074	88,159	88,256	88,480	88,592	88,727	88,859	89,074	89,192	89,403
Trade, transportation, and utilities.....	25,287	25,510	25,481	25,511	25,536	25,536	25,537	25,555	25,581	25,621	25,620	25,652	25,714	25,735	25,774
Wholesale trade.....	5,607.5	5,654.9	5,648.2	5,651.4	5,653.4	5,660.2	5,662.9	5,672.4	5,674.7	5,680.0	5,683.6	5,679.9	5,688.7	5,702.9	5,707.7
Durable goods.....	2,940.6	2,949.1	2,941.3	2,942.9	2,948.4	2,955.3	2,957.8	2,960.2	2,962.3	2,960.4	2,964.5	2,965.6	2,974.4	2,974.6	2,974.6
Nondurable goods.....	2,004.6	2,007.1	2,009.1	2,010.6	2,006.6	2,004.0	2,004.0	2,008.1	2,009.1	2,012.6	2,009.9	2,005.4	2,006.9	2,013.0	2,014.2
Electronic markets and agents and brokers.....	662.2	698.8	697.8	697.9	698.4	700.9	701.1	704.1	703.3	707.0	709.2	708.9	713.1	715.5	718.9
Retail trade.....	14,917.3	15,034.7	15,038.0	15,052.3	15,060.5	15,048.2	15,043.3	15,037.7	15,056.5	15,081.4	15,077.0	15,081.2	15,125.4	15,123.3	15,147.7
Motor vehicles and parts dealers ¹	1,882.9	1,901.2	1,906.6	1,906.9	1,904.1	1,904.4	1,899.8	1,898.4	1,896.4	1,901.2	1,905.9	1,907.4	1,911.2	1,913.4	1,916.5
Automobile dealers.....	1,254.4	1,254.2	1,260.3	1,258.5	1,257.1	1,254.1	1,251.2	1,247.3	1,245.0	1,247.6	1,249.1	1,247.9	1,248.8	1,251.2	1,254.2
Furniture and home furnishings stores.....	547.3	560.2	558.1	558.7	559.1	559.8	561.6	561.9	562.3	565.6	563.7	562.1	562.6	562.3	565.2
Electronics and appliance stores.....	512.2	514.4	514.9	514.3	514.1	513.4	512.0	513.6	520.2	520.3	516.5	516.1	515.1	516.5	514.8

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
Building material and garden supply stores.....	1,185.0	1,226.0	1,224.7	1,227.9	1,223.8	1,224.7	1,228.1	1,232.5	1,236.3	1,240.4	1,243.5	1,248.0	1,264.8	1,263.2	1,263.8
Food and beverage stores.....	2,383.4	2,826.3	2,830.8	2,835.8	2,832.6	2,828.5	2,826.2	2,827.1	2,830.2	2,822.7	2,819.8	2,826.0	2,826.6	2,826.5	2,828.8
Health and personal care stores.....	938.1	941.7	941.6	941.2	941.3	941.0	941.0	942.1	941.6	944.5	946.6	944.8	949.7	947.9	954.1
Gasoline stations.....	882.0	877.1	879.3	879.1	877.5	876.6	876.5	878.0	877.0	873.7	871.3	872.9	874.6	874.6	874.4
Clothing and clothing accessories stores.....	1,304.5	1,361.8	1,352.1	1,357.5	1,367.6	1,369.5	1,374.4	1,371.9	1,376.0	1,377.9	1,381.3	1,375.5	1,380.5	1,381.8	1,384.4
Sporting goods, hobby, book, and music stores.....	646.5	639.2	639.8	639.7	639.4	638.9	639.0	638.7	638.0	639.0	635.8	637.7	636.2	635.8	637.0
General merchandise stores1..	2,822.4	2,843.5	2,847.7	2,848.4	2,856.4	2,848.0	2,842.5	2,832.9	2,835.2	2,854.9	2,852.9	2,853.5	2,864.1	2,862.5	2,867.2
Department stores.....	1,620.6	1,612.5	1,613.6	1,614.2	1,618.0	1,616.1	1,611.4	1,603.3	1,604.2	1,619.1	1,619.3	1,619.1	1,625.7	1,623.8	1,625.9
Miscellaneous store retailers...	930.7	918.6	916.8	917.0	919.2	918.8	918.9	917.0	920.5	917.4	918.2	918.7	919.9	919.2	919.2
Nonstore retailers.....	427.3	424.8	425.6	425.8	425.4	424.6	423.3	423.6	422.8	423.8	421.5	418.5	420.1	419.6	422.3
Transportation and warehousing.....	4,185.4	4,250.0	4,223.5	4,236.3	4,250.9	4,257.0	4,260.4	4,274.1	4,279.6	4,289.6	4,288.0	4,316.0	4,324.1	4,334.1	4,345.8
Air transportation.....	528.3	514.8	516.0	516.7	517.0	516.3	515.0	513.8	514.2	514.6	512.3	509.4	507.9	507.1	502.4
Rail transportation.....	217.7	224.1	223.5	223.7	224.7	225.0	224.6	225.5	225.4	224.6	224.0	224.4	223.9	223.7	223.5
Water transportation.....	54.5	57.2	57.2	57.3	58.2	58.1	56.7	57.2	57.7	57.8	58.6	59.8	60.0	60.7	60.4
Truck transportation.....	1,325.6	1,350.7	1,343.8	1,346.3	1,352.2	1,352.5	1,352.5	1,358.5	1,356.0	1,358.9	1,366.5	1,372.6	1,378.0	1,382.9	1,390.6
Transit and ground passenger transportation.....	382.2	385.5	377.4	386.3	381.6	383.2	386.2	388.3	389.3	389.4	391.0	391.7	391.0	388.5	392.7
Pipeline transportation.....	40.2	38.8	38.6	38.8	38.9	39.0	38.9	39.0	38.9	39.0	38.7	39.3	39.4	39.5	39.7
Scenic and sightseeing transportation.....	26.6	26.7	26.8	27.0	27.4	26.3	27.7	27.8	25.6	26.1	26.6	24.2	24.9	26.5	27.0
Support activities for transportation.....	520.3	535.6	532.0	532.6	534.3	535.5	536.9	537.7	539.9	544.6	547.0	549.3	551.5	554.2	553.7
Couriers and messengers.....	561.7	560.5	562.5	557.0	562.1	563.1	562.6	563.8	564.4	568.7	556.4	577.5	577.6	580.0	583.8
Warehousing and storage.....	528.3	556.0	552.0	550.6	554.5	558.0	559.3	562.5	568.2	565.9	566.9	567.8	569.9	571.0	572.0
Utilities.....	577.0	570.2	571.0	571.1	570.8	570.9	570.1	571.1	570.3	570.2	571.3	574.7	576.0	575.0	573.1
Information.....	3,188	3,138	3,142	3,146	3,151	3,144	3,135	3,127	3,131	3,133	3,127	3,123	3,127	3,135	3,147
Publishing industries, except Internet.....	924.8	909.8	911.0	911.1	911.9	909.6	909.3	909.2	908.1	908.9	905.7	905.0	905.6	906.5	903.7
Motion picture and sound recording industries.....	376.2	389.0	386.7	392.3	395.5	394.4	389.3	389.7	395.3	390.6	384.8	380.3	380.9	388.2	397.6
Broadcasting, except Internet.....	324.3	326.6	324.4	326.3	326.5	327.2	327.8	328.1	329.5	329.7	329.7	331.3	330.4	330.7	329.9
Internet publishing and broadcasting.....	29.2	31.3	30.0	30.6	31.5	31.4	31.7	32.0	33.0	33.6	34.0	34.8	34.6	34.8	34.9
Telecommunications.....	1,082.3	1,042.5	1,050.9	1,046.6	1,044.0	1,041.9	1,037.1	1,028.4	1,024.8	1,030.0	1,031.5	1,030.8	1,032.2	1,031.5	1,038.2
ISPs, search portals, and data processing.....	402.4	388.1	387.2	388.2	389.9	388.6	387.6	387.6	389.2	389.5	390.4	389.9	392.6	392.8	392.0
Other information services.....	48.7	50.9	51.3	51.3	51.6	51.3	51.7	51.5	50.9	50.7	50.7	51.0	50.9	50.7	50.3
Financial activities.....	7,977	8,052	8,021	8,037	8,051	8,043	8,058	8,083	8,093	8,107	8,128	8,150	8,165	8,171	8,188
Finance and insurance.....	5,922.6	5,965.6	5,948.4	5,956.0	5,965.6	5,958.6	5,970.2	5,982.1	5,994.1	6,001.3	6,014.5	6,030.9	6,037.6	6,039.7	6,048.2
Monetary authorities—central bank.....	22.6	21.6	22.1	21.6	21.6	21.5	21.6	21.5	21.3	20.9	20.6	20.5	20.4	20.4	20.3
Credit intermediation and related activities ¹	2,792.4	2,832.3	2,823.3	2,826.3	2,833.7	2,829.2	2,833.4	2,841.0	2,847.9	2,859.2	2,871.9	2,882.7	2,891.0	2,896.9	2,901.1
Depository credit intermediation ¹	1,748.5	1,761.2	1,756.5	1,758.2	1,762.1	1,760.6	1,763.0	1,765.1	1,768.1	1,773.3	1,778.8	1,785.6	1,790.3	1,793.2	1,794.3
Commercial banking.....	1,280.1	1,285.3	1,284.4	1,284.6	1,286.3	1,283.9	1,283.5	1,286.4	1,288.3	1,293.1	1,296.8	1,301.6	1,305.5	1,307.5	1,307.1
Securities, commodity contracts, investments.....	757.7	766.8	759.2	761.9	765.1	766.3	769.9	772.3	777.3	776.9	779.7	782.5	784.8	786.9	790.4
Insurance carriers and related activities.....	2,266.0	2,260.3	2,258.2	2,261.6	2,260.9	2,257.0	2,261.0	2,263.3	2,264.1	2,260.4	2,258.1	2,259.6	2,256.7	2,251.0	2,252.7
Funds, trusts, and other financial vehicles.....	83.9	84.7	85.6	84.6	84.3	84.6	84.3	84.0	83.5	83.9	84.2	85.6	84.7	84.5	83.7
Real estate and rental and leasing.....	2,053.9	2,086.2	2,072.2	2,081.1	2,085.7	2,084.6	2,088.2	2,101.3	2,099.2	2,105.5	2,113.6	2,119.0	2,127.2	2,131.2	2,140.0
Real estate.....	1,383.6	1,417.0	1,406.2	1,413.8	1,415.7	1,416.7	1,420.0	1,429.1	1,428.6	1,434.7	1,437.8	1,439.7	1,443.8	1,446.2	1,450.1
Rental and leasing services....	643.1	643.9	640.6	642.0	645.0	643.0	643.3	647.6	646.3	646.0	650.9	654.1	658.3	660.0	664.1
Lessors of nonfinancial intangible assets.....	27.3	25.4	25.4	25.3	25.0	24.9	24.9	24.6	24.3	24.8	24.9	25.2	25.1	25.0	25.8
Professional and business services.....	15,987	16,414	16,305	16,384	16,415	16,453	16,470	16,514	16,614	16,611	16,674	16,694	16,775	16,807	16,843
Professional and technical services ²	6,629.5	6,762.0	6,712.2	6,730.0	6,754.0	6,765.1	6,779.7	6,805.4	6,835.3	6,834.4	6,869.9	6,882.1	6,902.7	6,913.7	6,931.5
Legal services.....	1,142.1	1,161.8	1,158.6	1,160.0	1,163.5	1,165.0	1,163.6	1,166.8	1,167.4	1,163.1	1,164.4	1,160.8	1,161.2	1,161.9	1,162.9
Accounting and bookkeeping services.....	815.3	816.0	811.6	810.7	810.5	813.9	814.2	816.1	821.5	816.6	840.8	858.1	858.1	861.6	865.1
Architectural and engineering services.....	1,226.9	1,260.8	1,249.4	1,254.6	1,258.7	1,262.0	1,264.4	1,270.5	1,280.5	1,284.9	1,289.5	1,286.9	1,292.0	1,295.2	1,298.1

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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
Computer systems design and related services.....	1,116.6	1,147.4	1,127.7	1,134.0	1,142.3	1,145.9	1,155.0	1,161.1	1,167.3	1,174.1	1,174.3	1,171.8	1,174.2	1,176.0	1,177.1
Management and technical consulting services.....	744.9	779.0	772.9	778.2	783.6	784.7	786.9	787.9	790.5	787.8	789.9	789.3	793.7	796.0	799.4
Management of companies and enterprises.....	1,687.2	1,718.0	1,717.6	1,719.8	1,722.6	1,723.7	1,720.7	1,715.0	1,715.3	1,722.5	1,725.6	1,730.7	1,731.3	1,732.4	1,735.6
Administrative and waste services.....	7,669.8	7,934.0	7,875.5	7,934.1	7,938.3	7,964.0	7,969.7	7,993.2	8,063.1	8,054.3	8,078.0	8,081.6	8,140.9	8,160.6	8,176.1
Administrative and support services ¹	7,347.7	7,608.7	7,550.2	7,609.4	7,611.2	7,637.2	7,643.1	7,667.3	7,736.4	7,728.2	7,751.4	7,755.2	7,813.6	7,835.8	7,853.1
Employment services ¹	3,299.5	3,470.3	3,422.4	3,461.2	3,449.5	3,477.5	3,480.0	3,513.5	3,572.9	3,570.5	3,584.5	3,595.9	3,633.8	3,647.9	3,660.2
Temporary help services.....	2,224.2	2,393.2	2,355.0	2,385.0	2,383.9	2,398.6	2,411.8	2,438.7	2,486.5	2,484.7	2,479.4	2,479.1	2,508.0	2,507.9	2,518.4
Business support services.....	749.7	754.5	755.5	757.5	760.3	758.1	757.9	752.6	755.9	754.6	757.0	752.8	755.7	754.5	755.3
Services to buildings and dwellings.....	1,636.1	1,694.2	1,688.5	1,700.1	1,707.7	1,705.2	1,706.6	1,706.4	1,708.6	1,707.2	1,706.1	1,701.4	1,711.2	1,712.9	1,716.9
Waste management and remediation services.....	322.1	325.3	325.3	324.7	327.1	326.8	326.6	325.9	326.7	326.1	326.6	326.4	327.1	324.8	323.0
Educational and health services.....	16,588	16,954	16,871	16,913	16,936	16,963	17,010	17,019	17,081	17,108	17,142	17,178	17,186	17,209	17,244
Educational services.....	2,695.1	2,766.4	2,747.3	2,754.1	2,755.1	2,765.6	2,772.3	2,773.2	2,794.0	2,797.2	2,805.5	2,825.0	2,810.3	2,812.0	2,819.1
Health care and social assistance.....	13,892.6	14,187.3	14,123.6	14,158.5	14,180.7	14,197.8	14,237.8	14,246.1	14,287.2	14,310.7	14,336.1	14,353.2	14,375.4	14,396.6	14,424.6
Ambulatory health care services ¹	4,786.4	4,946.4	4,916.1	4,929.9	4,941.9	4,956.2	4,969.2	4,975.0	4,996.9	5,006.7	5,017.0	5,027.0	5,035.0	5,043.1	5,057.3
Offices of physicians.....	2,002.5	2,053.9	2,042.0	2,046.4	2,051.1	2,054.5	2,059.1	2,064.5	2,074.2	2,077.7	2,084.3	2,085.3	2,090.9	2,092.5	2,101.5
Outpatient care centers.....	426.8	446.2	443.5	445.8	446.6	448.4	449.7	448.7	449.5	449.8	450.3	451.5	451.1	452.1	453.0
Home health care services.....	732.6	773.2	765.3	768.5	771.7	775.4	778.0	779.5	782.7	789.2	790.7	796.6	796.8	799.8	799.2
Hospitals.....	4,244.6	4,293.6	4,279.7	4,290.0	4,292.2	4,296.2	4,305.0	4,306.0	4,311.2	4,319.7	4,323.5	4,329.6	4,337.8	4,346.3	4,356.0
Nursing and residential care facilities ¹	2,786.2	2,814.8	2,808.7	2,811.9	2,814.4	2,818.0	2,819.8	2,825.0	2,827.2	2,827.2	2,827.9	2,827.0	2,830.0	2,830.4	2,831.5
Nursing care facilities.....	1,579.8	1,575.3	1,574.8	1,575.8	1,576.3	1,576.9	1,576.7	1,576.6	1,576.8	1,576.4	1,574.5	1,571.5	1,571.6	1,572.7	1,570.7
Social assistance ¹	2,075.4	2,132.5	2,119.1	2,126.7	2,132.2	2,127.4	2,143.8	2,140.1	2,151.9	2,157.1	2,167.7	2,169.6	2,172.6	2,176.8	2,179.8
Child day care services.....	755.3	767.1	760.3	762	767.4	770.4	776.1	767.9	772.8	775.3	780.4	780.5	782.5	784.6	785.9
Leisure and hospitality.....	12,173	12,479	12,443	12,474	12,486	12,497	12,508	12,522	12,546	12,571	12,589	12,611	12,650	12,674	12,732
Arts, entertainment, and recreation.....	1,812.9	1,833.0	1,833.4	1,836.6	1,834.8	1,830.9	1,831.0	1,836.2	1,834.4	1,826.4	1,811.0	1,805.4	1,808.4	1,811.3	1,827.1
Performing arts and spectator sports.....	371.7	364.8	365.1	362.8	363.6	359.2	358.4	363.6	364.4	362.5	357.9	355.6	357.0	358.1	362.7
Museums, historical sites, zoos, and parks.....	114.7	117.1	117.0	117.8	117.8	118.6	118.8	118.3	118.2	116.9	114.8	114.5	113.6	115.5	116.1
Amusements, gambling, and recreation.....	1,326.5	1,351.1	1,351.3	1,356.0	1,353.4	1,353.1	1,353.8	1,354.3	1,351.8	1,347.0	1,338.3	1,335.3	1,337.8	1,337.7	1,348.3
Accommodations and food services.....	10,359.8	10,646.0	10,609.4	10,637.1	10,650.7	10,666.1	10,676.5	10,685.3	10,712.0	10,744.1	10,778.4	10,805.1	10,841.1	10,863.1	10,905.2
Accommodations.....	1,775.4	1,795.9	1,791.6	1,792.2	1,798.0	1,797.3	1,801.3	1,801.5	1,800.6	1,814.7	1,824.6	1,825.9	1,830.3	1,831.2	1,838.0
Food services and drinking places.....	8,584.4	8,850.1	8,817.8	8,844.9	8,852.7	8,868.8	8,875.2	8,883.8	8,911.4	8,929.4	8,953.8	8,979.2	9,010.8	9,031.9	9,067.2
Other services.....	5,401	5,431	5,428	5,434	5,443	5,438	5,441	5,436	5,434	5,441	5,447	5,451	5,457	5,461	5,475
Repair and maintenance.....	1,233.6	1,227.6	1,229.5	1,229.6	1,226.5	1,227.4	1,225.9	1,226.9	1,227.9	1,227.1	1,229.9	1,229.4	1,233.7	1,234.4	1,237.7
Personal and laundry services	1,263.5	1,274.1	1,275.7	1,281.6	1,283.4	1,278.0	1,276.9	1,271.5	1,267.8	1,271.6	1,276.8	1,280.4	1,280.5	1,282.6	1,287.5
Membership associations and organizations.....	2,903.6	2,929.1	2,922.3	2,922.3	2,932.7	2,932.8	2,937.9	2,937.9	2,938.1	2,942.3	2,940.6	2,941.4	2,942.9	2,943.5	2,949.3
Government.....	21,583	21,618	21,607	21,586	21,571	21,586	21,645	21,677	21,700	21,706	21,700	21,710	21,733	21,732	21,750
Federal.....	2,761	2,728	2,745	2,729	2,731	2,726	2,730	2,730	2,723	2,728	2,706	2,717	2,720	2,719	2,715
Federal, except U.S. Postal Service.....	1,952.4	1,943.4	1,957.2	1,943.2	1,946.3	1,939.2	1,945.5	1,946.8	1,940.1	1,946.4	1,939.5	1,937.2	1,939.8	1,939.0	1,935.4
U.S. Postal Service.....	808.6	784.1	787.3	785.8	785.1	786.4	784.3	783.4	782.5	781.4	786.4	780.2	780.1	780.0	779.5
State.....	5,002	4,985	4,975	4,967	4,963	4,976	4,987	5,000	5,007	5,015	5,020	5,025	5,027	5,029	5,034
Education.....	2,254.7	2,249.2	2,243.3	2,233.3	2,228.2	2,241.4	2,249.4	2,263.7	2,268.4	2,271.3	2,277.9	2,280.4	2,283.0	2,286.3	2,288.8
Other State government.....	2,747.6	2,736.2	2,731.6	2,733.2	2,734.4	2,734.4	2,737.8	2,736.4	2,738.2	2,743.4	2,741.9	2,744.4	2,744.4	2,743.1	2,745.2
Local.....	13,820	13,905	13,887	13,890	13,877	13,884	13,928	13,947	13,970	13,963	13,974	13,968	13,986	13,984	14,001
Education.....	7,709.4	7,762.5	7,750.7	7,752.9	7,742.5	7,757.8	7,785.7	7,793.2	7,810.8	7,806.3	7,810.8	7,808.8	7,820.7	7,814.8	7,823.2
Other local government.....	6,110.2	6,143.0	6,136.4	6,137.3	6,134.5	6,126.6	6,142.2	6,153.4	6,159.3	6,156.7	6,163.1	6,159.2	6,165.1	6,169.2	6,177.5

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 workers¹ on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2004										2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P	
TOTAL PRIVATE	33.7	33.7	33.7	33.8	33.6	33.7	33.7	33.8	33.8	33.7	33.7	33.7	33.7	33.7	33.9	
GOODS-PRODUCING	39.8	40.0	40.0	40.2	39.9	40.1	40.0	40.1	39.9	39.9	40.0	39.8	39.9	39.8	40.2	
Natural resources and mining	43.6	44.5	44.3	44.2	43.9	44.2	44.4	44.5	44.8	45.0	45.4	45.5	45.1	45.2	45.5	
Construction	38.4	38.3	38.2	38.3	38.0	38.3	38.1	38.1	38.2	38.3	38.4	37.6	38.2	38.3	39.0	
Manufacturing	40.4	40.8	40.8	41.0	40.7	40.8	40.9	40.8	40.7	40.5	40.5	40.7	40.6	40.4	40.5	
Overtime hours.....	4.2	4.6	4.5	4.6	4.5	4.6	4.6	4.6	4.5	4.5	4.5	4.5	4.6	4.5	4.5	
Durable goods.....	40.8	41.3	41.3	41.5	41.2	41.3	41.3	41.2	41.2	40.9	41.1	41.1	41.0	40.8	40.5	
Overtime hours.....	4.3	4.7	4.7	4.8	4.6	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.7	4.5	4.6	
Wood products.....	40.4	40.6	40.9	41.3	40.6	40.7	40.8	40.4	40.3	40.0	40.3	40.6	39.9	39.6	39.5	
Nonmetallic mineral products.....	42.2	42.3	42.3	42.1	41.8	42.2	42.3	42.4	42.4	42.1	42.3	41.9	42.1	41.7	41.9	
Primary metals.....	42.3	43.1	43.2	43.4	43.4	43.2	43.2	43.1	43.0	42.9	42.8	43.1	43.0	42.9	42.6	
Fabricated metal products.....	40.7	41.1	41.0	41.2	41.0	41.2	41.2	41.2	41.1	40.9	40.9	40.9	40.8	40.7	40.8	
Machinery.....	40.8	41.9	41.9	42.2	42.0	42.1	42.1	42.3	42.2	42.0	42.0	42.0	42.0	42.0	42.2	
Computer and electronic products.....	40.4	40.4	40.6	40.7	40.4	40.7	40.4	40.3	40.1	39.6	39.8	40.0	39.6	39.4	39.6	
Electrical equipment and appliances.....	40.6	40.7	40.9	41.5	40.8	40.8	40.9	40.6	40.6	40.1	40.0	40.1	40.0	40.2	40.6	
Transportation equipment.....	41.9	42.5	42.4	42.7	42.2	42.4	42.5	42.4	42.3	42.2	42.4	42.4	42.4	41.9	42.1	
Furniture and related products.....	38.9	39.5	39.5	40.0	39.6	39.3	39.3	39.3	39.2	39.2	39.5	39.5	39.4	39.5	39.3	
Miscellaneous manufacturing.....	38.4	38.5	38.4	38.8	38.4	38.6	38.5	38.4	38.4	38.2	38.3	38.5	38.6	38.9	38.9	
Nondurable goods.....	39.8	40.0	40.0	40.3	40.1	40.1	40.2	40.1	39.9	39.8	39.8	40.0	40.0	39.7	39.9	
Overtime hours.....	4.1	4.4	4.3	4.4	4.4	4.4	4.5	4.4	4.3	4.3	4.3	4.4	4.5	4.4	4.3	
Food manufacturing.....	39.3	39.3	39.2	39.6	39.4	39.3	39.3	39.3	39.0	39.1	38.8	39.0	39.3	38.8	39.1	
Beverage and tobacco products.....	39.1	39.2	39.8	39.2	38.6	38.9	39.4	39.2	38.6	39.0	39.6	40.5	40.2	40.6	40.5	
Textile mills.....	39.1	40.1	39.7	40.2	40.3	40.5	40.5	40.2	40.1	40.0	39.8	40.2	39.7	40.1	40.1	
Textile product mills.....	39.6	38.9	38.4	38.7	38.9	38.6	38.8	39.1	39.1	39.0	39.5	39.5	39.5	39.6	39.5	
Apparel.....	35.6	36.0	36.0	36.2	35.9	36.0	36.2	36.2	36.0	35.7	35.9	35.9	35.9	36.0	36.2	
Leather and allied products.....	39.3	38.4	38.9	38.4	38.3	37.8	38.1	38.2	38.4	38.2	37.6	37.1	37.2	37.1	37.4	
Paper and paper products.....	41.5	42.1	42.0	42.6	41.9	42.4	42.5	42.2	42.1	42.1	42.0	42.5	42.1	41.9	42.0	
Printing and related support activities.....	38.2	38.4	38.4	38.6	38.5	38.6	38.5	38.3	38.3	38.3	38.5	38.6	38.5	38.3	38.4	
Petroleum and coal products.....	44.5	44.9	44.5	45.0	44.9	45.0	45.9	46.0	45.0	45.5	44.6	44.5	44.7	45.1	46.4	
Chemicals.....	42.4	42.8	43.0	42.9	42.6	42.8	42.9	42.8	42.7	42.4	42.6	42.8	42.3	42.2	42.4	
Plastics and rubber products.....	40.4	40.4	40.8	40.9	40.8	40.5	40.5	40.3	40.1	39.4	39.8	40.0	40.1	39.8	39.7	
PRIVATE SERVICE-PROVIDING	32.4	32.3	32.4	32.4	32.2	32.4	32.4	32.5	32.4	32.3	32.4	32.4	32.4	32.4	32.5	
Trade, transportation, and utilities	33.6	33.5	33.6	33.6	33.2	33.4	33.5	33.6	33.6	33.5	33.6	33.6	33.6	33.5	33.6	
Wholesale trade.....	37.9	37.8	38.0	37.8	37.6	37.8	37.7	37.8	37.7	37.7	37.6	37.7	37.8	37.7	37.8	
Retail trade.....	30.9	30.7	30.8	30.8	30.4	30.6	30.7	30.8	30.8	30.6	30.8	30.7	30.8	30.7	30.8	
Transportation and warehousing.....	36.8	37.2	37.1	37.3	36.9	37.2	37.2	37.5	37.5	37.5	37.4	37.5	37.3	37.2	37.4	
Utilities.....	41.1	40.9	41.2	41.3	41.1	40.9	40.9	41.4	40.8	40.4	40.7	41.0	40.5	40.3	41.1	
Information	36.2	36.3	36.3	36.3	36.5	36.3	36.4	36.3	36.3	36.2	36.4	36.3	36.4	36.4	36.4	
Financial activities	35.5	35.5	35.6	35.8	35.5	35.6	35.5	35.5	35.7	35.6	35.7	35.9	35.8	35.9	36.1	
Professional and business services	34.1	34.2	34.2	34.2	34.0	34.2	34.3	34.7	34.3	34.2	34.2	34.1	34.0	34.1	34.2	
Education and health services	32.3	32.4	32.4	32.4	32.4	32.6	32.5	32.5	32.5	32.4	32.5	32.6	32.6	32.6	32.7	
Leisure and hospitality	25.6	25.7	25.7	25.7	25.7	25.6	25.6	25.6	25.7	25.6	25.7	25.6	25.7	25.7	25.7	
Other services	31.4	31.0	31.1	31.1	30.9	31.0	31.0	31.0	30.9	30.8	30.9	30.9	30.9	31.0	31.1	

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 workers¹ on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2004								2005			
	2003	2004	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL PRIVATE														
Current dollars.....	\$15.35	\$15.67	\$15.62	\$15.64	\$15.70	\$15.74	\$15.77	\$15.81	\$15.82	\$15.85	\$15.90	\$15.91	\$15.95	\$16.00
Constant (1982) dollars.....	8.27	8.23	8.21	8.20	8.23	8.25	8.25	8.22	8.21	8.23	8.24	8.22	8.19	8.16
GOODS-PRODUCING.....	16.80	17.19	17.13	17.16	17.19	17.24	17.30	17.32	17.33	17.36	17.35	17.43	17.44	17.50
Natural resources and mining.....	17.56	18.08	18.02	18.16	18.08	18.05	18.06	18.10	18.22	18.37	18.43	18.40	18.27	18.53
Construction.....	18.95	19.23	19.19	19.19	19.21	19.25	19.27	19.34	19.31	19.29	19.24	19.31	19.35	19.38
Manufacturing.....	15.74	16.14	16.08	16.12	16.16	16.22	16.29	16.27	16.29	16.34	16.37	16.42	16.42	16.45
Excluding overtime.....	14.96	15.29	15.23	15.28	15.30	15.36	15.42	15.42	15.43	15.48	15.51	15.54	15.55	15.58
Durable goods.....	16.45	16.82	16.75	16.77	16.83	16.90	16.98	16.97	16.99	17.06	17.10	17.18	17.16	17.21
Nondurable goods.....	14.63	15.05	15.02	15.07	15.09	15.14	15.18	15.15	15.16	15.16	15.18	15.19	15.21	15.21
PRIVATE SERVICE-PROVIDING.....	14.96	15.26	15.21	15.24	15.30	15.34	15.36	15.40	15.42	15.45	15.51	15.51	15.56	15.60
Trade, transportation, and utilities.....	14.34	14.59	14.54	14.59	14.63	14.65	14.66	14.69	14.70	14.72	14.82	14.79	14.84	14.87
Wholesale trade.....	17.36	17.66	17.60	17.66	17.71	17.69	17.73	17.78	17.80	17.87	17.91	17.95	17.99	18.04
Retail trade.....	11.90	12.08	12.04	12.07	12.10	12.13	12.16	12.16	12.20	12.21	12.32	12.29	12.31	12.34
Transportation and warehousing.....	16.25	16.53	16.51	16.54	16.58	16.65	16.53	16.61	16.54	16.54	16.58	16.52	16.63	16.63
Utilities.....	24.77	25.62	25.51	25.48	25.60	25.66	25.82	26.00	25.77	26.11	26.23	26.04	26.32	26.33
Information.....	21.01	21.42	21.43	21.28	21.42	21.52	21.62	21.59	21.58	21.70	21.80	21.67	21.82	22.09
Financial activities.....	17.14	17.53	17.47	17.49	17.55	17.57	17.64	17.71	17.65	17.71	17.71	17.74	17.80	17.86
Professional and business services.....	17.21	17.46	17.40	17.43	17.48	17.59	17.54	17.63	17.66	17.69	17.79	17.80	17.83	17.90
Education and health services.....	15.64	16.16	16.09	16.15	16.24	16.24	16.28	16.31	16.34	16.37	16.40	16.45	16.51	16.51
Leisure and hospitality.....	8.76	8.91	8.87	8.86	8.89	8.91	8.95	8.99	9.02	9.01	9.03	9.05	9.05	9.10
Other services.....	13.84	13.98	13.95	13.97	13.98	14.00	14.05	14.08	14.12	14.13	14.15	14.17	14.16	14.14

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 workers¹ on private nonfarm payrolls, by industry

Industry	Annual average		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL PRIVATE	\$15.35	\$15.67	\$15.59	\$15.63	\$15.56	\$15.59	\$15.66	\$15.79	\$15.82	\$15.84	\$15.88	\$16.00	\$15.96	\$15.95	\$16.00
Seasonally adjusted.....	15.47	—	15.58	15.62	15.64	15.70	15.74	15.77	15.81	15.82	15.85	15.90	15.91	15.95	16.00
GOODS-PRODUCING	16.80	17.19	17.08	17.10	17.14	17.18	17.28	17.40	17.39	17.37	17.43	17.31	17.34	17.36	17.46
Natural resources and mining	17.56	18.08	18.07	18.00	18.12	18.02	17.95	17.97	18.07	18.21	18.46	18.53	18.45	18.36	18.64
Construction	18.95	19.23	19.15	19.15	19.12	19.24	19.33	19.42	19.47	19.35	19.31	19.12	19.20	19.25	19.33
Manufacturing	15.74	16.14	16.06	16.04	16.08	16.03	16.16	16.35	16.26	16.32	16.46	16.42	16.43	16.40	16.43
Durable goods.....	16.45	16.82	16.71	16.70	16.73	16.60	16.84	17.06	16.98	17.04	17.22	17.15	17.20	17.15	17.18
Wood products.....	12.71	13.03	13.00	13.04	12.99	13.04	13.02	13.14	13.03	13.13	13.17	13.13	13.04	13.10	13.14
Nonmetallic mineral products.....	15.76	16.25	16.17	16.16	16.22	16.37	16.28	16.51	16.38	16.45	16.36	16.27	16.20	16.30	16.73
Primary metals.....	18.13	18.57	18.51	18.47	18.50	18.65	18.57	18.89	18.73	18.66	18.75	18.84	18.78	18.73	18.74
Fabricated metal products.....	15.01	15.31	15.21	15.20	15.23	15.27	15.27	15.43	15.38	15.43	15.59	15.55	15.67	15.63	15.61
Machinery.....	16.30	16.68	16.54	16.54	16.56	16.68	16.72	16.85	16.84	16.85	16.99	17.03	17.02	17.06	17.07
Computer and electronic products.....	16.69	17.28	17.02	17.13	17.22	17.30	17.38	17.48	17.52	17.65	17.92	18.04	18.04	17.95	18.13
Electrical equipment and appliances.....	14.36	14.90	14.84	14.86	14.92	14.92	15.04	15.08	15.05	15.10	15.12	15.07	15.15	15.12	15.12
Transportation equipment.....	21.23	21.49	21.31	21.25	21.31	20.73	21.49	21.91	21.78	21.91	22.17	21.90	21.97	21.83	21.73
Furniture and related products.....	12.98	13.16	13.10	13.05	13.11	13.12	13.28	13.39	13.27	13.29	13.46	13.42	13.34	13.37	13.48
Miscellaneous manufacturing.....	13.30	13.85	13.71	13.76	13.82	13.90	13.88	13.97	13.92	13.96	14.05	14.07	14.04	14.02	13.97
Nondurable goods.....	14.63	15.05	15.00	14.97	15.03	15.13	15.08	15.23	15.11	15.16	15.21	15.24	15.17	15.18	15.19
Food manufacturing.....	12.80	12.98	12.98	12.96	13.01	13.07	13.00	13.09	12.94	12.99	13.03	13.07	13.07	13.01	12.99
Beverages and tobacco products.....	17.96	19.12	19.57	19.51	19.37	19.26	19.08	19.17	19.18	18.80	18.82	18.44	18.65	18.95	19.34
Textile mills.....	11.99	12.13	12.22	12.07	12.14	12.06	12.08	12.25	12.11	12.09	12.25	12.33	12.25	12.24	12.28
Textile product mills.....	11.23	11.39	11.30	11.27	11.27	11.45	11.43	11.49	11.42	11.44	11.43	11.31	11.48	11.56	11.52
Apparel.....	9.56	9.75	9.69	9.54	9.60	9.73	9.72	9.93	9.97	10.00	10.00	10.15	10.19	10.06	10.06
Leather and allied products.....	11.66	11.63	11.64	11.48	11.58	11.67	11.67	11.56	11.58	11.62	11.51	11.60	11.42	11.48	11.45
Paper and paper products.....	17.33	17.90	17.89	17.93	17.91	17.96	17.89	18.21	17.93	18.09	18.07	18.00	17.86	17.92	17.94
Printing and related support activities.....	15.37	15.72	15.55	15.52	15.56	15.73	15.88	15.96	15.95	15.93	15.80	15.77	15.79	15.70	15.58
Petroleum and coal products.....	23.63	24.38	24.45	24.39	24.22	24.32	24.05	24.44	24.33	24.71	24.48	24.75	24.74	24.81	24.11
Chemicals.....	18.50	19.16	18.96	19.00	19.16	19.31	19.24	19.44	19.42	19.44	19.59	19.52	19.32	19.47	19.58
Plastics and rubber products.....	14.18	14.58	14.58	14.54	14.59	14.69	14.66	14.75	14.55	14.58	14.76	14.81	14.65	14.69	14.75
PRIVATE SERVICE-PROVIDING	14.96	15.26	15.19	15.23	15.13	15.16	15.22	15.35	15.40	15.43	15.46	15.66	15.60	15.59	15.62
Trade, transportation, and utilities	14.34	14.59	14.57	14.58	14.55	14.56	14.58	14.69	14.69	14.67	14.61	14.88	14.86	14.87	14.92
Wholesale trade.....	17.36	17.66	17.59	17.66	17.57	17.65	17.68	17.71	17.75	17.82	17.87	18.03	17.99	17.92	18.05
Retail trade.....	11.90	12.08	12.07	12.06	12.07	12.05	12.07	12.21	12.17	12.16	12.10	12.34	12.35	12.35	12.40
Transportation and warehousing.....	16.25	16.53	16.47	16.45	16.53	16.58	16.62	16.51	16.59	16.56	16.59	16.59	16.57	16.62	16.62
Utilities.....	24.77	25.62	25.72	25.55	25.34	25.45	25.36	25.89	26.02	26.01	26.00	26.14	25.98	26.36	26.39
Financial activities.....	21.01	21.42	21.23	21.40	21.16	21.29	21.43	21.73	21.69	21.70	21.74	21.83	21.67	21.71	22.04
Professional and business services	17.14	17.53	17.46	17.64	17.40	17.46	17.59	17.62	17.68	17.61	17.67	17.83	17.73	17.75	17.87
Education and health services	17.21	17.46	17.30	17.48	17.31	17.35	17.50	17.47	17.54	17.62	17.73	18.06	17.91	17.84	17.87
Leisure and hospitality	15.64	16.16	16.04	16.05	16.10	16.23	16.20	16.30	16.30	16.33	16.44	16.47	16.46	16.50	16.51
Other services	8.76	8.91	8.85	8.86	8.79	8.79	8.81	8.94	9.02	9.06	9.11	9.11	9.09	9.07	9.10
Other services	13.84	13.98	13.97	14.00	13.92	13.88	13.93	14.06	14.06	14.12	14.17	14.23	14.23	14.18	14.16

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.

16. Average weekly earnings of production or nonsupervisory workers¹ on private nonfarm payrolls, by industry

Industry	2004												2005			
	Annual average	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL PRIVATE.....	\$517.30	\$528.56	\$522.27	\$531.42	\$524.37	\$528.50	\$535.57	\$530.54	\$534.72	\$532.22	\$536.74	\$537.60	\$534.66	\$534.33	\$537.60	
Seasonally adjusted.....	—	—	525.05	527.96	525.50	529.09	530.44	533.03	534.38	533.13	534.15	535.83	536.17	537.52	542.40	
GOODS-PRODUCING.....	669.13	688.03	678.08	689.13	689.03	687.20	696.38	690.78	697.34	694.80	702.43	683.75	683.20	687.46	696.65	
Natural resources and mining.....	765.94	804.03	793.27	797.40	806.34	801.89	804.16	796.07	820.38	824.91	836.24	833.85	822.87	822.53	842.53	
Construction.....	726.83	735.70	721.96	741.11	736.12	752.28	755.80	730.19	753.49	739.17	737.64	703.62	712.32	727.65	748.07	
Manufacturing.....	635.99	658.53	652.04	659.24	659.28	646.01	660.94	663.81	661.78	665.86	678.15	666.65	663.77	662.56	662.13	
Durable goods.....	671.21	694.16	686.78	694.72	694.30	673.96	695.49	697.75	699.58	702.05	718.07	703.15	703.48	699.72	699.23	
Wood products.....	514.10	529.46	530.40	545.07	535.19	532.03	539.03	521.66	526.41	526.51	532.07	527.83	511.17	513.52	516.40	
Nonmetallic mineral products.....	664.92	688.05	683.99	683.57	689.35	694.09	700.04	709.93	701.06	694.19	688.76	665.44	667.44	669.93	700.99	
Primary metals.....	767.60	799.77	799.63	803.45	808.45	788.90	796.65	808.49	801.64	802.38	813.75	815.77	807.54	805.39	796.45	
Fabricated metal products.....	610.37	628.80	620.57	627.76	627.48	621.49	627.60	628.00	633.66	634.17	648.54	637.55	637.77	634.58	633.77	
Machinery.....	664.79	699.51	688.06	699.64	698.83	692.22	697.22	699.28	707.28	711.07	727.17	718.67	716.54	718.23	715.23	
Computer and electronic products.....	674.72	698.28	684.20	695.48	699.13	695.46	700.41	700.95	704.30	706.00	723.97	716.19	712.58	709.03	710.70	
Electrical equipment and appliances.....	583.23	606.64	601.02	615.20	613.21	602.77	613.63	603.20	614.04	613.06	616.90	605.81	601.46	604.80	609.34	
Transportation equipment.....	889.48	912.97	901.41	911.63	907.81	839.57	909.03	926.79	923.47	926.79	962.18	926.37	933.73	919.04	910.49	
Furniture and related products.....	505.30	519.78	517.45	518.09	521.78	515.62	529.87	519.53	516.20	523.63	546.48	528.75	522.93	526.78	528.42	
Miscellaneous manufacturing.....	510.82	533.47	525.09	535.26	530.69	528.20	534.38	530.86	534.53	536.06	545.14	543.10	543.35	548.18	540.64	
Nonurable goods.....	582.61	602.48	595.50	601.79	604.21	602.17	606.22	610.72	602.89	607.92	612.96	608.08	600.73	601.13	601.52	
Food manufacturing.....	502.92	509.66	498.43	511.92	512.59	513.65	514.80	520.98	508.54	515.70	513.38	505.81	505.81	496.98	498.82	
Beverages and tobacco products.....	702.45	750.51	778.89	772.60	759.30	758.84	761.29	762.97	734.59	731.32	737.74	735.76	738.54	757.20	791.01	
Textile mills.....	469.33	486.69	483.91	486.42	490.46	481.19	489.24	488.78	481.98	483.60	491.23	498.13	485.10	496.94	491.20	
Textile product mills.....	444.70	443.01	433.92	433.90	444.04	433.96	442.34	444.66	447.66	448.45	451.49	445.61	450.02	457.78	453.89	
Apparel.....	340.12	351.28	347.40	346.30	348.48	348.33	352.84	352.52	357.92	360.00	364.00	361.34	363.78	365.18	365.18	
Leather and allied products.....	457.83	446.73	459.78	440.83	442.36	422.45	441.13	430.03	445.83	445.05	437.38	429.20	425.97	431.65	436.12	
Paper and paper products.....	719.73	753.89	747.80	758.44	750.43	752.52	756.75	772.10	756.65	768.83	775.20	768.60	744.76	745.47	749.89	
Printing and related support activities.....	587.58	604.32	594.01	594.42	594.39	600.89	611.38	612.86	614.08	618.08	616.20	607.15	604.76	602.88	593.60	
Petroleum and coal products.....	1,052.32	1,094.83	1,061.13	1,090.23	1,094.74	1,118.72	1,096.68	1,119.35	1,097.28	1,131.72	1,099.15	1,096.43	1,100.93	1,106.53	1,097.01	
Chemicals.....	783.95	819.59	811.49	813.20	818.13	814.88	821.55	830.09	825.35	830.08	844.33	835.46	817.24	821.63	826.28	
Plastics and rubber products.....	872.26	589.70	594.86	594.69	599.65	583.19	590.80	591.48	583.46	578.83	596.30	592.40	586.00	584.66	585.58	
PRIVATE SERVICE-PROVIDING.....	483.88	493.67	487.60	496.50	488.70	492.70	499.22	495.81	498.96	496.85	500.90	507.38	502.32	502.00	504.53	
Trade, transportation, and utilities.....	481.14	488.58	485.18	491.35	487.43	492.13	495.72	493.58	492.12	488.51	490.90	494.02	493.35	493.68	496.84	
Wholesale trade.....	657.29	666.93	664.90	674.61	660.63	665.41	673.61	665.90	669.18	671.81	670.13	681.53	674.25	672.00	678.68	
Retail trade.....	367.15	371.15	366.93	371.45	371.76	375.96	377.79	377.29	373.62	368.45	375.10	372.67	374.21	374.21	378.20	
Transportation and warehousing.....	598.41	614.90	602.80	616.88	611.61	616.78	628.24	617.47	622.13	622.66	625.44	620.47	608.12	611.62	613.28	
Utilities.....	1,017.27	1,048.82	1,054.52	1,055.22	1,044.01	1,033.27	1,032.15	1,074.44	1,066.82	1,061.21	1,053.00	1,066.51	1,052.19	1,057.04	1,081.99	
Information.....	760.81	777.42	762.16	776.82	774.46	772.83	788.62	786.63	787.35	787.71	791.34	798.98	786.62	783.73	793.44	
Financial activities.....	609.08	622.99	616.34	636.80	614.22	618.08	635.00	620.22	627.64	625.16	627.29	649.01	632.96	631.90	639.75	
Professional and business services.....	587.02	596.96	589.93	604.81	590.27	591.64	607.25	593.98	599.87	602.60	604.59	614.04	607.15	604.78	609.37	
Education and health services.....	505.69	523.83	516.49	521.63	520.03	529.10	531.36	528.12	528.12	529.09	534.30	541.86	534.95	534.60	536.58	
Leisure and hospitality.....	224.30	228.63	224.79	229.47	227.66	231.18	234.35	226.18	230.91	229.22	231.39	230.48	231.80	230.38	232.05	
Other services.....	434.41	433.04	430.28	436.80	430.13	431.67	436.01	433.05	434.45	434.90	436.44	439.71	438.28	436.74	437.54	

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:												
2001.....	49.5	47.7	48.6	32.7	42.4	40.8	36.7	39.0	37.6	33.6	36.9	37.1
2002.....	41.0	35.6	39.7	39.2	40.5	47.7	42.8	43.0	42.1	39.0	41.5	35.1
2003.....	44.4	38.7	35.3	41.4	39.4	39.9	42.1	39.4	50.4	48.9	50.0	50.5
2004.....	50.9	53.4	66.0	67.3	64.6	59.7	55.4	53.8	57.6	58.6	54.7	54.3
2005.....	54.1	61.2	55.8	61.3								
Over 3-month span:												
2001.....	53.2	49.8	49.8	42.3	38.1	34.2	37.8	37.6	34.7	35.4	30.8	32.0
2002.....	35.3	37.9	36.5	34.2	34.4	39.4	40.6	44.1	37.8	37.1	35.8	36.7
2003.....	38.3	35.4	33.3	33.5	36.5	41.7	37.8	37.4	43.2	46.4	48.6	50.2
2004.....	52.5	53.8	56.7	69.4	75.4	71.2	63.5	56.8	57.4	59.9	59.7	56.3
2005.....	58.5	60.3	65.1	64.9								
Over 6-month span:												
2001.....	53.1	50.9	52.0	45.5	43.0	39.7	38.5	33.6	33.5	34.2	33.6	30.9
2002.....	29.5	29.9	32.0	31.7	30.9	37.4	37.1	38.7	35.3	36.0	37.9	35.1
2003.....	32.7	32.2	31.3	31.3	33.1	37.6	33.6	32.2	40.3	43.7	46.4	49.3
2004.....	47.3	50.4	54.9	62.6	64.4	69.6	67.3	68.9	64.6	62.2	59.7	55.9
2005.....	60.3	62.8	63.1	60.3								
Over 12-month span:												
2001.....	59.5	59.5	53.4	49.3	48.6	45.0	43.3	43.9	39.9	37.8	37.1	34.9
2002.....	33.6	31.7	30.2	30.4	30.2	29.1	32.0	31.3	30.0	29.5	32.9	34.7
2003.....	34.5	31.5	32.9	33.5	34.2	35.1	32.7	33.1	37.1	36.7	37.2	39.2
2004.....	40.3	42.1	44.8	48.7	52.0	56.7	57.4	57.6	60.3	62.1	64.6	64.0
2005.....	61.2	64.7	63.7	65.1								
Manufacturing payrolls, 84 industries												
Over 1-month span:												
2001.....	22.0	17.3	22.0	17.9	16.1	22.6	13.1	15.5	18.5	17.3	14.9	11.9
2002.....	19.0	19.6	22.0	32.1	26.2	31.0	35.7	23.2	28.6	15.5	18.5	16.7
2003.....	35.1	19.0	19.0	11.9	19.6	20.8	22.6	24.4	32.7	35.1	39.9	42.9
2004.....	39.3	49.4	50.0	65.5	60.1	51.8	60.7	48.8	42.9	42.3	46.4	44.6
2005.....	42.3	44.6	41.1	50.0								
Over 3-month span:												
2001.....	32.7	20.8	16.7	14.3	14.3	11.9	11.9	9.5	7.7	12.5	11.3	9.5
2002.....	10.7	11.9	11.3	17.9	14.9	20.2	25.6	23.8	20.2	13.7	8.9	9.5
2003.....	16.1	14.3	12.5	8.9	10.7	10.7	14.3	15.5	18.5	27.4	31.5	35.1
2004.....	42.3	43.5	42.9	58.3	69.0	69.6	62.5	53.6	52.4	44.6	45.2	35.7
2005.....	45.2	42.9	50.6	47.6								
Over 6-month span:												
2001.....	22.6	24.4	21.4	19.6	14.3	11.9	13.1	11.3	10.7	7.1	7.7	5.4
2002.....	6.0	8.3	8.3	9.5	7.1	13.1	12.5	11.3	14.3	8.3	8.3	7.7
2003.....	12.5	10.1	7.1	8.3	11.3	10.7	4.8	10.1	13.1	16.7	19.6	26.8
2004.....	27.4	29.8	33.3	47.0	52.4	57.1	60.1	58.9	58.9	50.6	45.2	42.9
2005.....	43.5	44.0	43.5	38.7								
Over 12-month span:												
2001.....	29.8	32.1	20.8	19.0	13.1	12.5	10.7	11.9	11.9	10.1	8.3	6.0
2002.....	7.1	6.0	6.0	6.5	7.1	3.6	4.8	6.0	4.8	7.1	4.8	8.3
2003.....	10.7	6.0	6.5	6.0	8.3	7.1	7.1	8.3	10.7	10.7	9.5	10.7
2004.....	13.1	14.3	13.1	19.0	25.6	34.5	43.5	40.5	45.8	48.2	49.4	46.4
2005.....	45.2	45.8	46.4	46.4								

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						
	2004			2005				2004			2005			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P
Total ²	3,300	3,277	3,507	3,385	3,569	3,598	3,664	2.4	2.4	2.6	2.5	2.6	2.6	2.7
Industry														
Total private ²	2,924	2,910	3,106	3,020	3,160	3,212	3,267	2.6	2.6	2.7	2.7	2.8	2.8	2.8
Construction.....	114	118	132	127	133	170	112	1.6	1.6	1.8	1.8	1.8	2.3	1.5
Manufacturing.....	250	248	266	252	252	258	253	1.7	1.7	1.8	1.7	1.7	1.8	1.7
Trade, transportation, and utilities.....	559	554	561	564	668	624	644	2.1	2.1	2.1	2.2	2.5	2.4	2.4
Professional and business services.....	602	620	699	682	607	646	765	3.5	3.6	4.0	3.9	3.5	3.7	4.3
Education and health services.....	547	543	557	560	602	616	617	3.1	3.1	3.1	3.2	3.4	3.5	3.5
Leisure and hospitality.....	413	411	450	434	447	440	430	3.2	3.2	3.4	3.3	3.4	3.4	3.3
Government.....	400	369	396	346	404	383	395	1.8	1.7	1.8	1.6	1.8	1.7	1.8
Region³														
Northeast.....	562	560	620	602	606	615	621	2.2	2.2	2.4	2.3	2.3	2.4	2.4
South.....	1,318	1,250	1,329	1,342	1,399	1,447	1,501	2.7	2.6	2.8	2.8	2.9	3.0	3.1
Midwest.....	688	726	740	716	745	737	716	2.1	2.3	2.3	2.2	2.3	2.3	2.2
West.....	742	759	792	718	823	806	818	2.5	2.6	2.7	2.4	2.8	2.7	2.7

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						
	2004			2005				2004			2005			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P
Total ²	4,552	4,990	4,639	4,709	4,760	4,841	4,507	3.4	3.8	3.5	3.6	3.6	3.6	3.4
Industry														
Total private ²	4,216	4,652	4,337	4,374	4,430	4,497	4,174	3.8	4.2	3.9	3.9	4.0	4.0	3.7
Construction.....	353	373	368	339	430	414	433	5.0	5.3	5.2	4.8	6.0	5.8	6.0
Manufacturing.....	353	386	324	307	336	334	318	2.5	2.7	2.3	2.1	2.3	2.3	2.2
Trade, transportation, and utilities.....	977	1,077	986	1,056	1,055	1,047	988	3.8	4.2	3.8	4.1	4.1	4.1	3.8
Professional and business services.....	812	935	878	882	853	895	815	4.9	5.6	5.3	5.3	5.1	5.3	4.8
Education and health services.....	420	447	452	445	500	472	483	2.5	2.6	2.6	2.6	2.9	2.7	2.8
Leisure and hospitality.....	801	858	834	826	771	798	693	6.4	6.8	6.6	6.6	6.1	6.3	5.4
Government.....	318	335	307	341	329	336	325	1.5	1.5	1.4	1.6	1.5	1.5	1.5
Region³														
Northeast.....	811	851	858	762	820	856	838	3.2	3.4	3.4	3.0	3.2	3.4	3.3
South.....	1,809	1,903	1,770	1,880	1,867	1,922	1,739	3.9	4.1	3.8	4.0	4.0	4.1	3.7
Midwest.....	1,013	1,149	1,043	1,092	1,081	1,034	973	3.2	3.7	3.3	3.5	3.5	3.3	3.1
West.....	916	1,014	970	959	1,069	1,036	1,030	3.2	3.5	3.4	3.3	3.7	3.6	3.5

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 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						
	2004			2005				2004			2005			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^p	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^p
Total ²	4,215	4,266	4,435	4,352	4,295	4,502	4,588	3.2	3.2	3.3	3.3	3.2	3.4	3.4
Industry														
Total private ²	3,957	3,996	4,146	4,091	4,035	4,237	4,331	3.6	3.6	3.7	3.7	3.6	3.8	3.9
Construction.....	425	351	355	417	3	303	416	6.0	5.0	5.0	5.9	5.7	4.2	5.8
Manufacturing.....	354	327	353	361	341	360	372	2.5	2.3	2.5	2.5	2.4	2.5	2.6
Trade, transportation, and utilities.....	889	943	1,062	882	940	980	984	3.5	3.7	4.1	3.4	3.7	3.8	3.8
Professional and business services.....	585	822	833	836	772	924	914	3.5	4.9	5.0	5.0	4.6	5.5	5.4
Education and health services.....	376	408	375	356	389	445	424	2.2	2.4	2.2	2.1	2.3	2.6	2.5
Leisure and hospitality.....	767	727	758	832	790	743	667	6.1	5.8	6.0	6.6	6.3	5.9	5.2
Government.....	263	275	274	258	260	267	256	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Region³														
Northeast.....	711	756	773	773	732	802	807	2.8	3.0	3.0	3.1	2.9	3.2	3.2
South.....	1,614	1,594	1,707	1,747	1,647	1,763	1,784	3.5	3.4	3.6	3.7	3.5	3.7	3.8
Midwest.....	952	1,041	986	981	937	1,051	976	3.0	3.3	3.1	3.1	3.0	3.4	3.1
West.....	896	826	953	964	961	926	1,017	3.1	2.9	3.3	3.3	3.3	3.2	3.5

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 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						
	2004			2005				2004			2005			
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^p	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^p
Total ²	2,344	2,436	2,495	2,530	2,307	2,516	2,523	1.8	1.8	1.9	1.9	1.7	1.9	1.9
Industry														
Total private ²	2,217	2,319	2,366	2,412	2,192	2,383	2,397	2.0	2.1	2.1	2.2	2.0	2.1	2.1
Construction.....	182	159	162	171	139	150	148	2.6	2.2	2.3	2.4	2.0	2.1	2.1
Manufacturing.....	187	185	194	185	181	186	178	1.3	1.3	1.4	1.3	1.3	1.3	1.2
Trade, transportation, and utilities.....	517	568	570	563	512	583	567	2.0	2.2	2.2	2.2	2.0	2.3	2.2
Professional and business services.....	281	401	415	417	410	424	439	1.7	2.4	2.5	2.5	2.4	2.5	2.6
Education and health services.....	239	250	232	230	259	280	285	1.4	1.5	1.4	1.3	1.5	1.6	1.7
Leisure and hospitality.....	474	499	506	516	474	458	471	3.8	4.0	4.0	4.1	3.8	3.6	3.7
Government.....	123	118	129	124	117	124	126	.6	.5	.6	.6	.5	.6	.6
Region³														
Northeast.....	333	359	392	424	340	410	431	1.3	1.4	1.5	1.7	1.3	1.6	1.7
South.....	943	1,014	1,021	1,053	914	1,003	1,003	2.0	2.2	2.2	2.2	1.9	2.1	2.1
Midwest.....	500	551	544	539	509	561	513	1.6	1.8	1.7	1.7	1.6	1.8	1.6
West.....	550	492	536	530	550	562	598	1.9	1.7	1.9	1.8	1.9	1.9	2.0

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 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, fourth quarter 2003.

County by NAICS supersector	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage ¹	
		December 2003 (thousands)	Percent change, December 2002-03 ²	Fourth quarter 2003	Percent change, fourth quarter 2002-03 ²
United States ³	8,314.1	129,341.5	0.0	\$767	3.6
Private industry	8,048.7	108,215.1	.0	769	3.9
Natural resources and mining	123.7	1,557.8	-.1	703	4.9
Construction	804.9	6,689.5	1.2	837	2.3
Manufacturing	376.8	14,307.8	-4.2	943	6.7
Trade, transportation, and utilities	1,853.6	25,957.3	-.3	665	3.4
Information	145.2	3,165.9	-4.0	1,139	3.9
Financial activities	767.0	7,874.7	1.2	1,138	5.9
Professional and business services	1,329.4	16,113.2	.6	945	3.8
Education and health services	732.2	15,974.0	2.1	731	3.8
Leisure and hospitality	669.9	12,042.8	1.7	335	3.4
Other services	1,080.6	4,274.1	-.1	494	3.1
Government	265.3	21,126.3	-2	757	2.4
Los Angeles, CA	356.0	4,075.3	-.5	903	4.2
Private industry	352.2	3,486.3	-.2	898	4.2
Natural resources and mining .....	.6	11.0	.7	955	16.9
Construction	12.9	133.9	-1.1	883	1.7
Manufacturing	17.8	485.2	-7.1	900	6.5
Trade, transportation, and utilities	53.9	794.6	-1.2	735	2.7
Information	9.2	194.9	-2.0	1,627	5.2
Financial activities	23.0	237.9	.9	1,258	7.0
Professional and business services	40.1	575.0	1.6	1,043	3.7
Education and health services	26.6	456.5	1.9	820	3.9
Leisure and hospitality	25.6	375.9	5.6	766	6.5
Other services	142.1	220.7	3.5	422	5.0
Government	3.8	589.0	-2.3	930	3.3
Cook, IL	126.7	2,539.8	-1.2	922	3.0
Private industry	125.5	2,221.9	-.9	929	3.2
Natural resources and mining .....	.1	1.3	-3.6	1,037	3.2
Construction	10.5	96.7	.0	1,169	-.8
Manufacturing	7.9	265.7	-5.1	975	6.3
Trade, transportation, and utilities	26.7	499.4	-.8	753	.4
Information	2.5	66.1	-4.1	1,164	.1
Financial activities	13.8	219.4	-.8	1,471	8.1
Professional and business services	26.1	405.5	-1.3	1,206	4.1
Education and health services	12.3	350.8	1.0	791	3.7
Leisure and hospitality	10.5	217.7	2.8	375	-.3
Other services	12.6	95.1	-2.0	655	3.0
Government	1.2	317.9	-3.1	871	.9
New York, NY	111.9	2,253.6	-1.0	1,480	7.2
Private industry	111.7	1,800.4	-.6	1,623	8.1
Natural resources and mining .....	.0	.1	.0	1,197	-6.5
Construction	2.2	30.0	-4.5	1,567	3.4
Manufacturing	3.5	46.6	-4.9	1,290	6.4
Trade, transportation, and utilities	22.1	247.6	-1.2	1,164	5.5
Information	4.3	130.6	-5.1	1,751	7.9
Financial activities	16.7	352.0	-2.0	3,034	16.1
Professional and business services	22.6	439.7	.5	1,702	2.6
Education and health services	7.8	273.8	2.4	918	7.6
Leisure and hospitality	10.1	188.2	.4	787	6.1
Other services	16.0	82.9	-1.1	871	6.1
Government .....	.2	453.2	-2.2	912	.1
Harris, TX	89.4	1,841.5	-.9	906	2.1
Private industry	89.0	1,595.2	-1.2	929	2.1
Natural resources and mining	1.2	62.5	8.7	2,185	-.9
Construction	6.3	135.5	-5.0	919	2.6
Manufacturing	4.7	164.0	-4.9	1,106	2.3
Trade, transportation, and utilities	21.1	403.2	-2.1	821	1.0
Information	1.4	33.8	-3.9	1,098	.4
Financial activities	9.7	113.1	1.7	1,181	4.9
Professional and business services	17.0	279.0	-1.7	1,073	3.2
Education and health services	8.8	188.3	1.5	812	1.8
Leisure and hospitality	6.5	155.2	.7	335	-.9
Other services	10.3	56.3	-3.1	539	.4
Government .....	.4	246.3	1.1	759	3.1
Maricopa, AZ	80.9	1,621.2	(⁴)	757	4.0
Private industry	80.5	1,401.8	2.2	755	3.9
Natural resources and mining .....	.5	9.8	-2.6	545	4.4
Construction	8.4	131.7	5.9	779	2.1
Manufacturing	3.3	128.0	-2.5	1,050	8.2
Trade, transportation, and utilities	18.6	336.4	1.5	712	3.2
Information	1.6	36.6	-4.1	872	.5
Financial activities	9.5	133.3	1.5	933	3.7
Professional and business services	18.1	261.5	4.2	776	3.5
Education and health services	7.6	160.5	5.6	842	5.0
Leisure and hospitality	5.6	155.8	.8	364	2.8
Other services	5.7	44.7	-2.6	500	2.2
Government .....	.5	219.4	1.6	766	3.7

See footnotes at end of table.

22. Continued—Quarterly Census of Employment and Wages: 10 largest counties, fourth quarter 2003.

County by NAICS supersector	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage ¹	
		December 2003 (thousands)	Percent change, December 2002-03 ²	Fourth quarter 2003	Percent change, fourth quarter 2002-03 ²
Dallas, TX	68.6	1,450.8	-1.4	\$952	4.3
Private industry	68.2	1,294.6	-1.4	970	4.8
Natural resources and mining .....	.5	6.8	-20.5	2,680	22.7
Construction	4.5	73.0	-2.2	909	5.5
Manufacturing	3.5	144.9	-3.1	1,075	6.8
Trade, transportation, and utilities	15.8	326.1	-3.3	898	5.2
Information	1.9	64.0	-5.1	1,272	8.7
Financial activities	8.6	140.0	1.2	1,215	2.9
Professional and business services	14.0	237.7	.0	1,152	4.2
Education and health services	6.3	131.4	2.4	887	2.7
Leisure and hospitality	5.2	127.5	.0	432	4.3
Other services	6.7	40.5	-3.4	587	2.8
Government .....	.4	156.2	-1.8	800	-1.1
Orange, CA	88.8	1,436.6	1.3	874	5.3
Private industry	87.4	1,305.5	2.1	875	5.2
Natural resources and mining .....	.3	6.1	8.3	579	.2
Construction	6.4	85.5	4.4	969	5.9
Manufacturing	6.1	179.9	-3.0	1,036	11.4
Trade, transportation, and utilities	17.3	278.8	.6	802	2.7
Information	1.5	33.8	-4.4	1,152	5.3
Financial activities	9.7	127.8	9.9	1,354	6.2
Professional and business services	17.4	261.0	1.0	942	2.8
Education and health services	9.1	126.6	6.1	849	3.7
Leisure and hospitality	6.6	159.9	2.5	358	3.8
Other services	12.9	46.0	6.3	518	3.0
Government	1.4	131.1	-5.7	859	6.0
San Diego, CA	85.3	1,278.2	1.3	815	2.6
Private industry	83.9	1,060.2	1.5	809	2.5
Natural resources and mining .....	.9	11.0	-5.4	491	1.0
Construction	6.4	81.1	4.7	869	.7
Manufacturing	3.6	105.4	-4.2	1,129	11.5
Trade, transportation, and utilities	14.2	220.4	2.2	655	.9
Information	1.4	36.7	-4.5	1,582	-2.0
Financial activities	8.8	81.6	4.8	1,058	.4
Professional and business services	14.9	208.1	1.5	989	2.8
Education and health services	7.6	122.6	1.6	778	5.7
Leisure and hospitality	6.5	141.5	3.5	346	2.4
Other services	19.5	51.6	1.8	449	2.7
Government	1.3	218.0	.1	843	2.9
King, WA	81.6	1,100.6	.2	935	.2
Private industry	81.0	945.5	.1	944	-3.3
Natural resources and mining .....	.4	2.8	-11.3	1,109	.8
Construction	6.2	53.4	-4.4	921	1.4
Manufacturing	2.7	101.9	-8.2	1,176	-2.1
Trade, transportation, and utilities	14.8	225.5	1.1	804	2.6
Information	1.5	69.2	.8	1,829	-15.7
Financial activities	6.1	77.5	2.4	1,114	3.5
Professional and business services	11.7	158.3	.7	1,160	8.4
Education and health services	5.9	108.3	1.5	746	4.8
Leisure and hospitality	5.4	100.5	2.9	390	3.7
Other services	26.4	48.1	1.2	463	.4
Government .....	.6	155.1	1.0	882	3.6
Miami-Dade, FL	80.2	980.8	-.5	765	3.5
Private industry	79.9	827.5	-.7	742	3.6
Natural resources and mining .....	.5	9.9	-1.8	421	4.0
Construction	4.9	40.7	.3	788	2.7
Manufacturing	2.8	49.4	-9.8	695	5.8
Trade, transportation, and utilities	23.2	247.2	-1.7	689	4.2
Information	1.7	28.5	-3.2	990	1.7
Financial activities	8.2	65.5	.7	1,062	-1.1
Professional and business services	15.9	132.0	-.2	948	5.2
Education and health services	7.8	123.4	1.4	748	2.3
Leisure and hospitality	5.3	92.8	2.1	432	9.9
Other services	7.5	34.5	-1.8	450	3.0
Government .....	.3	153.3	.5	886	2.8

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, fourth quarter 2003.

State	Establishments, fourth quarter 2003 (thousands)	Employment		Average weekly wage ¹	
		December 2003 (thousands)	Percent change, December 2002-03	Fourth quarter 2003	Percent change, fourth quarter 2002-03
United States ²	8,314.1	129,341.5	0.0	\$767	3.6
Alabama	111.8	1,838.1	-.1	657	4.0
Alaska	20.0	282.7	1.1	746	1.1
Arizona	126.9	2,352.1	2.2	710	3.8
Arkansas	75.2	1,133.6	.5	587	4.1
California	1,190.8	14,922.3	.0	869	3.8
Colorado	160.0	2,134.6	-1.1	784	2.0
Connecticut	109.1	1,648.9	-.7	992	3.8
Delaware	27.1	408.4	.5	825	5.0
District of Columbia	30.0	654.8	-.4	1,238	3.9
Florida	504.1	7,424.5	.8	685	3.8
Georgia	245.6	3,845.6	.2	734	2.8
Hawaii	37.4	583.0	1.3	678	3.7
Idaho	48.5	577.5	.6	579	1.8
Illinois	325.7	5,738.7	-1.2	827	3.2
Indiana	152.1	2,852.2	-.3	675	3.5
Iowa	90.6	1,418.5	.0	626	4.7
Kansas	82.2	1,298.3	-.9	631	2.8
Kentucky	105.7	1,740.6	.3	645	3.5
Louisiana	114.0	1,870.9	.5	628	2.4
Maine	47.4	595.8	.7	631	4.6
Maryland	150.4	2,466.4	.7	831	3.6
Massachusetts	206.6	3,154.6	-1.9	954	5.2
Michigan	251.3	4,365.8	-1.1	806	3.9
Minnesota	159.0	2,591.9	-.5	777	3.2
Mississippi	65.6	1,108.1	.4	559	3.7
Missouri	165.4	2,633.6	-.7	676	2.4
Montana	42.0	396.6	1.1	549	4.0
Nebraska	55.3	884.4	.6	613	3.2
Nevada	60.3	1,111.2	4.4	721	5.1
New Hampshire	47.0	614.9	.6	788	4.0
New Jersey	268.1	3,912.8	.1	945	3.4
New Mexico	50.4	757.1	1.4	612	4.1
New York	550.3	8,379.2	-.4	959	5.2
North Carolina	227.8	3,759.6	-.1	679	4.5
North Dakota	24.0	317.6	.9	563	4.3
Ohio	294.2	5,322.4	-.7	713	3.8
Oklahoma	91.6	1,423.4	-1.3	597	4.2
Oregon	118.8	1,579.8	.2	694	3.3
Pennsylvania	326.9	5,524.5	-.2	750	4.7
Rhode Island	34.7	480.5	1.2	738	5.1
South Carolina	108.4	1,781.0	.3	623	3.1
South Dakota	28.1	365.4	.3	559	4.1
Tennessee	128.4	2,648.0	.4	689	4.2
Texas	505.3	9,300.1	-.3	754	3.1
Utah	73.9	1,066.2	1.2	630	2.3
Vermont	24.1	300.7	.3	661	5.1
Virginia	202.6	3,477.5	1.2	786	5.2
Washington	222.7	2,654.7	1.0	759	1.3
West Virginia	47.2	685.2	.1	587	2.1
Wisconsin	157.6	2,715.4	.0	683	4.1
Wyoming	22.0	241.6	1.7	616	4.1
Puerto Rico	50.2	1,074.1	3.5	450	4.7
Virgin Islands	3.2	42.5	-.2	629	2.4

¹ Average weekly wages were calculated using unrounded data.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. Data are preliminary.

² Totals for the United States do not include data for Puerto Rico or the Virgin Islands.

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)					
1993	6,679,934	109,422,571	\$2,884,472,282	\$26,361	\$507
1994	6,826,677	112,611,287	3,033,676,678	26,939	518
1995	7,040,677	115,487,841	3,215,921,236	27,846	536
1996	7,189,168	117,963,132	3,414,514,808	28,946	557
1997	7,369,473	121,044,432	3,674,031,718	30,353	584
1998	7,634,018	124,183,549	3,967,072,423	31,945	614
1999	7,820,860	127,042,282	4,235,579,204	33,340	641
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
UI covered					
1993	6,632,221	106,351,431	\$2,771,023,411	\$26,055	\$501
1994	6,778,300	109,588,189	2,918,684,128	26,633	512
1995	6,990,594	112,539,795	3,102,353,355	27,567	530
1996	7,137,644	115,081,246	3,298,045,286	28,658	551
1997	7,317,363	118,233,942	3,553,933,885	30,058	578
1998	7,586,767	121,400,660	3,845,494,089	31,676	609
1999	7,771,198	124,255,714	4,112,169,533	33,094	636
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
Private industry covered					
1993	6,454,381	91,202,971	\$2,365,301,493	\$25,934	\$499
1994	6,596,158	94,146,344	2,494,458,555	26,496	510
1995	6,803,454	96,894,844	2,658,927,216	27,441	528
1996	6,946,858	99,268,446	2,837,334,217	28,582	550
1997	7,121,182	102,175,161	3,071,807,287	30,064	578
1998	7,381,518	105,082,368	3,337,621,699	31,762	611
1999	7,560,567	107,619,457	3,577,738,557	33,244	639
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
State government covered					
1993	59,185	4,088,075	\$117,095,062	\$28,643	\$551
1994	60,686	4,162,944	122,879,977	29,518	568
1995	60,763	4,201,836	128,143,491	30,497	586
1996	62,146	4,191,726	131,605,800	31,397	604
1997	65,352	4,214,451	137,057,432	32,521	625
1998	67,347	4,240,779	142,512,445	33,605	646
1999	70,538	4,296,673	149,011,194	34,681	667
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
Local government covered					
1993	118,626	11,059,500	\$288,594,697	\$26,095	\$502
1994	121,425	11,278,080	301,315,857	26,717	514
1995	126,342	11,442,238	315,252,346	27,552	530
1996	128,640	11,621,074	329,105,269	28,320	545
1997	130,829	11,844,330	345,069,166	29,134	560
1998	137,902	12,077,513	365,359,945	30,251	582
1999	140,093	12,339,584	385,419,781	31,234	601
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
Federal Government covered (UCFE)					
1993	47,714	3,071,140	\$113,448,871	\$36,940	\$710
1994	48,377	3,023,098	114,992,550	38,038	731
1995	50,083	2,948,046	113,567,881	38,523	741
1996	51,524	2,881,887	116,469,523	40,414	777
1997	52,110	2,810,489	120,097,833	42,732	822
1998	47,252	2,782,888	121,578,334	43,688	840
1999	49,661	2,786,567	123,409,672	44,287	852
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

NOTE: Detail may not add to totals due to rounding. Data reflect the movement of Indian Tribal Council establishments from private industry to the public sector. See Notes on Current Labor Statistics.

25. Annual data: Quarterly Census of Employment and Wages, establishment size and employment, private ownership, by supersector, first quarter 2003

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 industries²										
Establishments, first quarter	7,933,974	4,768,812	1,331,834	872,241	597,662	203,030	115,598	28,856	10,454	5,487
Employment, March	105,583,548	7,095,128	8,810,097	11,763,253	18,025,655	13,970,194	17,299,058	9,864,934	7,090,739	11,664,490
Natural resources and mining										
Establishments, first quarter	124,527	72,088	23,248	14,773	9,226	2,893	1,593	501	161	44
Employment, March	1,526,176	110,155	153,629	198,895	275,811	198,122	241,559	171,063	108,563	68,379
Construction										
Establishments, first quarter	795,029	523,747	129,201	76,215	46,096	12,837	5,604	1,006	262	61
Employment, March	6,285,841	746,296	846,521	1,021,722	1,371,071	872,274	823,846	338,107	172,944	93,060
Manufacturing										
Establishments, first quarter	381,159	148,469	65,027	57,354	54,261	25,927	19,813	6,506	2,565	1,237
Employment, March	14,606,928	252,443	436,028	788,581	1,685,563	1,815,385	3,043,444	2,245,183	1,732,368	2,607,933
Trade, transportation, and utilities										
Establishments, first quarter	1,851,662	992,180	378,157	239,637	149,960	51,507	31,351	6,681	1,619	570
Employment, March	24,683,356	1,646,304	2,514,548	3,204,840	4,527,709	3,564,316	4,661,898	2,277,121	1,070,141	1,216,479
Information										
Establishments, first quarter	147,062	84,906	20,744	16,130	13,539	5,920	3,773	1,223	575	252
Employment, March	3,208,667	112,409	138,076	220,618	416,670	410,513	576,674	418,113	399,366	516,228
Financial activities										
Establishments, first quarter	753,064	480,485	135,759	76,733	39,003	11,743	6,195	1,794	883	469
Employment, March	7,753,717	788,607	892,451	1,017,662	1,162,498	801,140	934,618	620,183	601,549	935,009
Professional and business services										
Establishments, first quarter	1,307,697	887,875	180,458	111,532	73,599	28,471	17,856	5,153	1,919	834
Employment, March	15,648,435	1,230,208	1,184,745	1,501,470	2,232,506	1,969,466	2,707,203	1,762,251	1,307,870	1,752,716
Education and health services										
Establishments, first quarter	720,207	338,139	164,622	103,683	65,173	24,086	17,122	3,929	1,761	1,692
Employment, March	15,680,834	629,968	1,092,329	1,392,099	1,955,861	1,679,708	2,558,300	1,337,188	1,220,921	3,814,460
Leisure and hospitality										
Establishments, first quarter	657,359	260,149	110,499	118,140	122,168	34,166	9,718	1,609	599	311
Employment, March	11,731,379	411,192	744,144	1,653,470	3,683,448	2,285,550	1,372,780	545,304	404,831	630,660
Other services										
Establishments, first quarter	1,057,236	851,231	116,940	56,238	24,235	5,451	2,561	454	109	17
Employment, March	4,243,633	1,037,360	761,518	740,752	703,957	371,774	376,832	150,421	71,453	29,566

¹ Includes establishments that reported no workers in March 2003.

² Includes data for unclassified establishments, not shown separately.

NOTE: Details may not add to totals due to rounding. Data are only produced for first quarter. Data are preliminary.

26. Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area ¹	Average annual wage ²		
	2001	2002	Percent change, 2001-02
Metropolitan areas ³	\$37,908	\$38,423	1.4
Abilene, TX	25,141	25,517	1.5
Akron, OH	32,930	34,037	3.4
Albany, GA	28,877	29,913	3.6
Albany-Schenectady-Troy, NY	35,355	35,994	1.8
Albuquerque, NM	31,667	32,475	2.6
Alexandria, LA	26,296	27,300	3.8
Allentown-Bethlehem-Easton, PA	33,569	34,789	3.6
Altoona, PA	26,869	27,360	1.8
Amarillo, TX	27,422	28,274	3.1
Anchorage, AK	37,998	39,112	2.9
Ann Arbor, MI	37,582	39,220	4.4
Anniston, AL	26,486	27,547	4.0
Appleton-Oshkosh-Neenah, WI	32,652	33,020	1.1
Asheville, NC	28,511	28,771	.9
Athens, GA	28,966	29,942	3.4
Atlanta, GA	40,559	41,123	1.4
Atlantic-Cape May, NJ	31,268	32,201	3.0
Auburn-Opelika, AL	25,753	26,405	2.5
Augusta-Aiken, GA-SC	30,626	31,743	3.6
Austin-San Marcos, TX	40,831	39,540	-3.2
Bakersfield, CA	30,106	31,192	3.6
Baltimore, MD	37,495	38,718	3.3
Bangor, ME	27,850	28,446	2.1
Barnstable-Yarmouth, MA	31,025	32,028	3.2
Baton Rouge, LA	30,321	31,366	3.4
Beaumont-Port Arthur, TX	31,798	32,577	2.4
Bellingham, WA	27,724	28,284	2.0
Benton Harbor, MI	31,140	32,627	4.8
Bergen-Passaic, NJ	44,701	45,185	1.1
Billings, MT	27,889	28,553	2.4
Biloxi-Gulfport-Pascagoula, MS	28,351	28,515	.6
Binghamton, NY	31,187	31,832	2.1
Birmingham, AL	34,519	35,940	4.1
Bismarck, ND	27,116	27,993	3.2
Bloomington, IN	28,013	28,855	3.0
Bloomington-Normal, IL	35,111	36,133	2.9
Boise City, ID	31,624	31,955	1.0
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH	45,766	45,685	-.2
Boulder-Longmont, CO	44,310	44,037	-.6
Brazoria, TX	35,655	36,253	1.7
Bremerton, WA	31,525	33,775	7.1
Brownsville-Harlingen-San Benito, TX	22,142	22,892	3.4
Bryan-College Station, TX	25,755	26,051	1.1
Buffalo-Niagara Falls, NY	32,054	32,777	2.3
Burlington, VT	34,363	35,169	2.3
Canton-Massillon, OH	29,020	29,689	2.3
Casper, WY	28,264	28,886	2.2
Cedar Rapids, IA	34,649	34,730	.2
Champaign-Urbana, IL	30,488	31,995	4.9
Charleston-North Charleston, SC	28,887	29,993	3.8
Charleston, WV	31,530	32,136	1.9
Charlotte-Gastonia-Rock Hill, NC-SC	37,267	38,413	3.1
Charlottesville, VA	32,427	33,328	2.8
Chattanooga, TN-GA	29,981	30,631	2.2
Cheyenne, WY	27,579	28,827	4.5
Chicago, IL	42,685	43,239	1.3
Chico-Paradise, CA	26,499	27,190	2.6
Cincinnati, OH-KY-IN	36,050	37,168	3.1
Clarksville-Hopkinsville, TN-KY	25,567	26,940	5.4
Cleveland-Lorain-Elyria, OH	35,514	36,102	1.7
Colorado Springs, CO	34,391	34,681	.8
Columbia, MO	28,490	29,135	2.3
Columbia, SC	29,904	30,721	2.7
Columbus, GA-AL	28,412	29,207	2.8
Columbus, OH	35,028	36,144	3.2
Corpus Christi, TX	29,361	30,168	2.7
Corvallis, OR	35,525	36,766	3.5
Cumberland, MD-WV	25,504	26,704	4.7
Dallas, TX	42,706	43,000	.7
Danville, VA	25,465	26,116	2.6

See footnotes at end of table.

26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area ¹	Average annual wage ²		
	2001	2002	Percent change, 2001-02
Davenport-Moline-Rock Island, IA-IL	\$31,275	\$32,118	2.7
Dayton-Springfield, OH	33,619	34,327	2.1
Daytona Beach, FL	25,953	26,898	3.6
Decatur, AL	30,891	30,370	-1.7
Decatur, IL	33,354	33,215	-.4
Denver, CO	42,351	42,133	-.5
Des Moines, IA	34,303	35,641	3.9
Detroit, MI	42,704	43,224	1.2
Dothan, AL	28,026	29,270	4.4
Dover, DE	27,754	29,818	7.4
Dubuque, IA	28,402	29,208	2.8
Duluth-Superior, MN-WI	29,415	30,581	4.0
Dutchess County, NY	38,748	38,221	-1.4
Eau Claire, WI	27,680	28,760	3.9
El Paso, TX	25,847	26,604	2.9
Elkhart-Goshen, IN	30,797	32,427	5.3
Elmira, NY	28,669	29,151	1.7
Enid, OK	24,836	25,507	2.7
Erie, PA	29,293	29,780	1.7
Eugene-Springfield, OR	28,983	29,427	1.5
Evansville-Henderson, IN-KY	31,042	31,977	3.0
Fargo-Moorhead, ND-MN	27,899	29,053	4.1
Fayetteville, NC	26,981	28,298	4.9
Fayetteville-Springdale-Rogers, AR	29,940	31,090	3.8
Flagstaff, AZ-UT	25,890	26,846	3.7
Flint, MI	35,995	36,507	1.4
Florence, AL	25,639	26,591	3.7
Florence, SC	28,800	29,563	2.6
Fort Collins-Loveland, CO	33,248	34,215	2.9
Fort Lauderdale, FL	33,966	34,475	1.5
Fort Myers-Cape Coral, FL	29,432	30,324	3.0
Fort Pierce-Port St. Lucie, FL	27,742	29,152	5.1
Fort Smith, AR-OK	26,755	27,075	1.2
Fort Walton Beach, FL	26,151	27,242	4.2
Fort Wayne, IN	31,400	32,053	2.1
Fort Worth-Arlington, TX	36,379	37,195	2.2
Fresno, CA	27,647	28,814	4.2
Gadsden, AL	25,760	26,214	1.8
Gainesville, FL	26,917	27,648	2.7
Galveston-Texas City, TX	31,067	31,920	2.7
Gary, IN	31,948	32,432	1.5
Glens Falls, NY	27,885	28,931	3.8
Goldsboro, NC	25,398	25,821	1.7
Grand Forks, ND-MN	24,959	25,710	3.0
Grand Junction, CO	27,426	28,331	3.3
Grand Rapids-Muskegon-Holland, MI	33,431	34,214	2.3
Great Falls, MT	24,211	25,035	3.4
Greeley, CO	30,066	31,104	3.5
Green Bay, WI	32,631	33,698	3.3
Greensboro-Winston-Salem-High Point, NC	31,730	32,369	2.0
Greenville, NC	28,289	29,055	2.7
Greenville-Spartanburg-Anderson, SC	30,940	31,726	2.5
Hagerstown, MD	29,020	30,034	3.5
Hamilton-Middletown, OH	32,325	32,985	2.0
Harrisburg-Lebanon-Carlisle, PA	33,408	34,497	3.3
Hartford, CT	43,880	44,387	1.2
Hattiesburg, MS	25,145	26,051	3.6
Hickory-Morganton-Lenoir, NC	27,305	27,996	2.5
Honolulu, HI	32,531	33,978	4.4
Houma, LA	30,343	30,758	1.4
Houston, TX	42,784	42,712	-.2
Huntington-Ashland, WV-KY-OH	27,478	28,321	3.1
Huntsville, AL	36,727	38,571	5.0
Indianapolis, IN	35,989	36,608	1.7
Iowa City, IA	31,663	32,567	2.9
Jackson, MI	32,454	33,251	2.5
Jackson, MS	29,813	30,537	2.4
Jackson, TN	29,414	30,443	3.5
Jacksonville, FL	32,367	33,722	4.2
Jacksonville, NC	21,395	22,269	4.1

See footnotes at end of table.

26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area ¹	Average annual wage ²		
	2001	2002	Percent change, 2001-02
Jamestown, NY	\$25,913	\$26,430	2.0
Janesville-Beloit, WI	31,482	32,837	4.3
Jersey City, NJ	47,638	49,562	4.0
Johnson City-Kingsport-Bristol, TN-VA	28,543	29,076	1.9
Johnstown, PA	25,569	26,161	2.3
Jonesboro, AR	25,337	26,165	3.3
Joplin, MO	26,011	26,594	2.2
Kalamazoo-Battle Creek, MI	32,905	34,237	4.0
Kankakee, IL	29,104	30,015	3.1
Kansas City, MO-KS	35,794	36,731	2.6
Kenosha, WI	31,562	32,473	2.9
Killeen-Temple, TX	26,193	27,299	4.2
Knoxville, TN	30,422	31,338	3.0
Kokomo, IN	39,599	40,778	3.0
La Crosse, WI-MN	27,774	28,719	3.4
Lafayette, LA	29,693	30,104	1.4
Lafayette, IN	31,484	31,700	.7
Lake Charles, LA	29,782	30,346	1.9
Lakeland-Winter Haven, FL	28,890	29,505	2.1
Lancaster, PA	31,493	32,197	2.2
Lansing-East Lansing, MI	34,724	35,785	3.1
Laredo, TX	24,128	24,739	2.5
Las Cruces, NM	24,310	25,256	3.9
Las Vegas, NV-AZ	32,239	33,280	3.2
Lawrence, KS	25,923	26,621	2.7
Lawton, OK	24,812	25,392	2.3
Lewiston-Auburn, ME	27,092	28,435	5.0
Lexington, KY	31,593	32,776	3.7
Lima, OH	29,644	30,379	2.5
Lincoln, NE	29,352	30,614	4.3
Little Rock-North Little Rock, AR	30,858	31,634	2.5
Longview-Marshall, TX	28,029	28,172	.5
Los Angeles-Long Beach, CA	40,891	41,709	2.0
Louisville, KY-IN	33,058	33,901	2.6
Lubbock, TX	26,577	27,625	3.9
Lynchburg, VA	28,859	29,444	2.0
Macon, GA	30,595	31,884	4.2
Madison, WI	34,097	35,410	3.9
Mansfield, OH	28,808	30,104	4.5
McAllen-Edinburg-Mission, TX	22,313	23,179	3.9
Medford-Ashland, OR	27,224	28,098	3.2
Melbourne-Titusville-Palm Bay, FL	32,798	33,913	3.4
Memphis, TN-AR-MS	34,603	35,922	3.8
Merced, CA	25,479	26,771	5.1
Miami, FL	34,524	35,694	3.4
Middlesex-Somerset-Hunterdon, NJ	49,950	50,457	1.0
Milwaukee-Waukesha, WI	35,617	36,523	2.5
Minneapolis-St. Paul, MN-WI	40,868	41,722	2.1
Missoula, MT	26,181	27,249	4.1
Mobile, AL	28,129	28,742	2.2
Modesto, CA	29,591	30,769	4.0
Monmouth-Ocean, NJ	37,056	37,710	1.8
Monroe, LA	26,578	27,614	3.9
Montgomery, AL	29,150	30,525	4.7
Muncie, IN	28,374	29,017	2.3
Myrtle Beach, SC	24,029	24,672	2.7
Naples, FL	30,839	31,507	2.2
Nashville, TN	33,989	35,036	3.1
Nassau-Suffolk, NY	39,662	40,396	1.9
New Haven-Bridgeport-Stamford-Waterbury-Danbury, CT	52,198	51,170	-2.0
New London-Norwich, CT	38,505	38,650	.4
New Orleans, LA	31,089	32,407	4.2
New York, NY	59,097	57,708	-2.4
Newark, NJ	47,715	48,781	2.2
Newburgh, NY-PA	29,827	30,920	3.7
Norfolk-Virginia Beach-Newport News, VA-NC	29,875	30,823	3.2
Oakland, CA	45,920	46,877	2.1
Ocala, FL	26,012	26,628	2.4
Odessa-Midland, TX	31,278	31,295	.1
Oklahoma City, OK	28,915	29,850	3.2

See footnotes at end of table.

26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area ¹	Average annual wage ²		
	2001	2002	Percent change, 2001-02
Olympia, WA	\$32,772	\$33,765	3.0
Omaha, NE-IA	31,856	33,107	3.9
Orange County, CA	40,252	41,219	2.4
Orlando, FL	31,276	32,461	3.8
Owensboro, KY	27,306	28,196	3.3
Panama City, FL	26,433	27,448	3.8
Parkersburg-Marietta, WV-OH	27,920	29,529	5.8
Pensacola, FL	28,059	28,189	.5
Peoria-Pekin, IL	33,293	34,261	2.9
Philadelphia, PA-NJ	40,231	41,121	2.2
Phoenix-Mesa, AZ	35,514	36,045	1.5
Pine Bluff, AR	27,561	28,698	4.1
Pittsburgh, PA	35,024	35,625	1.7
Pittsfield, MA	31,561	32,707	3.6
Pocatello, ID	24,621	25,219	2.4
Portland, ME	32,327	33,309	3.0
Portland-Vancouver, OR-WA	37,285	37,650	1.0
Providence-Warwick-Pawtucket, RI	33,403	34,610	3.6
Provo-Orem, UT	28,266	28,416	.5
Pueblo, CO	27,097	27,763	2.5
Punta Gorda, FL	25,404	26,119	2.8
Racine, WI	33,319	34,368	3.1
Raleigh-Durham-Chapel Hill, NC	38,691	39,056	.9
Rapid City, SD	25,508	26,434	3.6
Reading, PA	32,807	33,912	3.4
Redding, CA	28,129	28,961	3.0
Reno, NV	34,231	34,744	1.5
Richland-Kennewick-Pasco, WA	33,370	35,174	5.4
Richmond-Petersburg, VA	35,879	36,751	2.4
Riverside-San Bernardino, CA	30,510	31,591	3.5
Roanoke, VA	30,330	31,775	4.8
Rochester, MN	37,753	39,036	3.4
Rochester, NY	34,327	34,827	1.5
Rockford, IL	32,104	32,827	2.3
Rocky Mount, NC	28,770	28,893	.4
Sacramento, CA	38,016	39,354	3.5
Saginaw-Bay City-Midland, MI	35,429	35,444	.0
St. Cloud, MN	28,263	29,535	4.5
St. Joseph, MO	27,734	28,507	2.8
St. Louis, MO-IL	35,928	36,712	2.2
Salem, OR	28,336	29,210	3.1
Salinas, CA	31,735	32,463	2.3
Salt Lake City-Ogden, UT	31,965	32,600	2.0
San Angelo, TX	26,147	26,321	.7
San Antonio, TX	30,650	31,336	2.2
San Diego, CA	38,418	39,305	2.3
San Francisco, CA	59,654	56,602	-5.1
San Jose, CA	65,931	63,056	-4.4
San Luis Obispo-Atascadero-Paso Robles, CA	29,092	29,981	3.1
Santa Barbara-Santa Maria-Lompoc, CA	33,626	34,382	2.2
Santa Cruz-Watsonville, CA	35,022	35,721	2.0
Santa Fe, NM	30,671	32,269	5.2
Santa Rosa, CA	36,145	36,494	1.0
Sarasota-Bradenton, FL	27,958	28,950	3.5
Savannah, GA	30,176	30,796	2.1
Scranton-Wilkes-Barre-Hazleton, PA	28,642	29,336	2.4
Seattle-Bellevue-Everett, WA	45,299	46,093	1.8
Sharon, PA	26,707	27,872	4.4
Sheboygan, WI	30,840	32,148	4.2
Sherman-Denison, TX	30,397	30,085	-1.0
Shreveport-Bossier City, LA	27,856	28,769	3.3
Sioux City, IA-NE	26,755	27,543	2.9
Sioux Falls, SD	28,962	29,975	3.5
South Bend, IN	30,769	31,821	3.4
Spokane, WA	29,310	30,037	2.5
Springfield, IL	36,061	37,336	3.5
Springfield, MO	27,338	27,987	2.4
Springfield, MA	32,801	33,972	3.6
State College, PA	29,939	30,910	3.2
Steubenville-Weirton, OH-WV	28,483	29,129	2.3

See footnotes at end of table.

26. Continued—Annual data: Quarterly Census of Employment and Wages, by metropolitan area, 2001-02

Metropolitan area ¹	Average annual wage ²		
	2001	2002	Percent change, 2001-02
Stockton-Lodi, CA	\$30,818	\$31,958	3.7
Sumter, SC	24,450	24,982	2.2
Syracuse, NY	32,254	33,752	4.6
Tacoma, WA	31,261	32,507	4.0
Tallahassee, FL	29,708	30,895	4.0
Tampa-St. Petersburg-Clearwater, FL	31,678	32,458	2.5
Terre Haute, IN	27,334	28,415	4.0
Texarkana, TX-Texarkana, AR	26,492	27,717	4.6
Toledo, OH	32,299	33,513	3.8
Topeka, KS	30,513	31,707	3.9
Trenton, NJ	46,831	47,969	2.4
Tucson, AZ	30,690	31,673	3.2
Tulsa, OK	31,904	32,241	1.1
Tuscaloosa, AL	29,972	30,745	2.6
Tyler, TX	30,551	31,050	1.6
Utica-Rome, NY	27,777	28,500	2.6
Vallejo-Fairfield-Napa, CA	33,903	34,543	1.9
Ventura, CA	37,783	38,195	1.1
Victoria, TX	29,068	29,168	.3
Vineland-Millville-Bridgeton, NJ	32,571	33,625	3.2
Visalia-Tulare-Porterville, CA	24,732	25,650	3.7
Waco, TX	28,245	28,885	2.3
Washington, DC-MD-VA-WV	47,589	48,430	1.8
Waterloo-Cedar Falls, IA	29,119	29,916	2.7
Wausau, WI	29,402	30,292	3.0
West Palm Beach-Boca Raton, FL	35,957	36,550	1.6
Wheeling, WV-OH	26,282	26,693	1.6
Wichita, KS	32,983	33,429	1.4
Wichita Falls, TX	25,557	26,387	3.2
Williamsport, PA	27,801	27,988	.7
Wilmington-Newark, DE-MD	42,177	43,401	2.9
Wilmington, NC	29,287	29,157	-.4
Yakima, WA	24,204	24,934	3.0
Yolo, CA	35,352	35,591	.7
York, PA	31,936	32,609	2.1
Youngstown-Warren, OH	28,789	29,799	3.5
Yuba City, CA	27,781	28,967	4.3
Yuma, AZ	22,415	23,429	4.5
Aguadilla, PR	18,061	19,283	6.8
Arecibo, PR	16,600	18,063	8.8
Caguas, PR	18,655	19,706	5.6
Mayaguez, PR	17,101	17,500	2.3
Ponce, PR	17,397	18,187	4.5
San Juan-Bayamon, PR	20,948	21,930	4.7

¹ Includes data for Metropolitan Statistical Areas (MSA) and Primary Metropolitan Statistical Areas (PMSA) as defined by OMB Bulletin No. 99-04. In the New England areas, the New England County Metropolitan Area (NECMA) definitions were used.

² Each year's total is based on the MSA definition for the specific year. Annual changes include differences resulting from changes in MSA definitions.

³ Totals do not include the six MSAs within Puerto Rico.

NOTE: Includes workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs.

27. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1994 ¹	1995	1996	1997 ¹	1998 ¹	1999 ¹	2000 ¹	2001	2002	2003	2004
Civilian noninstitutional population.....	196,814	198,584	200,591	203,133	205,220	207,753	212,577	215,092	217,570	221,168	223,357
Civilian labor force.....	131,056	132,304	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510	147,401
Labor force participation rate.....	66.6	66.6	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2	66.0
Employed.....	123,060	124,900	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736	139,252
Employment-population ratio.....	62.5	62.9	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3	62.3
Unemployed.....	7,996	7,404	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774	8,149
Unemployment rate.....	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0	5.5
Not in the labor force.....	65,758	66,280	66,647	66,836	67,547	68,385	69,994	71,359	72,707	74,658	75,956

¹ Not strictly comparable with prior years.

28. Annual data: Employment levels by industry

[In thousands]

Industry	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total private employment.....	95,016	97,866	100,169	103,113	106,021	108,686	110,996	110,707	108,828	108,416	109,862
Total nonfarm employment.....	114,291	117,298	119,708	122,770	125,930	128,993	131,785	131,826	130,341	129,999	131,480
Goods-producing.....	22,774	23,156	23,410	23,886	24,354	24,465	24,649	23,873	22,557	21,816	21,884
Natural resources and mining.....	659	641	637	654	645	598	599	606	583	572	591
Construction.....	5,095	5,274	5,536	5,813	6,149	6,545	6,787	6,826	6,716	6,735	6,964
Manufacturing.....	17,021	17,241	17,237	17,419	17,560	17,322	17,263	16,441	15,259	14,510	14,329
Private service-providing.....	72,242	74,710	76,759	79,227	81,667	84,221	86,346	86,834	86,271	86,599	87,978
Trade, transportation, and utilities.....	23,128	23,834	24,239	24,700	25,186	25,771	26,225	25,983	25,497	25,287	25,510
Wholesale trade.....	5,247.3	5,433.1	5,522.0	5,663.9	5,795.2	5,892.5	5,933.2	5,772.7	5,652.3	5,607.5	5,654.9
Retail trade.....	13,490.8	13,896.7	14,142.5	14,388.9	14,609.3	14,970.1	15,279.8	15,238.6	15,025.1	14,917.3	15,034.7
Transportation and warehousing.....	3,701.0	3,837.8	3,935.3	4,026.5	4,168.0	4,300.3	4,410.3	4,372.0	4,223.6	4,185.4	4,250.0
Utilities.....	689.3	666.2	639.6	620.9	613.4	608.5	601.3	599.4	596.2	577.0	570.2
Information.....	2,738	2,843	2,940	3,084	3,218	3,419	3,631	3,629	3,395	3,188	3,138
Financial activities.....	6,867	6,827	6,969	7,178	7,462	7,648	7,687	7,807	7,847	7,977	8,052
Professional and business services.....	12,174	12,844	13,462	14,335	15,147	15,957	16,666	16,476	15,976	15,987	16,414
Education and health services.....	12,807	13,289	13,683	14,087	14,446	14,798	15,109	15,645	16,199	16,588	16,954
Leisure and hospitality.....	10,100	10,501	10,777	11,018	11,232	11,543	11,862	12,036	11,986	12,173	12,479
Other services.....	4,428	4,572	4,690	4,825	4,976	5,087	5,168	5,258	5,372	5,401	5,431
Government.....	19,275	19,432	19,539	19,664	19,909	20,307	20,790	21,118	21,513	21,583	21,618

29. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Private sector:											
Average weekly hours.....	34.5	34.3	34.3	34.5	34.5	34.3	34.3	34.0	33.9	33.7	33.7
Average hourly earnings (in dollars).....	11.32	11.64	12.03	12.49	13.00	13.47	14.00	14.53	14.95	15.35	15.67
Average weekly earnings (in dollars).....	390.73	399.53	412.74	431.25	448.04	462.49	480.41	493.20	506.07	517.30	528.56
Goods-producing:											
Average weekly hours.....	41.1	40.8	40.8	41.1	40.8	40.8	40.7	39.9	39.9	39.8	40.0
Average hourly earnings (in dollars).....	12.63	12.96	13.38	13.82	14.23	14.71	15.27	15.78	16.33	16.80	17.19
Average weekly earnings (in dollars).....	519.58	528.62	546.48	568.43	580.99	599.99	621.86	630.04	651.61	669.13	688.03
Natural resources and mining											
Average weekly hours.....	45.3	45.3	46.0	46.2	44.9	44.2	44.4	44.6	43.2	43.6	44.5
Average hourly earnings (in dollars).....	14.41	14.78	15.10	15.57	16.20	16.33	16.55	17.00	17.19	17.56	18.08
Average weekly earnings (in dollars).....	653.14	670.32	695.07	720.11	727.28	721.74	734.92	757.92	741.97	765.94	804.03
Construction:											
Average weekly hours.....	38.8	38.8	38.9	38.9	38.8	39.0	39.2	38.7	38.4	38.4	38.3
Average hourly earnings (in dollars).....	14.38	14.73	15.11	15.67	16.23	16.80	17.48	18.00	18.52	18.95	19.23
Average weekly earnings (in dollars).....	558.53	571.57	588.48	609.48	629.75	655.11	685.78	695.89	711.82	726.83	735.70
Manufacturing:											
Average weekly hours.....	41.7	41.3	41.3	41.7	41.4	41.4	41.3	40.3	40.5	40.4	40.8
Average hourly earnings (in dollars).....	12.04	12.34	12.75	13.14	13.45	13.85	14.32	14.76	15.29	15.74	16.14
Average weekly earnings (in dollars).....	502.12	509.26	526.55	548.22	557.12	573.17	590.65	595.19	618.75	635.99	658.53
Private service-providing:											
Average weekly hours.....	32.7	32.6	32.6	32.8	32.8	32.7	32.7	32.5	32.5	32.4	32.3
Average hourly earnings (in dollars).....	10.87	11.19	11.57	12.05	12.59	13.07	13.60	14.16	14.56	14.96	15.26
Average weekly earnings (in dollars).....	354.97	364.14	376.72	394.77	412.78	427.30	445.00	460.32	472.88	483.89	493.67
Trade, transportation, and utilities:											
Average weekly hours.....	34.3	34.1	34.1	34.3	34.2	33.9	33.8	33.5	33.6	33.6	33.5
Average hourly earnings (in dollars).....	10.80	11.10	11.46	11.90	12.39	12.82	13.31	13.70	14.02	14.34	14.59
Average weekly earnings (in dollars).....	370.38	378.79	390.64	407.57	423.30	434.31	449.88	459.53	471.27	481.14	488.58
Wholesale trade:											
Average weekly hours.....	38.8	38.6	38.6	38.8	38.6	38.6	38.8	38.4	38.0	37.9	37.8
Average hourly earnings (in dollars).....	12.93	13.34	13.80	14.41	15.07	15.62	16.28	16.77	16.98	17.36	17.66
Average weekly earnings (in dollars).....	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	644.38	657.29	666.93
Retail trade:											
Average weekly hours.....	30.9	30.8	30.7	30.9	30.9	30.8	30.7	30.7	30.9	30.9	30.7
Average hourly earnings (in dollars).....	8.61	8.85	9.21	9.59	10.05	10.45	10.86	11.29	11.67	11.90	12.08
Average weekly earnings (in dollars).....	501.17	515.14	533.29	559.39	582.21	602.77	631.40	643.45	644.38	657.29	666.93
Transportation and warehousing:											
Average weekly hours.....	39.5	38.9	39.1	39.4	38.7	37.6	37.4	36.7	36.8	36.8	37.2
Average hourly earnings (in dollars).....	12.84	13.18	13.45	13.78	14.12	14.55	15.05	15.33	15.76	16.25	16.53
Average weekly earnings (in dollars).....	507.27	513.37	525.60	542.55	546.86	547.97	562.31	562.70	579.75	598.41	614.90
Utilities:											
Average weekly hours.....	42.3	42.3	42.0	42.0	42.0	42.0	42.0	41.4	40.9	41.1	40.9
Average hourly earnings (in dollars).....	18.66	19.19	19.78	20.59	21.48	22.03	22.75	23.58	23.96	24.77	25.62
Average weekly earnings (in dollars).....	789.98	811.52	830.74	865.26	902.94	924.59	955.66	977.18	979.09	1,017.27	1,048.82
Information:											
Average weekly hours.....	36.0	36.0	36.4	36.3	36.6	36.7	36.8	36.9	36.5	36.2	36.3
Average hourly earnings (in dollars).....	15.32	15.68	16.30	17.14	17.67	18.40	19.07	19.80	20.20	21.01	21.42
Average weekly earnings (in dollars).....	551.28	564.98	592.68	622.40	646.52	675.32	700.89	731.11	738.17	760.81	777.42
Financial activities:											
Average weekly hours.....	35.5	35.5	35.5	35.7	36.0	35.8	35.9	35.8	35.6	35.5	35.5
Average hourly earnings (in dollars).....	11.82	12.28	12.71	13.22	13.93	14.47	14.98	15.59	16.17	17.14	17.53
Average weekly earnings (in dollars).....	419.20	436.12	451.49	472.37	500.95	517.57	537.37	558.02	575.51	609.08	622.99
Professional and business services:											
Average weekly hours.....	34.1	34.0	34.1	34.3	34.3	34.4	34.5	34.2	34.2	34.1	34.2
Average hourly earnings (in dollars).....	12.15	12.53	13.00	13.57	14.27	14.85	15.52	16.33	16.81	17.21	17.46
Average weekly earnings (in dollars).....	414.16	426.44	442.81	465.51	490.00	510.99	535.07	557.84	574.66	587.02	596.96
Education and health services:											
Average weekly hours.....	32.0	32.0	31.9	32.2	32.2	32.1	32.2	32.3	32.4	32.3	32.4
Average hourly earnings (in dollars).....	11.50	11.80	12.17	12.56	13.00	13.44	13.95	14.64	15.21	15.64	16.16
Average weekly earnings (in dollars).....	368.14	377.73	388.27	404.65	418.82	431.35	449.29	473.39	492.74	505.69	523.83
Leisure and hospitality:											
Average weekly hours.....	26.0	25.9	25.9	26.0	26.2	26.1	26.1	25.8	25.8	25.6	25.7
Average hourly earnings (in dollars).....	6.46	6.62	6.82	7.13	7.48	7.76	8.11	8.35	8.58	8.76	8.91
Average weekly earnings (in dollars).....	168.00	171.43	176.48	185.81	195.82	202.87	211.79	215.19	221.26	224.30	228.63
Other services:											
Average weekly hours.....	32.7	32.6	32.5	32.7	32.6	32.5	32.5	32.3	32.0	31.4	31.0
Average hourly earnings (in dollars).....	10.18	10.51	10.85	11.29	11.79	12.26	12.73	13.27	13.72	13.84	13.98
Average weekly earnings (in dollars).....	332.44	342.36	352.62	368.63	384.25	398.77	413.41	428.64	439.76	434.41	433.04

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

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 2005										
Civilian workers²	164.5	165.8	167.6	168.4	170.7	172.2	173.9	174.7	176.6	1.1	3.5
Workers, by occupational group:											
White-collar workers.....	166.7	167.9	169.9	170.7	172.7	174.0	175.8	176.6	178.8	1.2	3.5
Professional specialty and technical.....	164.1	165.0	167.0	168.0	170.2	171.2	173.6	174.7	176.8	1.2	3.9
Executive, administrative, and managerial.....	171.1	172.0	174.0	174.9	175.8	177.1	178.2	179.4	182.0	1.4	3.5
Administrative support, including clerical.....	168.3	170.0	171.7	172.5	175.3	177.2	178.7	180.0	182.0	1.1	3.8
Blue-collar workers.....	159.8	161.4	162.9	163.7	166.9	168.8	170.1	170.9	172.4	.9	3.3
Service occupations.....	164.1	165.0	166.8	167.9	169.7	170.9	172.7	173.6	174.9	.7	3.1
Workers, by industry division:											
Goods-producing.....	163.1	164.6	165.8	166.8	170.4	171.9	173.4	174.4	177.0	1.5	3.9
Manufacturing.....	164.0	165.4	166.5	167.1	171.7	173.2	174.9	175.4	178.2	1.6	3.8
Service-producing.....	165.0	166.2	168.2	169.1	170.8	172.3	174.0	174.7	176.5	1.0	3.3
Services.....	165.3	166.3	168.5	169.5	171.2	172.3	174.5	175.5	177.0	.9	3.4
Health services.....	166.4	167.6	169.3	170.7	173.0	174.4	176.7	177.7	179.9	1.2	4.0
Hospitals.....	169.9	170.8	173.1	174.8	176.8	178.2	180.5	181.8	184.3	1.4	4.2
Educational services.....	163.6	164.2	166.9	167.6	168.5	168.9	171.8	172.9	173.9	.6	3.2
Public administration ³	163.4	164.3	167.3	168.1	170.1	171.4	174.1	175.4	177.6	1.3	4.4
Nonmanufacturing.....	164.5	165.8	167.8	168.6	170.4	171.8	173.5	174.4	176.1	1.0	3.3
Private industry workers	165.0	166.4	168.1	168.8	171.4	173.0	174.4	175.2	177.2	1.1	3.4
Excluding sales occupations.....	165.1	166.6	168.1	169.0	171.6	173.2	174.6	175.6	177.7	1.2	3.6
Workers, by occupational group:											
White-collar workers.....	168.1	169.4	171.2	172.0	174.2	175.7	177.3	178.1	180.4	1.3	3.6
Excluding sales occupations.....	169.1	170.4	172.1	173.0	175.3	176.7	178.3	179.5	182.0	1.4	3.8
Professional specialty and technical occupations.....	166.5	167.7	169.4	170.5	173.4	174.7	176.8	178.1	180.8	1.5	4.3
Executive, administrative, and managerial occupations.....	172.1	173.1	175.0	175.9	176.8	178.1	179.2	180.2	183.0	1.6	3.5
Sales occupations.....	163.5	165.1	167.2	167.1	169.2	171.2	173.1	171.4	173.1	1.0	2.3
Administrative support occupations, including clerical.....	169.0	170.9	172.3	173.2	176.1	178.1	179.4	180.7	182.8	1.2	3.8
Blue-collar workers.....	159.7	161.4	162.8	163.6	166.9	168.8	170.1	170.8	172.3	.9	3.2
Precision production, craft, and repair occupations.....	160.0	162.0	163.1	164.2	167.1	169.1	170.2	171.2	173.1	1.1	3.6
Machine operators, assemblers, and inspectors.....	159.9	161.1	162.6	163.2	168.7	170.5	172.2	172.5	173.3	.5	2.7
Transportation and material moving occupations.....	153.2	155.1	156.7	156.9	158.5	160.6	161.8	162.3	163.7	.9	3.3
Handlers, equipment cleaners, helpers, and laborers.....	164.9	166.8	168.6	169.5	171.7	173.2	174.3	175.3	176.9	.9	3.0
Service occupations.....	161.7	162.6	163.8	164.3	166.9	168.2	168.9	169.7	170.9	.7	2.4
Production and nonsupervisory occupations ⁴	162.6	164.1	165.7	166.6	169.3	171.0	172.4	173.0	174.6	.9	3.1
Workers, by industry division:											
Goods-producing.....	163.0	164.5	165.7	166.5	170.3	171.8	173.3	174.3	176.9	1.5	3.9
Excluding sales occupations.....	162.4	163.8	165.0	165.9	169.8	171.2	172.5	173.7	176.3	1.5	3.8
White-collar occupations.....	167.8	169.2	170.1	170.5	173.5	174.7	176.4	177.8	182.2	2.5	5.0
Excluding sales occupations.....	166.3	167.5	168.5	169.2	172.2	173.3	174.5	176.4	180.9	2.6	5.1
Blue-collar occupations.....	159.9	161.5	162.9	163.9	168.1	169.8	171.3	172.0	173.4	.8	3.2
Construction.....	159.1	161.1	162.3	163.3	164.6	165.9	167.0	167.3	169.1	1.1	2.7
Manufacturing.....	164.0	165.4	166.5	167.1	171.7	173.2	174.9	175.4	178.2	1.6	3.8
White-collar occupations.....	167.1	168.7	169.5	169.6	173.2	174.6	176.4	176.7	181.4	2.7	4.7
Excluding sales occupations.....	165.1	166.4	167.4	167.8	171.3	172.6	174.1	174.7	179.4	2.7	4.7
Blue-collar occupations.....	161.6	162.8	164.1	165.1	170.4	172.0	173.7	174.3	175.8	.9	3.2
Durable goods.....	164.4	165.5	166.6	167.3	172.4	174.0	175.8	176.3	179.5	1.8	4.1
Nondurable goods.....	163.1	164.9	166.0	166.6	170.4	171.7	173.1	173.6	175.8	1.3	3.2
Service-producing.....	165.6	167.0	168.8	169.7	171.6	173.3	174.7	175.3	177.1	1.0	3.2
Excluding sales occupations.....	166.6	168.0	169.7	170.6	172.5	174.2	175.6	176.5	178.4	1.1	3.4
White-collar occupations.....	167.9	169.2	171.2	172.0	174.1	175.7	177.3	177.8	179.7	1.1	3.2
Excluding sales occupations.....	169.9	171.3	173.1	174.2	176.2	177.8	179.4	180.4	182.4	1.1	3.5
Blue-collar occupations.....	158.7	160.8	162.2	162.6	164.1	166.4	167.4	168.1	169.9	1.1	3.5
Service occupations.....	161.1	162.0	163.2	164.3	166.1	167.4	168.1	168.9	170.1	.7	2.4
Transportation and public utilities.....	163.2	165.4	166.5	167.0	169.8	172.5	173.6	173.5	174.5	.6	2.8
Transportation.....	157.8	158.9	159.4	159.6	162.0	164.7	166.2	166.2	165.5	.4	2.2
Public utilities.....	170.5	174.2	176.4	177.0	180.4	183.1	183.6	183.4	186.9	1.9	3.6
Communications.....	171.3	175.5	178.4	179.0	182.2	183.6	183.6	183.5	186.0	1.4	2.1
Electric, gas, and sanitary services.....	169.5	172.6	173.8	174.6	178.2	182.4	183.3	183.3	188.0	2.6	5.5
Wholesale and retail trade.....	161.3	162.5	164.3	165.0	166.3	168.1	169.1	169.1	170.9	1.1	2.8
Excluding sales occupations.....	161.8	162.7	165.0	165.9	167.4	168.6	169.6	170.4	172.3	1.1	2.9
Wholesale trade.....	169.5	171.3	172.0	172.0	173.8	175.9	177.8	176.6	179.1	1.4	3.0
Excluding sales occupations.....	168.4	169.9	171.2	171.3	173.7	174.0	175.3	176.3	179.2	1.6	3.2
Retail trade.....	156.6	157.4	159.9	161.0	162.1	163.7	164.2	164.7	166.2	.9	2.5
General merchandise stores.....	156.4	159.2	161.2	165.6	165.8	166.2	168.8	169.5	172.3	1.7	3.9
Food stores.....	157.5	158.6	159.3	160.3	162.1	163.5	163.5	164.0	165.0	.6	1.8

See footnotes at end of table.

30. Continued-Employment Cost Index, compensation, ¹ by occupation and industry group

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 2005										
Finance, insurance, and real estate.....	176.7	178.3	180.2	180.9	182.5	183.6	184.8	186.0	188.9	1.6	3.5
Excluding sales occupations.....	182.0	184.0	1,853.0	186.1	186.6	188.7	190.9	191.2	194.3	1.6	4.1
Banking, savings and loan, and other credit agencies.	204.3	206.3	207.6	209.0	207.2	208.9	210.5	212.3	213.7	.7	3.1
Insurance.....	172.1	173.9	175.1	176.2	177.8	180.5	182.1	183.6	186.3	1.5	4.8
Services.....	167.1	168.4	170.4	171.4	173.5	175.1	176.9	177.9	179.7	1.0	3.6
Business services.....	168.5	169.2	171.9	172.6	174.8	176.9	178.5	179.1	180.1	.6	3.0
Health services.....	166.5	167.9	169.4	170.8	173.3	174.8	177.0	178.0	180.3	1.3	4.0
Hospitals.....	170.8	171.9	173.9	175.9	178.1	179.7	181.8	183.2	185.8	1.4	4.3
Educational services.....	176.3	177.1	180.2	181.3	183.1	184.2	187.0	188.5	190.0	.8	3.8
Colleges and universities.....	174.5	175.4	178.4	179.4	181.2	182.5	185.2	186.2	187.6	.8	3.5
Nonmanufacturing.....	164.9	166.4	168.1	169.0	170.9	172.5	173.9	174.7	176.5	1.0	3.3
White-collar workers.....	168.0	169.3	171.2	172.1	174.1	175.7	177.2	178.0	180.0	1.1	3.4
Excluding sales occupations.....	170.0	171.4	173.2	174.2	176.2	177.7	179.3	180.6	182.7	1.2	3.7
Blue-collar occupations.....	157.5	159.7	161.1	161.7	163.4	165.5	166.4	167.3	168.8	.9	3.3
Service occupations.....	161.1	162.0	163.2	162.4	166.0	167.3	168.0	168.9	170.1	.7	2.5
State and local government workers.....	162.6	163.2	165.9	166.8	168.0	168.7	171.5	172.6	174.1	.9	3.6
Workers, by occupational group:											
White-collar workers.....	161.7	162.2	164.9	165.7	166.8	167.5	170.0	171.2	172.6	.8	3.5
Professional specialty and technical.....	160.2	160.8	163.4	164.1	165.1	165.6	168.4	169.4	170.4	.6	3.2
Executive, administrative, and managerial.....	165.3	165.7	168.0	169.1	170.1	171.0	172.1	174.3	176.7	1.4	3.9
Administrative support, including clerical.....	163.8	164.4	167.9	168.5	170.4	171.8	174.3	175.5	177.2	1.0	4.0
Blue-collar workers.....	161.3	161.7	163.6	165.2	166.7	167.5	169.9	171.0	172.6	.9	3.5
Workers, by industry division:											
Services.....	161.8	162.3	164.9	165.7	166.5	166.8	169.7	170.8	171.8	.6	3.2
Services excluding schools ⁵	164.0	164.2	166.8	168.2	169.4	170.1	173.0	173.8	175.6	1.0	3.7
Health services.....	166.4	166.7	169.5	171.0	172.2	172.9	175.7	176.8	178.9	1.2	3.9
Hospitals.....	167.0	167.3	170.3	171.4	172.4	173.2	176.3	177.4	179.1	1.0	3.9
Educational services.....	161.1	161.7	164.3	165.0	165.7	165.9	168.8	169.9	170.9	.6	3.1
Schools.....	161.4	162.0	164.7	165.3	166.0	166.3	169.2	170.3	171.2	.5	3.1
Elementary and secondary.....	159.4	160.0	163.0	163.7	164.4	164.6	168.0	169.2	169.8	.4	3.3
Colleges and universities.....	167.0	167.5	169.2	170.0	170.7	171.0	172.4	173.2	175.1	1.1	2.6
Public administration ³	163.4	164.3	167.3	168.1	170.1	171.4	174.1	175.4	177.6	1.3	4.4

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.

⁴ This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

⁵ Includes, for example, library, social, and health services.

31. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 2005										
Civilian workers¹	159.3	160.3	161.8	162.3	163.3	164.3	165.7	166.2	167.3	0.7	2.4
Workers, by occupational group:											
White-collar workers.....	161.9	162.9	164.5	165.1	166.1	167.1	168.7	169.1	170.3	.7	2.5
Professional specialty and technical.....	159.3	160.1	161.8	162.5	163.8	164.4	166.5	167.0	168.1	.7	2.6
Executive, administrative, and managerial.....	167.9	169.0	170.5	171.2	171.4	172.4	173.4	174.4	175.9	.9	2.6
Administrative support, including clerical.....	161.8	163.1	164.3	164.9	166.3	167.5	168.8	169.7	170.9	.7	2.8
Blue-collar workers.....	153.8	154.8	155.8	156.3	157.3	158.4	159.7	160.0	161.0	.6	2.4
Service occupations.....	158.0	158.7	159.8	160.6	161.2	161.9	162.8	163.6	164.4	.5	2.0
Workers, by industry division:											
Goods-producing.....	156.3	157.5	158.3	160.6	159.9	161.0	162.3	162.4	163.8	.7	2.3
Manufacturing.....	158.0	159.0	159.7	160.1	161.3	162.4	163.8	164.0	165.3	.8	2.5
Service-producing.....	160.5	161.4	163.0	163.6	164.6	165.5	167.0	167.5	168.6	.7	2.4
Services.....	161.9	162.8	164.7	165.4	166.5	167.4	167.3	170.1	171.2	.6	2.8
Health services.....	162.0	163.2	164.7	165.9	167.7	168.6	170.8	171.7	173.2	.9	3.3
Hospitals.....	163.5	164.4	166.3	167.7	169.0	169.9	171.8	173.2	174.7	.9	3.4
Educational services.....	160.4	160.7	162.7	163.2	163.6	163.8	166.0	166.8	167.5	.4	2.4
Public administration ²	157.2	158.0	159.4	160.0	161.1	161.4	162.6	163.5	165.0	.9	2.4
Nonmanufacturing.....	159.6	160.5	162.1	162.7	163.7	164.6	166.0	166.5	167.6	.7	2.4
Private industry workers	159.3	160.4	161.7	162.3	163.4	164.5	165.9	166.2	167.4	.7	2.4
Excluding sales occupations.....	159.4	160.5	161.7	162.4	163.5	164.5	165.8	166.5	167.6	.7	2.5
Workers, by occupational group:											
White-collar workers.....	162.6	163.8	165.3	165.9	167.1	168.2	169.7	170.0	171.3	.8	2.5
Excluding sales occupations.....	163.6	164.8	166.2	167.0	168.1	169.2	170.6	171.4	172.7	.8	2.7
Professional specialty and technical occupations.....	159.5	160.5	162.1	163.0	164.7	165.5	167.6	168.0	169.4	.8	2.9
Executive, administrative, and managerial occupations.....	169.1	170.3	171.8	172.5	172.7	173.9	174.9	175.7	177.2	.9	2.6
Sales occupations.....	158.1	159.3	161.6	161.1	162.6	163.9	165.9	164.0	164.9	.5	1.4
Administrative support occupations, including clerical.....	162.6	164.0	165.1	165.7	167.2	168.6	169.7	170.8	172.0	.7	2.9
Blue-collar workers.....	153.6	154.6	155.6	156.1	157.2	158.3	159.5	159.9	160.8	.6	2.3
Precision production, craft, and repair occupations.....	153.4	154.7	155.5	156.2	157.1	158.3	159.3	159.7	160.4	.4	2.1
Machine operators, assemblers, and inspectors.....	154.7	155.3	156.8	156.9	158.6	159.8	161.6	161.6	162.6	.6	2.5
Transportation and material moving occupations.....	147.8	149.0	149.8	149.8	150.4	151.8	152.9	153.3	154.4	.7	2.7
Handlers, equipment cleaners, helpers, and laborers.....	158.4	159.0	159.9	160.6	161.8	162.7	163.6	164.5	165.6	.7	2.3
Service occupations.....	155.5	156.1	157.1	157.8	158.4	159.3	159.8	160.6	161.4	.5	1.9
Production and nonsupervisory occupations ³	156.4	157.4	158.8	159.4	160.7	161.7	163.1	163.4	164.5	.7	2.4
Workers, by industry division:											
Goods-producing.....	156.3	157.4	158.3	158.7	159.9	160.9	162.3	162.4	163.6	.7	2.3
Excluding sales occupations.....	155.4	156.5	157.4	158.0	159.2	160.2	161.2	161.6	162.8	.7	2.3
White-collar occupations.....	160.0	161.4	161.9	162.1	163.2	164.5	166.0	165.9	167.3	.8	2.5
Excluding sales occupations.....	158.0	159.2	159.9	160.4	161.5	162.7	163.6	164.1	165.3	.7	2.4
Blue-collar occupations.....	153.8	154.8	155.9	156.4	157.7	158.6	159.8	160.1	161.2	.3	2.2
Construction.....	150.6	152.4	153.6	154.0	155.1	155.9	157.1	157.0	157.7	.4	1.7
Manufacturing.....	158.0	159.0	159.7	160.1	161.3	162.4	163.8	164.0	165.3	.8	2.5
White-collar occupations.....	160.1	161.6	162.0	162.1	163.3	164.7	166.1	166.1	167.6	.9	2.6
Excluding sales occupations.....	157.7	158.9	159.5	160.0	161.2	162.5	163.5	163.9	165.1	.7	2.4
Blue-collar occupations.....	156.3	156.9	157.9	158.5	159.8	160.6	162.1	162.4	163.6	.7	2.4
Durables.....	158.8	159.7	160.6	160.9	161.9	162.9	164.5	164.7	165.9	.7	2.5
Nondurables.....	156.6	157.8	158.3	158.7	160.4	161.6	162.8	162.9	164.5	1.0	2.6
Service-producing.....	160.6	161.7	163.3	163.9	165.0	166.1	167.5	167.9	169.0	.7	2.4
Excluding sales occupations.....	161.7	162.8	164.2	165.0	166.0	167.1	168.5	169.3	170.4	.6	2.7
White-collar occupations.....	163.0	164.1	166.0	166.6	167.8	168.9	170.4	170.8	172.1	.8	2.6
Excluding sales occupations.....	165.3	166.5	168.2	169.0	170.2	171.2	172.8	173.6	175.0	.8	2.8
Blue-collar occupations.....	153.2	154.3	155.1	155.4	156.2	157.8	158.9	159.4	160.1	.4	2.5
Service occupations.....	155.1	155.6	156.6	157.4	158.0	158.8	159.4	160.2	160.9	.4	1.8
Transportation and public utilities.....	154.8	155.6	156.0	156.5	157.6	159.1	160.4	160.5	159.8	-.4	1.4
Transportation.....	150.5	150.6	150.4	150.8	151.7	153.4	155.0	155.1	153.4	-1.1	1.1
Public utilities.....	160.4	162.1	163.4	164.1	165.3	166.4	167.5	167.5	168.2	.4	1.8
Communications.....	161.9	163.4	165.4	165.9	167.0	167.5	168.8	168.3	168.4	.1	.8
Electric, gas, and sanitary services.....	158.6	160.4	161.0	161.8	163.3	165.1	165.9	166.6	167.9	.8	2.8
Wholesale and retail trade.....	156.7	157.5	159.2	159.5	160.3	161.6	162.5	162.1	163.4	.8	1.9
Wholesale trade.....	163.4	164.7	164.8	165.3	166.2	167.8	169.7	167.5	169.5	1.2	2.0
Excluding sales occupations.....	163.9	165.2	165.7	166.3	167.8	167.6	168.6	168.9	171.5	1.5	2.2
Retail trade.....	153.1	153.8	156.3	156.5	157.3	158.4	158.7	159.3	160.3	.6	1.9
General merchandise stores.....	149.8	152.0	153.1	153.6	154.1	154.9	157.5	158.1	159.3	.8	3.4
Food stores.....	151.0	151.6	152.2	152.8	153.8	154.3	154.5	155.0	155.8	.5	1.3

See footnotes at end of table.

31. Continued-Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 2005	
Finance, insurance, and real estate.....	171.1	172.4	174.1	174.5	175.2	175.3	176.5	177.7	179.2	0.8	2.3
Excluding sales occupations.....	176.7	178.5	179.2	210.2	179.2	180.5	181.8	182.9	184.6	.9	3.0
Banking, savings and loan, and other credit agencies.	206.4	208.7	209.1	164.5	206.7	207.6	209.5	211.3	210.7	-3	1.9
Insurance.....	161.6	163.0	163.9	164.5	165.1	167.2	168.9	170.4	171.7	.8	4.0
Services.....	162.8	164.0	165.9	166.7	168.1	169.3	171.1	172.0	173.4	.8	3.2
Business services.....	165.6	166.4	169.1	169.8	171.0	172.7	174.3	175.0	175.5	.3	2.6
Health services.....	161.9	163.2	164.6	135.8	167.8	168.8	170.9	171.9	173.4	.9	3.3
Hospitals.....	163.6	164.6	166.5	167.9	169.4	170.5	172.4	173.8	175.4	.9	3.5
Educational services.....	167.1	167.5	170.3	171.0	171.9	172.6	175.5	176.8	177.9	.6	3.5
Colleges and universities.....	164.4	165.1	167.6	168.4	169.5	170.0	172.9	173.6	174.6	.6	3.0
Nonmanufacturing.....	159.4	160.5	162.1	162.6	163.7	164.8	166.2	166.6	167.7	.7	2.4
White-collar workers.....	162.8	163.9	165.7	166.3	167.5	168.6	170.1	170.5	171.7	.7	2.5
Excluding sales occupations.....	164.9	166.1	167.7	168.5	169.7	170.7	172.3	173.1	174.4	.8	2.8
Blue-collar occupations.....	151.1	152.4	153.4	153.8	154.7	156.1	157.1	157.5	158.2	.4	2.3
Service occupations.....	155.0	155.5	156.5	157.3	157.9	158.7	159.2	160.1	160.8	.4	1.8
State and local government workers.....	162.6	163.2	165.9	166.8	168.0	168.7	171.5	172.6	174.1	.6	2.3
Workers, by occupational group:											
White-collar workers.....	158.9	159.2	161.0	161.5	162.1	162.4	164.1	164.9	165.9	.6	2.3
Professional specialty and technical.....	158.8	159.1	161.0	161.4	162.1	162.3	164.4	165.0	165.7	.4	2.2
Executive, administrative, and managerial.....	160.9	161.0	162.5	163.3	163.5	163.8	164.3	166.1	168.2	1.3	2.9
Administrative support, including clerical.....	156.9	157.2	159.1	159.5	160.4	160.8	162.6	163.0	163.9	.6	2.2
Blue-collar workers.....	156.2	156.5	157.6	158.3	158.9	159.2	160.7	161.4	162.4	.6	2.2
Workers, by industry division:											
Services.....	159.5	159.8	161.6	162.1	162.6	162.7	164.8	165.5	166.2	.4	2.2
Services excluding schools ⁴	161.4	161.8	163.2	164.5	165.1	165.6	167.5	168.3	169.4	.7	2.6
Health services.....	162.9	163.5	165.1	166.7	167.4	167.8	169.6	170.7	171.9	.7	2.7
Hospitals.....	163.1	163.8	165.5	166.7	167.4	167.9	169.9	171.0	172.0	.6	2.7
Educational services.....	159.1	159.3	161.2	161.6	162.0	162.1	164.2	164.9	165.5	.4	2.2
Schools.....	159.2	159.5	161.4	161.8	162.1	162.3	164.3	165.0	165.6	.4	2.2
Elementary and secondary.....	158.2	158.5	160.6	160.9	161.3	161.5	163.8	164.5	164.8	.2	2.2
Colleges and universities.....	162.1	162.1	163.5	164.0	164.3	164.4	165.4	166.3	167.9	1.0	2.2
Public administration ²	157.2	158.0	159.4	160.0	161.1	161.4	162.6	163.5	165.0	.9	2.4

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.

³ This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

⁴ Includes, for example, library, social, and health services.

32. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 2005	
Private industry workers	179.6	182.0	184.3	185.8	192.2	195.3	196.9	198.7	203.3	2.3	5.8
Workers, by occupational group:											
White-collar workers.....	183.6	185.5	187.7	189.2	194.4	197.4	199.1	201.1	206.8	2.8	6.4
Blue-collar workers.....	172.7	176.1	178.4	179.9	188.3	191.8	193.3	194.9	197.8	1.5	5.0
Workers, by industry division:											
Goods-producing.....	178.0	180.2	182.3	183.8	193.7	196.2	198.1	201.2	207.0	2.9	6.9
Service-producing.....	179.9	182.3	184.7	186.2	190.6	194.1	195.5	196.5	200.5	2.0	5.2
Manufacturing.....	176.9	179.0	181.1	182.3	194.4	196.9	199.2	200.4	206.7	3.1	6.3
Nonmanufacturing.....	180.3	182.8	185.1	186.7	190.9	194.3	195.7	197.6	201.6	2.0	5.6

33. Employment Cost Index, private industry workers by bargaining status, region, and area size

[June 1989 = 100]

Series	2003				2004				2005	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 2005	
COMPENSATION											
Workers, by bargaining status¹											
Union.....	162.1	164.1	165.7	166.8	171.4	173.9	175.3	176.2	177.5	0.7	3.6
Goods-producing.....	161.4	163.4	164.7	165.9	172.3	174.6	176.0	176.7	178.2	.8	3.4
Service-producing.....	162.6	164.6	166.5	167.5	170.2	172.9	174.4	175.4	176.6	.7	3.8
Manufacturing.....	162.3	163.8	165.0	166.3	175.0	177.0	178.4	178.9	180.6	1.0	3.2
Nonmanufacturing.....	161.4	163.7	165.5	166.5	168.8	171.6	173.0	174.1	175.2	.6	3.8
Nonunion.....	165.4	166.8	168.4	169.1	171.3	172.7	174.2	174.9	177.1	1.3	3.4
Goods-producing.....	163.6	164.9	166.1	166.7	169.7	170.9	172.4	173.5	176.5	1.7	4.0
Service-producing.....	165.9	167.2	169.0	169.8	171.6	173.2	174.6	175.1	177.0	1.1	3.1
Manufacturing.....	164.5	165.8	166.9	167.3	170.6	172.0	173.8	174.3	177.5	1.8	4.0
Nonmanufacturing.....	165.4	166.7	168.5	139.3	171.1	172.6	174.0	174.7	176.6	1.1	3.2
Workers, by region¹											
Northeast.....	163.8	165.2	166.9	167.9	170.2	172.3	173.7	174.2	176.1	1.1	3.5
South.....	160.6	161.6	163.2	163.9	166.4	167.9	169.5	170.6	172.5	1.1	3.7
Midwest (formerly North Central).....	169.0	170.4	171.7	172.5	174.7	176.2	177.6	177.9	180.0	1.2	3.0
West.....	167.3	169.5	171.4	172.2	175.3	176.8	178.1	179.0	181.4	1.3	3.5
Workers, by area size¹											
Metropolitan areas.....	165.2	166.6	168.3	169.1	171.5	173.1	174.6	175.3	177.4	1.2	3.4
Other areas.....	163.5	165.0	166.1	166.9	170.2	172.1	173.3	174.3	176.4	1.2	3.6
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union.....	153.3	154.3	155.3	156.2	157.2	158.7	160.0	160.6	160.8	.1	2.3
Goods-producing.....	152.4	153.9	154.8	155.4	156.3	157.5	158.7	158.9	159.6	.4	2.1
Service-producing.....	154.6	155.1	156.3	157.3	158.5	160.3	161.7	162.6	162.3	-.2	2.4
Manufacturing.....	154.6	155.9	156.7	157.1	158.1	159.2	160.5	160.7	161.5	.5	2.2
Nonmanufacturing.....	152.5	153.5	154.6	155.6	156.6	158.4	159.6	160.4	160.3	-.1	2.4
Nonunion.....	160.4	161.5	163.0	163.4	164.6	165.6	167.0	167.3	168.6	.8	2.4
Goods-producing.....	157.8	158.9	159.7	160.1	161.4	162.4	163.8	163.9	165.2	.8	2.4
Service-producing.....	161.2	162.3	164.0	164.5	165.6	166.6	168.0	168.4	169.7	.8	2.5
Manufacturing.....	159.3	160.2	160.9	161.3	162.6	163.7	165.2	165.3	166.8	.9	2.6
Nonmanufacturing.....	160.4	161.5	163.1	163.7	164.7	165.7	167.1	167.5	168.7	.7	2.4
Workers, by region¹											
Northeast.....	157.3	158.4	160.0	160.9	162.0	163.6	164.9	165.0	166.0	.6	2.5
South.....	155.3	156.1	157.4	157.9	159.1	160.1	161.6	162.3	163.6	.8	2.8
Midwest (formerly North Central).....	164.1	165.0	166.1	166.5	166.9	167.7	169.2	169.2	170.6	.8	2.2
West.....	161.3	163.1	164.7	165.2	166.8	167.9	169.1	169.5	170.3	.5	2.1
Workers, by area size¹											
Metropolitan areas.....	159.6	160.7	162.2	162.7	163.8	164.9	163.3	166.6	167.7	.7	2.4
Other areas.....	156.8	158.0	158.9	159.5	160.8	162.1	162.1	163.8	165.1	.8	2.7

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.

34. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980—97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's).....	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care.....	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance.....	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan.....	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time.....	10	9	9	10	11	10	8	9	—	—
Average minutes per day.....	—	25	26	27	29	26	30	29	—	—
Paid rest time.....	75	76	73	72	72	71	67	68	—	—
Average minutes per day.....	—	25	26	26	26	26	28	26	—	—
Paid funeral leave.....	—	—	—	88	85	84	80	83	80	81
Average days per occurrence.....	—	—	—	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays.....	99	99	99	99	96	97	92	91	89	89
Average days per year.....	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave.....	20	24	23	25	24	22	21	21	22	20
Average days per year.....	—	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations.....	100	99	99	100	98	97	96	97	96	95
Paid sick leave ¹	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave.....	—	—	—	—	33	37	37	60	—	—
Unpaid paternity leave.....	—	—	—	—	16	18	26	53	—	—
Unpaid family leave.....	—	—	—	—	—	—	—	—	84	93
Insurance plans										
Participants in medical care plans.....	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care.....	—	—	46	66	76	75	81	86	78	85
Extended care facilities.....	58	62	62	70	79	80	80	82	73	78
Physical exam.....	—	—	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage.....	26	27	36	43	44	47	51	61	67	69
Average monthly contribution.....	—	—	\$11.93	\$12.80	\$19.29	\$25.31	\$26.60	\$31.55	\$33.92	\$39.14
Family coverage.....	46	51	58	63	64	66	69	76	78	80
Average monthly contribution.....	—	—	\$35.93	\$41.40	\$60.07	\$72.10	\$96.97	\$107.42	\$118.33	\$130.07
Participants in life insurance plans.....	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance.....	69	72	74	72	78	71	71	76	77	74
Survivor income benefits.....	—	—	—	10	8	7	6	5	7	6
Retiree protection available.....	—	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans.....	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans.....	54	51	51	49	46	43	45	44	—	—
Participants in short-term disability plans ¹	—	—	—	—	—	—	—	—	53	55
Retirement plans										
Participants in defined benefit pension plans.....	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65.....	55	58	63	64	59	62	55	52	52	52
Early retirement available.....	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years.....	—	—	47	35	26	22	7	6	4	10
Terminal earnings formula.....	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security.....	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans.....	—	—	—	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements.....	—	—	—	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans.....	—	—	—	2	5	9	10	12	12	13
Reimbursement accounts ²	—	—	—	5	12	23	36	52	38	32
Premium conversion plans.....	—	—	—	—	—	—	—	—	5	7

¹ The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability bene-

fits at less than full pay.

² Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

35. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's).....	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care.....	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance.....	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan.....	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708
Time-off plans								
Participants with:								
Paid lunch time.....	8	9	-	-	17	11	10	-
Average minutes per day.....	37	37	-	-	34	36	34	-
Paid rest time.....	48	49	-	-	58	56	53	-
Average minutes per day.....	27	26	-	-	29	29	29	-
Paid funeral leave.....	47	50	50	51	56	63	65	62
Average days per occurrence.....	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays.....	84	82	82	80	81	74	75	73
Average days per year ¹	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave.....	11	12	13	14	38	39	38	38
Average days per year.....	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations.....	88	88	88	86	72	67	67	66
Paid sick leave ²	47	53	50	50	97	95	95	94
Unpaid leave.....	17	18	-	-	57	51	59	-
Unpaid paternity leave.....	8	7	-	-	30	33	44	-
Unpaid family leave.....	-	-	47	48	-	-	-	93
Insurance plans								
Participants in medical care plans.....	69	71	66	64	93	93	90	87
Percent of participants with coverage for:								
Home health care.....	79	80	-	-	76	82	87	84
Extended care facilities.....	83	84	-	-	78	79	84	81
Physical exam.....	26	28	-	-	36	36	47	55
Percent of participants with employee contribution required for:								
Self coverage.....	42	47	52	52	35	38	43	47
Average monthly contribution.....	\$25.13	\$36.51	\$40.97	\$42.63	\$15.74	\$25.53	\$28.97	\$30.20
Family coverage.....	67	73	76	75	71	65	72	71
Average monthly contribution.....	\$109.34	\$150.54	\$159.63	\$181.53	\$71.89	\$117.59	\$139.23	\$149.70
Participants in life insurance plans.....	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance.....	78	76	79	77	67	67	74	64
Survivor income benefits.....	1	1	2	1	1	1	1	2
Retiree protection available.....	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans.....	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans.....	6	26	26	-	14	21	22	21
Participants in short-term disability plans ²	-	-	-	29	-	-	-	-
Retirement plans								
Participants in defined benefit pension plans.....	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65.....	54	50	-	47	92	89	92	92
Early retirement available.....	95	95	-	92	90	88	89	87
Ad hoc pension increase in last 5 years.....	7	4	-	-	33	16	10	13
Terminal earnings formula.....	58	54	-	53	100	100	100	99
Benefit coordinated with Social Security.....	49	46	-	44	18	8	10	49
Participants in defined contribution plans.....	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements.....	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans.....	1	2	3	4	5	5	5	5
Reimbursement accounts ³	8	14	19	12	5	31	50	64
Premium conversion plans.....	-	-	-	7	-	-	-	-

¹ Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

² The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave.

Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

³ Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

36. Work stoppages involving 1,000 workers or more

Measure	Annual totals		2004										2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	
Number of stoppages:																
Beginning in period.....	14	17	0	2	3	0	2	2	1	2	3	0	0	2	3	
In effect during period.....	15	18	1	2	4	1	2	3	3	4	4	2	2	4	5	
Workers involved:																
Beginning in period (in thousands).....	129.2	170.7	.0	103.0	27.6	.0	3.7	4.5	10.0	3.2	9.8	.0	.0	4.7	11.0	
In effect during period (in thousands)..	130.5	316.5	2.2	103.0	28.6	1.6	3.7	6.5	16.1	16.1	8.5	2.5	2.6	7.3	14.0	
Days idle:																
Number (in thousands).....	4,091.2	3,344.1	26.4	204.0	94.0	3.2	52.5	57.0	300.0	114.9	97.5	50.0	49.4	86.0	48.5	
Percent of estimated working time ¹....	.01	.01	(²)	.01	(²)	(²)	(²)	(²)	.01	(²)	(^{2})	(^{2})	(^{2})	(^{2})	(^{2})	

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.

² Less than 0.005.

NOTE: P = preliminary.

37. 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		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items.....	184.0	188.9	188.0	189.1	189.7	189.4	189.5	189.9	190.9	191.0	190.3	190.7	191.8	193.3	194.6
All items (1967 = 100).....	551.1	565.8	563.2	566.4	568.2	567.5	567.6	568.7	571.9	572.2	570.1	571.2	574.5	579.0	582.9
Food and beverages.....	180.5	186.6	185.0	186.5	186.8	187.2	187.3	187.2	188.4	188.6	188.9	189.5	189.3	189.6	190.7
Food.....	180.0	186.2	184.5	186.1	186.3	186.8	186.8	186.7	187.9	188.2	188.5	189.1	188.8	189.1	190.2
Food at home.....	179.4	186.2	184.1	186.6	186.8	187.1	186.7	186.1	187.9	188.1	188.5	188.9	188.0	188.1	189.8
Cereals and bakery products.....	202.8	206.0	205.5	206.1	206.8	207.2	207.2	206.4	207.0	206.8	206.4	207.6	208.4	208.5	209.1
Meats, poultry, fish, and eggs.....	169.3	181.7	179.2	181.1	182.3	183.7	183.7	183.4	182.9	182.4	183.1	183.4	183.9	184.3	184.7
Dairy and related products ¹	167.9	180.2	174.0	185.9	188.8	187.7	184.9	181.6	182.1	180.9	180.1	183.3	181.8	181.4	182.2
Fruits and vegetables.....	225.9	232.7	228.3	231.7	226.7	224.5	224.0	226.0	240.0	248.3	250.8	242.9	234.8	233.7	240.1
Nonalcoholic beverages and beverage materials.....	139.8	140.4	139.7	169.9	139.8	140.5	140.3	140.3	140.6	139.6	140.4	142.2	142.5	143.6	144.8
Other foods at home.....	162.6	164.9	165.0	165.4	165.8	166.0	166.2	165.2	165.4	164.4	163.6	165.6	165.3	165.7	167.5
Sugar and sweets.....	162.0	163.2	162.6	163.5	162.8	163.8	164.4	163.5	162.6	163.1	161.3	163.0	164.2	162.6	164.9
Fats and oils.....	157.4	167.8	166.2	169.4	171.3	171.9	169.7	170.4	170.2	167.8	167.4	170.4	169.3	167.0	169.4
Other foods.....	178.8	179.7	180.4	180.1	180.5	180.3	180.9	179.4	180.1	178.9	178.3	180.3	179.7	181.3	183.0
Other miscellaneous foods ^{1,2}	110.3	110.4	110.5	110.8	110.9	109.4	111.5	110.5	109.9	110.5	110.8	110.1	110.3	111.9	110.8
Food away from home ¹	182.1	187.5	186.2	186.7	187.0	187.8	188.4	188.9	189.4	189.6	189.9	190.8	191.4	191.7	192.8
Other food away from home ^{1,2}	121.3	125.3	124.7	124.8	124.8	125.1	125.4	125.9	126.8	126.7	127.0	127.5	128.7	129.4	129.6
Alcoholic beverages.....	187.2	192.1	191.8	191.7	192.4	192.2	192.5	193.4	193.6	194.0	193.9	194.3	195.2	195.7	195.9
Housing.....	184.8	189.5	188.4	188.9	190.3	190.9	191.2	191.0	191.0	190.8	190.7	191.8	192.7	194.1	194.4
Shelter.....	213.1	218.8	218.4	218.7	219.2	220.0	220.3	220.2	220.6	219.9	219.8	221.0	222.5	224.4	224.4
Rent of primary residence.....	205.5	211.0	209.7	210.2	210.7	211.2	211.9	212.4	212.8	213.2	213.9	214.5	215.0	215.5	216.0
Lodging away from home.....	119.3	125.9	129.1	128.2	129.1	132.2	130.6	127.2	128.0	121.9	118.7	122.6	128.9	138.3	136.2
Owners' equivalent rent of primary residence ³	219.9	224.9	223.9	224.3	224.7	225.1	225.7	226.1	226.5	226.8	227.2	227.8	228.4	228.7	229.0
Tenants' and household insurance ^{1,2}	114.8	116.2	115.7	116.1	116.2	116.1	116.3	116.6	116.3	117.7	118.7	118.5	118.7	119.0	118.2
Fuels and utilities.....	154.5	161.9	155.6	158.1	165.5	166.6	167.7	166.7	162.8	165.6	165.7	166.9	166.4	166.7	169.6
Fuels.....	138.2	144.4	138.0	140.4	148.5	149.5	150.5	149.3	144.9	147.8	148.0	149.0	148.1	148.4	151.5
Fuel oil and other fuels.....	139.5	160.5	149.6	150.4	150.7	151.1	157.4	161.6	177.3	186.6	183.7	181.2	188.5	195.5	195.5
Gas (piped) and electricity.....	145.0	150.6	144.2	146.8	155.8	156.9	157.6	156.0	150.0	152.7	153.0	154.3	152.9	152.7	155.9
Household furnishings and operations.....	126.1	125.5	125.6	125.4	125.6	125.2	124.8	125.0	126.1	125.8	125.5	126.1	126.1	126.1	126.3
Apparel.....	120.9	120.4	124.3	123.4	120.1	115.9	116.5	121.2	124.1	123.0	118.8	116.1	118.7	123.5	123.7
Men's and boys' apparel.....	118.0	117.5	120.3	120.3	117.7	115.2	113.8	116.2	118.3	118.9	116.3	115.0	116.3	119.6	120.4
Women's and girls' apparel.....	113.1	113.0	118.7	116.9	112.3	106.1	107.5	114.4	119.2	116.8	110.0	105.1	109.3	117.1	116.6
Infants' and toddlers' apparel ¹	122.1	118.5	120.5	118.1	116.2	114.5	115.0	119.5	120.6	120.3	118.6	117.5	118.1	119.0	121.3
Footwear.....	119.6	119.3	121.0	120.3	118.4	115.1	117.3	121.7	122.1	121.8	120.3	119.4	121.1	122.8	123.8
Transportation.....	157.6	163.1	161.8	165.2	165.7	164.0	162.9	162.9	166.4	167.2	164.8	164.0	166.1	168.8	173.2
Private transportation.....	153.6	159.4	157.9	161.5	161.9	160.0	159.1	159.4	162.9	163.6	161.3	160.5	162.6	165.2	169.6
New and used motor vehicles ²	96.5	94.2	94.1	94.0	93.6	93.5	93.4	93.9	94.3	95.2	95.4	95.8	95.9	95.6	95.6
New vehicles.....	137.9	137.1	137.6	137.4	137.2	135.9	134.9	134.9	135.9	137.9	138.8	139.8	139.9	139.1	138.8
Used cars and trucks ¹	142.9	133.3	131.3	131.8	130.6	132.1	133.8	136.5	136.8	136.7	137.3	137.5	137.6	137.7	138.1
Motor fuel.....	135.8	160.4	155.9	170.5	173.3	165.2	162.0	161.2	173.1	171.9	161.2	156.4	164.3	175.9	193.9
Gasoline (all types).....	135.1	159.7	155.3	169.8	172.7	164.5	161.2	160.5	172.2	171.0	160.4	155.6	163.4	175.0	193.9
Motor vehicle parts and equipment.....	107.8	108.7	107.9	107.9	108.2	108.8	109.0	109.3	109.5	109.9	109.9	110.6	110.9	110.9	110.8
Motor vehicle maintenance and repair.....	195.6	200.2	198.6	199.0	199.7	200.3	200.8	200.7	201.7	202.9	203.3	204.0	203.7	204.7	205.0
Public transportation.....	209.3	209.1	211.5	210.7	212.3	214.4	209.7	205.3	206.5	208.6	205.4	204.4	205.9	210.1	215.0
Medical care.....	297.1	310.1	308.3	309.0	310.0	311.0	311.6	312.3	313.3	314.1	314.9	316.8	319.3	320.7	321.5
Medical care commodities.....	262.8	269.3	268.5	269.1	269.6	269.9	270.0	270.9	271.7	271.2	270.8	271.6	272.8	273.2	273.5
Medical care services.....	306.0	321.3	319.2	319.8	321.0	322.3	323.1	323.7	324.8	326.0	327.3	329.5	332.5	334.3	335.2
Professional services.....	261.2	271.5	270.6	270.9	271.6	272.3	273.3	273.7	273.7	274.2	274.6	276.2	278.6	279.7	281.0
Hospital and related services.....	394.8	417.9	413.6	414.6	416.9	419.1	418.8	420.3	422.5	425.0	428.0	431.0	434.7	437.3	437.1
Recreation ²	107.5	108.6	109.0	108.8	108.9	108.7	108.5	108.6	108.7	108.7	108.5	108.9	109.0	109.0	109.2
Video and audio ^{1,2}	103.6	104.2	104.7	104.6	104.4	104.4	104.1	104.0	104.2	104.0	103.9	104.2	104.3	104.6	104.8
Education and communication ²	109.8	111.6	110.9	110.6	110.8	110.9	111.7	112.9	112.5	112.7	112.6	112.7	112.8	112.7	112.9
Education ²	134.4	143.7	140.7	140.9	141.6	142.1	145.1	147.9	148.3	148.4	148.5	148.8	149.2	149.3	149.5
Educational books and supplies.....	335.4	351.0	349.5	349.6	350.6	349.5	353.3	352.8	353.8	354.4	355.9	357.4	359.9	360.6	361.3
Tuition, other school fees, and child care.....	362.1	414.3	404.9	405.6	407.6	409.4	418.3	427.4	428.2	428.7	428.9	429.7	430.6	430.9	431.4
Communication ^{1,2}	89.7	86.7	87.4	86.9	86.8	86.5	86.1	86.2	85.5	85.6	85.4	85.4	85.4	85.2	85.4
Information and information processing ^{1,2}	87.8	84.6	85.4	84.8	84.7	84.5	84.0	84.1	83.4	83.5	83.3	83.2	83.3	83.1	83.2
Telephone services ^{1,2}	98.3	95.8	96.5	95.9	95.8	95.6	95.0	95.3	94.6	94.5	94.8	94.8	95.1	95.0	95.3
Information and information processing other than telephone services ^{1,4}	16.1	14.8	15.0	14.9	14.9	14.8	14.7	14.7	14.5	14.3	14.2	14.2	14.0	14.0	13.9
Personal computers and peripheral equipment ^{1,2}	17.6	15.3	15.9	15.7	15.5	15.3	15.1	15.0	14.6	14.2	13.9	14.0	13.5	13.4	13.4
Other goods and services.....	298.7	304.7	303.6	303.8	304.1	305.1	305.5	306.3	306.8	307.0	307.8	309.3	310.8	311.2	311.5
Tobacco and smoking products.....	469.0	478.0	473.3	473.5	476.0	480.5	481.6	482.9	482.3	481.7	484.8	493.9	496.1	496.6	497.0
Personal care ¹	178.0	181.7	181.3	181.4	181.4	181.7	181.9	182.3	182.8	83.0	183.3	183.5	184.4	184.7	184.9
Personal care products ¹	153.5	153.9	154.5	154.6	153.8	153.4	152.8	153.5	154.0	153.8	153.4	153.1	153.9	154.0	153.4
Personal care services ¹	193.2	197.6	196.1	196.6	196.9	197.5	198								

37. 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		2004										2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
Miscellaneous personal services.....	283.5	293.9	292.7	293.1	293.6	294.4	295.2	295.9	296.3	296.9	297.7	298.5	299.8	300.8	301.4	
Commodity and service group:																
Commodities.....	151.2	154.7	154.3	156.0	155.8	154.5	154.2	154.9	157.1	157.2	155.8	155.4	156.5	158.2	160.3	
Food and beverages.....	180.5	186.6	185.0	186.5	186.8	187.2	187.3	187.2	188.4	188.6	188.9	189.5	189.3	189.6	190.7	
Commodities less food and beverages.....	134.5	136.7	136.9	138.6	138.2	136.1	135.6	136.7	139.4	139.4	137.2	136.4	138.1	140.4	142.9	
Nondurables less food and beverages.....	149.7	157.2	157.2	160.9	160.5	156.7	156.1	157.8	162.6	162.0	157.4	155.2	158.6	163.7	168.9	
Apparel.....	120.9	120.4	124.3	123.4	120.1	115.9	116.5	121.2	124.1	123.0	118.8	116.1	118.7	123.5	123.7	
Nondurables less food, beverages, and apparel.....	171.5	183.9	181.7	188.2	189.5	185.8	184.4	184.4	190.6	190.2	185.2	183.3	187.3	192.7	201.0	
Durables.....	117.5	114.8	115.0	114.8	114.5	114.1	113.7	114.1	114.7	115.3	115.5	116.0	116.0	115.7	115.6	
Services.....	216.5	222.8	221.5	221.9	223.3	224.1	224.5	224.5	224.5	224.6	224.6	225.6	226.8	228.0	228.6	
Rent of shelter ³	221.9	227.9	227.4	227.7	228.3	229.2	229.4	229.3	229.8	229.0	228.9	230.1	231.7	233.7	233.7	
Transportation services.....	216.3	220.6	220.0	220.0	220.5	221.6	220.8	220.1	221.4	222.8	221.8	221.7	222.4	223.3	224.4	
Other services.....	254.4	261.3	259.7	259.6	260.2	260.5	261.9	263.8	263.7	264.2	264.3	265.1	265.8	266.1	266.7	
Special indexes:																
All items less food.....	184.7	189.4	188.6	189.6	190.3	189.9	189.9	190.4	191.4	191.5	190.6	190.9	192.3	194.0	195.3	
All items less shelter.....	174.6	179.3	178.2	179.6	180.2	179.6	179.5	180.1	181.4	181.9	180.9	180.9	181.9	183.2	185.1	
All items less medical care.....	178.1	182.7	181.8	182.9	183.5	183.2	183.2	183.6	184.6	184.7	183.9	184.2	185.3	186.8	188.1	
Commodities less food.....	136.5	138.8	138.9	140.6	140.3	138.2	137.7	138.8	141.1	141.4	139.3	138.6	140.2	142.5	144.9	
Nondurables less food.....	151.9	159.3	159.3	162.8	162.4	158.8	158.2	159.9	164.2	163.9	159.5	157.5	160.8	165.6	170.6	
Nondurables less food and apparel.....	172.1	183.8	181.7	187.7	189.0	185.6	184.3	184.4	190.0	189.7	185.1	183.5	187.2	192.1	199.7	
Nondurables.....	165.3	172.2	171.4	174.1	174.0	172.2	171.9	172.8	175.8	175.6	173.3	172.5	174.2	177.0	180.3	
Services less rent of shelter ³	226.4	233.5	231.1	231.7	234.2	235.0	235.6	235.9	235.1	236.4	236.5	237.4	238.0	238.5	239.8	
Services less medical care services.....	208.7	214.5	213.2	213.6	215.0	215.8	216.2	216.0	216.0	216.0	216.0	217.0	218.0	219.2	219.7	
Energy.....	136.5	151.4	145.9	154.1	159.7	156.3	155.3	154.3	157.7	158.6	153.7	151.9	155.2	160.8	170.9	
All items less energy.....	190.6	194.4	194.1	194.3	194.4	194.5	194.7	195.2	196.0	1196.0	195.8	196.4	197.3	198.3	198.6	
All items less food and energy.....	193.2	196.6	196.5	196.5	196.6	196.6	196.8	197.4	198.2	198.1	197.8	198.4	199.5	200.7	200.9	
Commodities less food and energy.....	140.9	139.6	140.5	140.2	139.4	138.2	138.1	139.4	140.5	140.6	139.8	139.7	140.3	141.1	141.2	
Energy commodities.....	136.7	161.2	156.3	170.1	172.8	165.1	162.5	162.0	174.2	173.6	163.4	158.7	166.6	178.0	195.2	
Services less energy.....	223.8	230.2	229.4	229.6	230.2	231.0	231.4	231.6	232.1	231.9	231.9	232.9	234.3	235.7	236.0	
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS																
All items.....	179.8	184.5	183.5	184.7	185.3	184.9	185.0	185.4	186.5	186.8	186.0	186.3	187.3	188.6	190.2	
All items (1967 = 100).....	535.6	549.5	546.5	550.2	551.9	550.8	551.0	552.4	555.7	556.3	554.2	554.9	557.9	561.9	566.4	
Food and beverages.....	179.9	186.2	184.5	186.0	186.4	186.8	186.9	186.8	187.9	188.1	188.4	189.0	188.8	189.1	190.1	
Food.....	179.4	185.7	183.9	185.6	185.9	186.3	186.4	186.2	187.4	187.6	187.9	188.5	188.2	188.5	189.6	
Food at home.....	178.5	185.4	183.3	185.8	186.1	186.3	186.1	185.5	187.1	187.3	187.6	188.0	187.2	187.4	188.9	
Cereals and bakery products.....	202.8	206.0	205.5	206.0	206.7	207.2	207.0	206.3	206.9	206.8	206.3	207.6	208.5	208.5	209.0	
Meats, poultry, fish, and eggs.....	169.2	181.8	179.1	181.1	182.4	183.7	183.7	183.4	183.0	182.4	183.2	183.4	183.9	184.3	184.5	
Dairy and related products ¹	167.6	180.0	173.6	186.1	189.0	187.8	184.9	181.4	181.8	180.8	179.9	183.2	181.6	181.3	182.1	
Fruits and vegetables.....	224.3	230.4	225.5	228.9	224.3	222.3	222.2	223.0	238.0	246.4	248.6	240.1	232.2	231.3	237.5	
Nonalcoholic beverages and beverage materials.....	139.1	139.7	139.1	139.3	139.3	139.8	139.6	139.7	140.0	138.9	140.0	141.6	141.8	143.0	144.1	
Other foods at home.....	162.2	164.5	164.6	165.1	165.5	165.6	165.8	164.8	165.0	163.8	163.2	165.3	165.0	165.3	167.0	
Sugar and sweets.....	161.6	162.5	161.9	162.9	162.2	162.9	163.8	163.1	162.2	162.1	160.6	162.2	163.6	161.8	163.9	
Fats and oils.....	157.4	167.8	166.1	169.4	171.4	172.0	169.9	170.3	170.0	167.7	167.3	170.4	169.1	167.2	169.4	
Other foods.....	179.2	180.1	180.8	180.5	180.8	180.7	181.4	179.2	180.5	179.2	178.6	180.8	180.2	181.7	183.4	
Other miscellaneous foods ^{1,2}	110.8	110.9	111.0	111.2	111.4	109.7	112.0	111.0	110.3	111.1	111.3	110.7	110.9	112.5	111.1	
Food away from home ¹	182.0	187.4	186.1	186.6	186.8	187.6	188.2	188.8	189.3	189.5	189.7	190.6	191.2	191.6	192.0	
Other food away from home ^{1,2}	121.5	125.1	124.3	124.6	124.7	124.9	125.2	125.8	126.8	126.8	127.0	127.3	128.4	129.1	129.2	
Alcoholic beverages.....	187.1	192.4	192.1	192.0	192.7	192.2	192.8	194.0	193.9	194.2	194.2	194.4	195.2	196.0	196.2	
Housing.....	180.4	185.0	183.6	184.1	185.6	186.2	186.6	186.5	186.2	186.4	186.4	187.3	188.1	188.9	189.4	
Shelter.....	206.9	212.2	211.5	211.8	212.2	213.0	213.4	213.4	213.8	213.4	213.5	214.4	215.7	216.8	216.9	
Rent of primary residence.....	204.7	210.2	208.9	209.4	209.9	210.3	211.0	211.6	212.0	212.4	213.0	213.7	214.2	214.6	215.2	
Lodging away from home ²	119.8	126.4	129.8	128.2	128.8	133.0	131.6	127.7	128.3	121.8	118.6	122.2	129.1	137.1	135.2	
Owners' equivalent rent of primary residence ³	199.7	204.1	203.1	203.6	203.9	204.2	204.7	205.1	205.5	205.8	206.1	206.6	207.2	207.4	207.7	
Tenants' and household insurance ^{1,2}	114.7	116.4	116.0	116.4	116.5	116.3	116.5	116.8	116.5	118.1	118.9	118.8	118.9	119.4	118.5	
Fuels and utilities.....	153.9	161.2	155.1	157.4	165.0	166.1	167.2	166.2	161.9	164.5	164.7	166.0	165.4	165.7	168.6	
Fuels.....	137.0	143.2	137.0	139.3	147.4	148.4	149.3	148.2	143.5	146.2	146.4	147.4	146.6	146.8	149.8	
Fuel oil and other fuels.....	138.7	160.0	148.9	149.6	149.8	150.2	156.8	161.1	177.2	186.5	183.4	180.9	187.7	195.3	199.2	
Gas (piped) and electricity.....	144.1	149.8	143.5	146.1	155.1	156.2	156.8	155.3	149.1	151.7	152.0	153.3	152.0	151.8	155.0	
Household furnishings and operations.....	121.9	121.1	121.3	121.1	121.3	120.7	120.4	120.6	121.7	121.5	121.3	121.9	121.9	121.9	122.1	
Apparel.....	120.0	120.0	123.8	122.8	119.6	115.6	115.9	120.6	123.5	122.6	118.6	116.1	118.6	123.0	123.2	
Men's and boys' apparel.....	117.5	117.3	120.6	120.3	117.8	115.2	113.3	115.6	117.8	118.6	115.7	114.6	116.1	119.6	119.9	
Women's and girls' apparel.....	112.1	112.8	118.4	116.7	112.2	106.0	106.9	114.0	119.3	116.9	110.2	105.3	109.3	116.8	124.1	
Infants and toddlers' apparel ¹	124.1	121.3	123.4	120.9	118.8	117.0	117.6	122.3	123.3	123.1	121.4	120.5	121.0	121.9	122.7	
Footwear.....	119.1	118.2	119.6	119.0	117.0	114.4	116.3	120.4	120.6	120.6	119.4	118.8	120.6	121.7	122.7	
Transportation.....	156.3	161.5	159.9	163.6	164.0	162.2	161.4	161.6	165.3	165.8	163.4	163.2	164.7	167.6	172.2	
Private transportation.....	153.5	158.8	157.1	160.9	161.3	159.3	158.6	159.1	162.7	163.2	160.9	160.0	162.2	164.9	169.5	
New and used motor vehicles ²	96.0	92.8	92.6	92.5	92.1	92.1										

37. 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		2004										2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
New vehicles.....	139.0	138.1	138.7	138.5	138.2	137.0	136.0	136.0	136.9	138.9	139.8	140.7	140.7	140.0	139.7	
Used cars and trucks ¹	143.7	134.1	132.1	132.6	131.4	133.0	134.6	137.3	137.6	137.5	138.1	138.3	138.4	138.5	138.9	
Motor fuel.....	136.1	160.9	156.5	171.1	173.8	165.6	162.4	161.7	173.6	172.3	161.7	156.9	164.9	176.5	194.5	
Gasoline (all types).....	135.5	160.2	155.8	170.4	173.2	165.0	161.7	161.0	172.9	171.6	160.9	156.1	164.1	175.7	193.7	
Motor vehicle parts and equipment.....	107.3	108.2	107.5	107.5	107.8	108.2	108.4	108.7	108.9	109.4	109.3	110.1	110.4	110.5	110.4	
Motor vehicle maintenance and repair.....	197.3	202.0	200.4	200.8	201.5	202.1	202.7	202.7	203.8	204.9	205.3	206.0	206.1	206.9	207.2	
Public transportation.....	206.0	207.1	209.4	208.8	210.0	212.1	208.0	203.1	204.2	207.1	204.2	203.4	204.9	209.0	213.3	
Medical care.....	296.3	309.5	307.7	308.4	309.4	310.4	311.0	311.7	312.7	313.6	314.4	316.3	318.9	320.3	321.1	
Medical care commodities.....	257.4	263.2	262.5	263.3	263.8	263.7	263.8	264.8	265.4	264.9	264.4	265.2	266.3	266.6	266.9	
Medical care services.....	305.9	321.5	319.4	320.0	321.2	322.4	323.2	323.9	325.0	326.3	327.7	330.0	333.0	334.8	335.8	
Professional services.....	263.4	274.0	273.2	273.5	274.1	274.8	275.8	275.9	276.3	276.9	277.2	278.9	281.2	282.3	283.6	
Hospital and related services.....	391.2	414.0	409.8	410.7	413.0	415.2	414.9	416.4	418.5	421.0	424.2	427.4	430.9	433.6	433.4	
Recreation ²	105.5	106.3	106.7	106.6	106.7	106.3	106.1	106.2	106.2	106.3	106.1	106.5	106.5	106.5	106.8	
Video and audio ^{1,2}	102.9	103.4	103.9	103.9	103.7	103.7	103.4	103.3	103.5	103.3	103.2	103.4	103.5	103.9	104.0	
Education and communication ²	109.0	110.0	109.6	109.2	109.4	109.4	109.9	110.8	110.5	110.6	110.5	110.6	110.7	110.7	110.8	
Education ²	133.8	142.5	139.7	139.9	140.6	141.0	143.6	146.3	146.7	146.8	147.0	147.3	147.7	147.8	148.0	
Educational books and supplies.....	336.5	352.2	350.4	350.4	351.5	350.4	354.7	354.8	355.6	356.1	357.6	359.0	361.5	362.4	363.1	
Tuition, other school fees, and child care.....	377.3	402.5	394.1	394.6	396.7	398.1	405.8	414.0	415.2	415.6	415.8	416.8	417.6	418.0	418.5	
Communication ^{1,2}	91.2	88.3	89.0	88.4	88.4	88.1	87.6	87.8	87.1	87.2	87.0	87.0	87.0	86.8	87.0	
Information and information processing ^{1,2}	89.9	86.8	87.5	87.0	86.9	86.7	86.2	86.3	85.6	85.7	85.5	85.5	85.5	85.3	85.5	
Telephone services ^{1,2}	98.5	96.0	96.7	96.1	96.1	95.8	95.2	95.5	94.8	95.1	95.0	94.9	95.3	95.1	95.4	
Information and information processing other than telephone services ^{1,4}	16.7	15.3	15.5	15.4	15.4	15.3	15.3	15.2	15.0	14.9	14.8	14.8	14.6	14.5	14.5	
Personal computers and peripheral equipment ^{1,2}	17.3	15.0	15.6	15.4	15.2	15.0	14.9	14.8	14.3	13.9	13.7	13.7	13.3	13.2	13.2	
Other goods and services.....	307.0	312.6	311.3	311.5	311.8	313.2	313.5	314.4	314.7	314.9	315.9	318.0	319.4	319.6	319.9	
Tobacco and smoking products.....	470.5	478.8	474.1	474.4	476.9	481.6	482.6	483.9	483.0	482.5	485.7	494.9	496.9	497.4	497.8	
Personal care ¹	177.0	180.4	180.1	180.2	180.0	180.3	180.5	180.9	181.4	181.7	181.9	182.1	182.9	183.0	183.2	
Personal care products ¹	154.2	154.4	155.1	155.1	154.3	153.9	153.1	154.0	154.3	154.3	153.8	153.3	154.2	153.3	153.6	
Personal care services ¹	193.9	198.2	196.6	197.1	197.5	198.1	199.5	199.7	199.9	200.6	201.8	202.4	203.3	203.6	203.6	
Miscellaneous personal services.....	283.3	294.0	292.9	293.1	293.5	294.7	295.4	296.2	296.6	297.5	298.4	299.2	299.8	300.8	301.5	
Commodity and service group:																
Commodities.....	151.8	155.4	154.8	156.7	156.6	155.2	154.9	155.7	158.0	158.1	156.6	156.3	157.4	159.2	161.5	
Food and beverages.....	179.9	186.2	184.5	186.0	186.4	186.8	186.9	186.8	187.9	188.1	188.4	189.0	188.8	189.1	190.1	
Commodities less food and beverages.....	135.8	138.1	138.0	140.0	139.6	137.5	137.1	138.2	141.0	141.0	138.8	138.0	139.8	142.2	145.0	
Nondurables less food and beverages.....	152.1	160.6	160.5	164.7	164.4	160.4	159.5	161.2	166.5	165.9	160.9	158.8	162.5	167.8	173.6	
Apparel.....	120.0	120.0	123.8	122.8	119.6	115.6	115.9	120.6	123.5	122.6	118.6	116.1	118.6	123.0	123.2	
Nondurables less food, beverages, and apparel.....	175.6	189.6	187.0	194.5	196.0	191.8	190.2	190.1	196.9	196.5	190.8	188.8	193.3	199.4	208.9	
Durables.....	117.4	114.0	113.9	113.9	113.5	113.2	113.1	113.7	114.3	114.8	115.1	115.5	115.5	115.3	115.3	
Services.....	212.6	218.6	217.1	217.6	219.0	219.7	220.2	220.3	220.0	220.4	220.5	221.5	222.3	223.2	223.8	
Rent of shelter ³	199.2	204.3	203.7	203.9	204.4	205.1	205.5	205.5	205.9	205.5	205.6	206.5	207.7	208.8	208.9	
Transportation services.....	216.2	220.9	220.2	220.3	220.7	221.6	221.0	220.5	222.0	223.4	222.7	222.8	223.4	224.0	224.8	
Other services.....	248.5	254.1	253.0	252.7	253.3	253.5	254.4	256.0	255.9	256.3	256.5	257.2	257.8	258.1	258.7	
Special indexes:																
All items less food.....	179.7	184.1	183.2	184.4	185.0	184.5	184.5	185.1	186.2	186.4	185.5	185.7	187.0	188.5	190.1	
All items less shelter.....	171.9	176.4	175.3	176.8	177.5	176.7	176.6	177.3	178.6	179.1	178.0	178.0	179.0	180.4	182.4	
All items less medical care.....	174.8	179.1	178.2	179.4	180.0	179.6	179.6	180.0	181.1	181.3	180.6	180.8	181.7	183.1	184.6	
Commodities less food.....	137.7	140.0	139.9	141.8	141.5	139.4	139.0	140.2	142.2	142.9	140.7	140.0	141.7	144.1	146.8	
Nondurables less food.....	154.2	162.6	162.4	166.4	166.2	162.3	161.5	163.2	168.2	167.6	162.9	160.9	164.4	169.5	175.1	
Nondurables less food and apparel.....	175.9	189.0	186.6	193.5	194.8	191.0	189.6	189.7	195.6	195.4	190.3	188.5	192.7	198.3	206.9	
Nondurables.....	166.4	173.9	173.0	175.9	175.9	174.0	173.6	174.5	177.7	177.5	175.1	174.3	176.1	179.0	182.5	
Services less rent of shelter ³	201.3	207.4	205.2	205.8	208.2	208.9	209.3	209.5	208.6	209.8	209.9	210.8	211.2	211.6	212.7	
Services less medical care services.....	205.2	210.6	209.2	209.7	211.1	211.8	212.2	212.3	212.0	212.3	212.4	213.2	214.0	214.7	215.4	
Energy.....	135.9	151.3	146.0	154.5	159.9	156.2	155.1	154.2	157.8	158.5	153.3	151.4	155.0	160.9	171.4	
All items less energy.....	186.1	189.5	189.0	189.3	189.3	189.3	189.5	190.2	191.0	191.1	191.0	191.5	192.2	192.9	193.3	
All items less food and energy.....	187.9	190.6	190.4	190.4	190.3	190.3	190.5	191.4	192.1	192.2	192.0	192.4	193.4	194.2	194.5	
Commodities less food and energy.....	141.1	139.4	140.1	139.9	139.0	138.0	138.0	139.5	140.5	140.6	139.9	139.9	140.5	141.3	141.4	
Energy commodities.....	136.8	161.5	156.7	170.7	173.3	165.5	162.8	162.3	174.5	173.7	163.4	158.7	166.6	178.1	195.5	
Services less energy.....	220.2	226.2	225.3	225.5	226.0	226.7	227.1	227.4	227.9	228.0	228.1	229.0	230.1	231.1	231.4	

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.

38. 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					
		2004		2005				2004		2005			
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average.....	M	191.0	190.3	190.7	191.8	193.3	194.6	186.8	186.0	186.3	187.3	188.6	190.2
Region and area size²													
Northeast urban.....	M	202.6	201.9	202.6	203.6	206.0	206.9	200.2	198.7	199.0	200.0	201.8	202.9
Size A—More than 1,500,000.....	M	204.6	204.1	205.0	206.0	208.6	209.3	120.2	199.6	200.1	201.1	202.8	203.8
Size B/C—50,000 to 1,500,000 ³	M	120.1	119.2	119.4	120.1	121.3	122.0	179.8	119.4	119.6	120.1	121.2	122.1
Midwest urban ⁴	M	184.8	183.8	184.1	185.2	186.3	187.7	181.2	178.8	179.1	180.2	181.2	182.8
Size A—More than 1,500,000.....	M	186.9	185.7	185.9	187.1	188.3	189.6	116.9	180.1	180.4	181.3	182.5	184.1
Size B/C—50,000 to 1,500,000 ³	M	117.7	117.3	117.3	118.1	118.7	119.6	175.2	116.4	116.4	117.2	117.8	118.8
Size D—Nonmetropolitan (less than 50,000).....	M	177.7	177.2	178.2	179.2	179.9	181.7	180.7	174.9	175.7	176.5	177.3	179.1
South urban.....	M	183.7	183.3	183.6	184.7	185.9	187.3	182.5	180.3	180.5	181.5	182.7	184.3
Size A—More than 1,500,000.....	M	185.0	184.9	185.2	186.6	187.9	189.9	182.5	182.4	182.6	184.0	185.3	186.7
Size B/C—50,000 to 1,500,000 ³	M	117.4	117.1	117.1	117.7	118.4	119.3	116.0	115.6	115.7	116.3	117.0	117.9
Size D—Nonmetropolitan (less than 50,000).....	M	182.5	181.9	182.3	183.1	184.5	187.2	182.2	181.5	181.9	182.7	184.1	186.7
West urban.....	M	195.1	194.2	194.5	195.7	197.1	198.6	190.2	189.4	189.5	190.5	192.0	193.7
Size A—More than 1,500,000.....	M	197.6	196.5	196.7	198.3	199.8	201.3	191.2	190.2	190.1	191.6	193.2	194.9
Size B/C—50,000 to 1,500,000 ³	M	119.3	119.0	119.5	119.6	120.4	121.4	118.9	118.6	118.9	119.0	119.8	120.8
Size classes:													
A ⁵	M	174.6	174.0	174.3	175.5	177.0	178.1	173.0	172.4	172.6	173.7	175.0	176.3
B/C ³	M	118.2	117.7	117.9	118.5	119.2	120.1	117.3	116.9	117.0	117.5	118.3	119.2
D.....	M	183.0	182.4	183.0	183.7	184.8	186.9	181.1	180.6	181.0	181.7	182.9	185.1
Selected local areas⁶													
Chicago—Gary—Kenosha, IL—IN—WI.....	M	190.7	189.6	189.9	190.5	191.3	193.2	184.2	183.1	183.5	184.2	184.8	186.9
Los Angeles—Riverside—Orange County, CA.....	M	196.9	195.2	195.4	197.4	199.2	201.1	190.3	188.5	188.5	190.3	192.1	194.2
New York, NY—Northern NJ—Long Island, NY—NJ—CT—PA.....	M	207.2	206.8	208.1	208.9	212.4	212.5	202.2	201.8	202.6	203.3	205.5	206
Boston—Brockton—Nashua, MA—NH—ME—CT.....	1	211.7	—	211.3	—	214.2	—	211	—	210.3	—	213.1	—
Cleveland—Akron, OH.....	1	185.2	—	183.3	—	186.3	—	173.9	—	174.5	—	177.2	—
Dallas—Ft Worth, TX.....	1	179.9	—	180.0	—	181.3	—	180.5	—	180.3	—	181.6	—
Washington—Baltimore, DC—MD—VA—WV ⁷	1	120.9	—	121.3	—	122.7	—	120.4	—	120.7	—	122.3	—
Atlanta, GA.....	2	—	183.2	—	185.3	—	188	—	181.5	—	183.4	—	186.0
Detroit—Ann Arbor—Flint, MI.....	2	—	185.3	—	187.8	—	189.8	—	180.7	—	182.6	—	185.2
Houston—Galveston—Brazoria, TX.....	2	—	170	—	174.6	—	175	—	167.7	—	171.8	—	172.8
Miami—Ft. Lauderdale, FL.....	2	—	188.6	—	190.6	—	193.2	—	186.6	—	188.3	—	191.2
Philadelphia—Wilmington—Atlantic City, PA—NJ—DE—MD.....	2	—	197.8	—	200.1	—	203.3	—	197.9	—	200.0	—	202.9
San Francisco—Oakland—San Jose, CA.....	2	—	199.5	—	201.2	—	202.5	—	195.9	—	197.3	—	199.3
Seattle—Tacoma—Bremerton, WA.....	2	—	195.1	—	197.6	—	201.3	—	190.3	—	192.4	—	196.2

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; Cincinnati, OH—KY—IN; Kansas City, MO—KS; Milwaukee—Racine, WI; Minneapolis—St. Paul, MN—WI; Pittsburgh, PA; Portland—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.

39. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982-84 = 100]

Series	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Consumer Price Index for All Urban Consumers:											
All items:											
Index.....	148.2	152.4	156.9	160.5	163.0	166.6	172.2	177.1	179.9	184.0	188.9
Percent change.....	2.6	2.8	3.0	2.3	1.6	2.2	3.4	2.8	1.6	2.3	2.7
Food and beverages:											
Index.....	144.9	148.9	153.7	157.7	161.1	164.6	168.4	173.6	176.8	180.5	186.6
Percent change.....	2.3	2.8	3.2	2.6	2.2	2.2	2.3	3.1	1.8	2.1	3.3
Housing:											
Index.....	144.8	148.5	152.8	156.8	160.4	163.9	169.6	176.4	180.3	184.8	189.5
Percent change.....	2.5	2.6	2.9	2.6	2.3	2.2	3.5	4.0	2.2	2.5	2.5
Apparel:											
Index.....	133.4	132.0	131.7	132.9	133.0	131.3	129.6	127.3	124.0	120.9	120.4
Percent change.....	-2	-1.0	-2	.9	.1	-1.3	-1.3	-1.8	-2.6	-2.5	-4
Transportation:											
Index.....	134.3	139.1	143.0	144.3	141.6	144.4	153.3	154.3	152.9	157.6	163.1
Percent change.....	3.0	3.6	2.8	0.9	-1.9	2.0	6.2	0.7	-9	3.1	3.5
Medical care:											
Index.....	211.0	220.5	228.2	234.6	242.1	250.6	260.8	272.8	285.6	297.1	310.1
Percent change.....	4.8	4.5	3.5	2.8	3.2	3.5	4.1	4.6	4.7	4.0	4.4
Other goods and services:											
Index.....	198.5	206.9	215.4	224.8	237.7	258.3	271.1	282.6	293.2	298.7	304.7
Percent change.....	2.9	4.2	4.1	4.4	5.7	8.7	5.0	4.2	3.8	1.9	2.0
Consumer Price Index for Urban Wage Earners and Clerical Workers:											
All items:											
Index.....	145.6	149.8	154.1	157.6	159.7	163.2	168.9	173.5	175.9	179.8	188.9
Percent change.....	2.5	2.9	2.9	2.3	1.3	2.2	3.5	2.7	1.4	2.2	5.1

40. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2004									2005			
	2003	2004	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P
Finished goods.....	143.3	148.5	147.3	148.9	148.7	148.5	148.5	148.7	152.0	151.7	150.6	151.5	152.2	153.5	154.4
Finished consumer goods.....	145.3	151.6	150.4	152.5	152.0	151.9	151.8	152.1	155.7	155.4	153.8	154.7	155.8	157.5	158.7
Finished consumer foods.....	145.9	152.6	152.7	155.5	155.0	152.3	152.2	152.7	155.1	154.7	154.9	154.2	155.6	156.2	156.5
Finished consumer goods excluding foods.....	144.7	150.9	149.1	150.9	150.5	151.4	151.3	151.5	155.6	155.3	153.0	154.5	155.5	157.7	159.3
Nondurable goods less food.....	148.4	156.6	154.3	156.7	156.0	158.0	157.9	158.2	162.1	161.8	158.5	160.5	162.2	165.5	167.9
Durable goods.....	133.1	135.1	134.4	134.8	134.9	133.6	133.6	133.5	137.8	137.4	137.2	138.0	137.3	137.0	137.0
Capital equipment.....	139.5	141.5	140.6	140.8	141.1	140.7	141.2	141.2	143.4	143.4	143.6	144.4	144.0	144.3	144.5
Intermediate materials, supplies, and components.....	133.7	142.5	140.2	142.0	142.8	143.5	144.8	145.3	146.5	147.7	146.9	148.0	148.9	150.4	151.7
Materials and components for manufacturing.....	129.7	137.9	136.2	137.4	137.7	138.1	139.4	140.6	141.5	142.0	142.8	143.9	144.5	145.2	145.3
Materials for food manufacturing.....	134.4	145.0	146.6	152.2	152.0	147.3	144.9	144.3	144.2	143.9	145.2	145.7	146.0	146.6	146.6
Materials for nondurable manufacturing...	137.2	147.6	143.5	144.5	145.9	147.3	149.8	152.6	154.4	155.5	156.8	157.8	158.1	160.7	160.4
Materials for durable manufacturing.....	127.9	146.6	144.3	146.9	145.8	147.2	150.3	152.1	153.0	153.6	155.2	157.8	159.3	158.7	158.9
Components for manufacturing.....	125.9	127.4	127.1	127.3	127.6	127.4	127.7	128.0	128.2	128.3	128.5	129.1	129.6	129.5	129.9
Materials and components for construction.....	153.6	166.4	164.7	166.9	166.9	167.5	169.8	170.9	170.8	170.7	171.3	173.1	174.7	175.2	175.3
Processed fuels and lubricants.....	112.6	124.1	118.4	122.3	124.9	126.4	128.5	126.9	130.8	134.0	128.9	129.0	130.7	135.8	141.1
Containers.....	153.7	159.2	154.9	156.7	158.9	159.7	162.0	162.5	164.6	164.9	165.2	166.5	166.8	166.8	167.0
Supplies.....	141.5	146.7	146.4	147.2	147.3	148.0	147.6	147.9	147.9	147.9	148.5	149.7	150.0	150.6	151.2
Crude materials for further processing.....	135.3	159.0	155.7	161.8	163.0	162.5	162.2	154.4	160.5	171.5	165.7	163.7	162.2	169.4	174.1
Foodstuffs and feedstuffs.....	113.5	126.9	135.4	141.1	137.4	130.9	124.8	122.0	120.1	119.5	121.5	123.8	121.3	127.6	125.0
Crude nonfood materials.....	148.2	179.2	166.6	172.9	178.0	182.2	186.6	174.9	187.3	207.1	195.3	189.9	189.3	197.0	207.3
Special groupings:															
Finished goods, excluding foods.....	142.4	147.2	145.7	147.0	146.8	147.2	147.3	147.5	150.9	150.7	149.2	150.5	151.0	152.6	153.7
Finished energy goods.....	102.0	113.0	109.5	113.6	112.5	115.4	115.0	115.1	121.1	120.1	114.5	116.4	118.2	123.4	126.9
Finished goods less energy.....	149.0	152.4	151.9	152.7	152.7	151.7	151.9	152.1	154.5	154.4	154.6	155.2	155.5	155.7	155.9
Finished consumer goods less energy.....	153.1	157.2	156.9	158.0	157.9	156.5	156.6	156.9	159.3	159.2	159.4	159.8	160.6	160.7	160.9
Finished goods less food and energy.....	150.5	152.7	152.1	152.2	152.3	151.9	152.2	152.3	154.7	154.7	154.9	155.9	155.9	156.0	156.1
Finished consumer goods less food and energy.....	157.9	160.3	159.8	159.9	160.0	159.4	159.6	159.7	162.2	162.3	162.5	163.6	163.9	163.8	164.0
Consumer nondurable goods less food and energy.....	177.9	180.7	180.5	180.2	180.2	180.3	180.8	181.2	181.7	182.2	182.8	184.3	185.6	185.7	186.3
Intermediate materials less foods and feeds.....	134.2	142.9	140.2	141.9	142.8	143.7	145.3	145.9	147.3	148.3	147.8	148.8	149.7	151.3	152.6
Intermediate foods and feeds.....	125.9	137.0	143.2	147.7	144.9	142.3	136.3	134.4	131.2	130.7	131.0	132.6	132.1	133.3	134.2
Intermediate energy goods.....	111.9	123.1	117.3	121.1	123.7	125.1	127.1	125.8	129.9	132.7	128.4	128.5	129.8	134.7	139.4
Intermediate goods less energy.....	137.7	145.8	144.4	145.7	146.0	146.4	147.5	148.5	149.0	149.4	149.9	151.2	151.9	152.5	152.9
Intermediate materials less foods and energy.....	138.5	146.5	144.6	145.7	146.2	146.8	148.3	149.5	150.1	150.6	151.1	152.4	153.2	153.8	154.1
Crude energy materials.....	147.2	174.7	158.8	172.1	180.0	177.9	181.9	166.6	181.8	208.3	192.7	186.0	186.3	196.5	210.6
Crude materials less energy.....	123.4	143.9	148.7	150.1	147.0	147.5	144.6	141.6	141.9	142.7	143.3	144.3	141.7	146.8	145.3
Crude nonfood materials less energy.....	152.5	192.8	187.6	177.9	176.3	195.4	200.8	197.4	203.5	207.9	204.9	202.6	199.4	201.6	203.1

41. Producer Price Indexes for the net output of major industry groups

[December 2003 = 100, unless otherwise indicated]

NAICS	Industry	2004						2005			
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P
	Total mining industries (December 1984=100)	155.6	159.3	149.6	160.6	179.1	169.2	163.8	165.9	173.4	183.0
211	Oil and gas extraction(December 1985=100)	196.6	202.7	184.0	203.0	234.8	214.7	204.4	205.3	217.4	234.0
212	Mining, except oil and gas.....	110.2	110.4	112.3	112.8	114.0	116.4	118.4	120.2	121.8	122.3
213	Mining support activities.....	103.7	105.3	106.4	109.2	111.4	114.9	114.2	123.5	125.2	126.9
	Total manufacturing industries (December 1984=100)	143.2	143.7	144.2	146.5	146.1	145.0	146.2	147.2	148.9	149.7
311	Food manufacturing (December 1984=100).....	146.5	144.6	143.8	143.5	143.3	144.2	144.9	145.2	146.0	146.6
312	Beverage and tobacco manufacturing.....	100.6	101.1	100.6	101.2	101.2	101.5	104.1	104.7	104.7	104.4
313	Textile mills.....	101.5	101.2	101.4	101.6	101.7	101.5	102.2	102.5	103.0	103.2
315	Apparel manufacturing.....	99.7	99.7	100.2	100.3	100.4	100.5	100.4	100.3	100.3	100.2
316	Leather and allied product manufacturing (December 1984=100).....	143.7	143.6	143.6	143.5	143.8	143.9	144.2	144.3	144.6	144.5
321	Wood products manufacturing.....	106.8	109.8	110.7	107.6	105.1	105.9	106.9	108.8	109.5	108.8
322	Paper manufacturing.....	103.2	104.4	105.0	105.5	105.7	105.8	106.2	106.4	106.8	107.1
323	Printing and related support activities.....	101.3	101.3	101.8	101.8	102.0	102.0	102.3	102.8	102.7	102.5
324	Petroleum and coal products manufacturing (December 1984=100).....	152.3	155.6	158.9	176.7	170.4	150.3	153.6	163.6	182.5	189.3
325	Chemical manufacturing (December 1984=100).....	172.2	173.8	175.5	177.2	179.3	180.5	183.1	184.0	185.2	186.5
326	Plastics and rubber products manufacturing (December 1984=100).....	131.2	131.7	133.1	134.3	135.3	136.1	137.1	138.7	139.0	139.4
331	Primary metal manufacturing (December 1984=100).....	144.7	148.3	150.8	152.9	154.2	155.5	158.3	159.2	158.1	157.9
332	Fabricated metal product manufacturing (December 1984=100).....	142.5	143.4	144.2	144.9	145.4	145.7	146.7	147.7	147.9	148.9
333	Machinery manufacturing.....	102.1	102.3	102.5	102.9	103.2	103.4	104.3	104.8	105.1	105.2
334	Computer and electronic products manufacturing.....	98.9	98.9	98.7	98.6	98.4	98.5	98.4	98.3	98.1	97.9
335	Electrical equipment, appliance, and components manufacturing.....	103.6	103.8	104.2	104.7	104.6	104.9	106.1	106.6	107.0	107.5
336	Transportation equipment manufacturing.....	99.7	99.8	99.9	103.2	102.7	102.9	103.5	102.6	102.5	102.6
337	Furniture and related product manufacturing(December 1984=100).....	152.0	152.7	152.8	153.4	154.6	155.1	155.6	156.0	155.9	156.8
339	Miscellaneous manufacturing.....	101.2	101.4	101.8	101.3	101.3	101.6	102.8	102.5	102.7	102.7
	Retail trade										
441	Motor vehicle and parts dealers.....	103.3	103.8	104.4	104.2	104.2	104.2	104.9	104.3	105.7	107.2
442	Furniture and home furnishings stores.....	102.6	102.8	103.4	103.8	103.7	104.6	105.8	106.8	106.9	107.0
443	Electronics and appliance stores.....	98.6	98.7	99.2	98.4	97.9	93.6	98.5	96.9	102.3	101.1
446	Health and personal care stores.....	101.3	105.6	105.1	104.1	106.8	107.2	103.3	105.1	107.9	106.2
447	Gasoline stations (June 2001=100).....	48.3	48.6	46.3	43.1	53.3	59.8	47.1	46.4	48.3	49.5
454	Nonstore retailers.....	103.6	102.0	105.6	104.7	111.5	117.4	119.1	121.9	119.6	121.6
	Transportation and warehousing										
481	Air transportation (December 1992=100).....	163.9	163.4	159.8	160.9	162.2	161.4	165.4	166.5	171.1	169.6
483	Water transportation.....	101.5	102.1	103.2	103.8	103.7	103.5	103.9	104.1	104.4	105.0
491	Postal service (June 1989=100).....	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0	155.0
	Utilities										
221	Utilities.....	107.1	107.4	105.2	104.3	108.8	108.9	108.6	107.0	107.9	110.2
	Health care and social assistance										
6211	Office of physicians (December 1996=100).....	114.3	114.3	114.4	114.4	114.4	114.5	114.7	115.3	115.1	115.2
6215	Medical and diagnostic laboratories.....	100.0	100.1	100.1	100.1	100.1	100.1	100.1	100.5	104.4	104.3
6216	Home health care services (December 1996=100).....	119.7	119.7	119.8	120.1	120.2	120.3	120.5	120.6	120.6	120.9
622	Hospitals (December 1992=100).....	141.6	141.6	141.7	143.3	143.5	143.8	144.7	145.3	145.3	145.5
6231	Nursing care facilities.....	102.9	103.0	103.2	103.7	103.9	103.9	104.4	104.5	104.9	105.1
62321	Residential mental retardation facilities.....	102.1	102.1	102.5	102.5	102.5	102.5	103.4	103.4	103.7	103.7
	Other services industries										
511	Publishing industries, except Internet	101.5	101.5	101.4	101.8	102.1	101.9	103.1	103.4	103.2	103.6
515	Broadcasting, except Internet.....	99.6	100.9	100.8	104.3	103.2	100.8	102.1	100.0	100.8	102.4
517	Telecommunications.....	99.8	99.9	99.6	99.4	99.2	99.9	99.2	98.1	97.8	98.4
5182	Data processing and related services.....	99.0	99.0	98.7	98.7	98.6	98.6	98.7	98.8	98.6	98.7
523	Security, commodity contracts, and like activity.....	103.2	104.1	104.5	104.3	105.8	106.0	108.7	111.8	109.8	110.1
53112	Lessors or nonresidential buildings (except miniwarehouse).....	103.5	104.0	103.9	104.6	103.0	104.2	103.8	102.2	103.4	105.2
5312	Offices of real estate agents and brokers.....	101.0	101.0	104.0	103.1	103.1	105.9	106.0	106.0	106.0	106.0
5313	Real estate property managers.....	101.4	101.0	99.8	101.5	101.2	102.3	103.3	103.1	101.0	102.6
5321	Automotive equipment rental and leasing (June 2001=100).....	110.0	110.8	108.0	107.8	107.7	108.1	105.0	107.9	109.1	104.8
5411	Legal services (December 1996=100).....	131.6	131.5	131.8	132.0	132.0	132.0	137.4	136.7	136.9	137.3
541211	Offices of certified public accountants.....	101.3	101.4	101.4	101.6	101.7	101.3	102.8	101.9	102.0	101.9
5413	Architectural, engineering, and related services (December 1996=100).....	127.0	127.0	127.3	127.3	127.3	127.7	128.1	128.7	128.8	129.2
54181	Advertising agencies.....	100.0	100.3	100.4	100.3	100.5	100.5	101.6	101.0	101.0	101.1
5613	Employment services (December 1996=100).....	114.6	114.6	114.2	115.2	115.2	114.4	115.2	115.7	115.2	114.9
56151	Travel agencies.....	95.1	94.7	94.5	95.8	95.2	96.1	96.5	95.0	96.2	97.1
56172	Janitorial services.....	101.0	101.1	100.9	101.4	101.4	101.4	101.3	101.7	101.9	102.0
5621	Waste collection.....	101.4	101.4	101.4	101.5	101.5	101.5	101.5	101.5	101.5	103.8
721	Accommodation (December 1996=100).....	126.6	127.0	127.2	127.0	125.1	123.8	126.8	128.2	127.9	127.8

42. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Finished goods											
Total.....	125.5	127.9	131.3	131.8	130.7	133.0	138.0	140.7	138.9	143.3	148.5
Foods.....	126.8	129.0	133.6	134.5	134.3	135.1	137.2	141.3	140.1	145.9	152.6
Energy.....	77.0	78.1	83.2	83.4	75.1	78.8	94.1	96.8	88.8	102.0	113.0
Other.....	137.1	140.0	142.0	142.4	143.7	146.1	148.0	150.0	150.2	150.5	152.7
Intermediate materials, supplies, and components											
Total.....	118.5	124.9	125.7	125.6	123.0	123.2	129.2	129.7	127.8	133.7	142.5
Foods.....	118.5	119.5	125.3	123.2	123.2	120.8	119.2	124.3	123.3	134.4	145.0
Energy.....	83.0	84.1	89.8	89.0	80.8	84.3	101.7	104.1	95.9	111.9	123.1
Other.....	127.1	135.2	134.0	134.2	133.5	133.1	136.6	136.4	135.8	138.5	146.5
Crude materials for further processing											
Total.....	101.8	102.7	113.8	111.1	96.8	98.2	120.6	121.3	108.1	135.3	159.0
Foods.....	106.5	105.8	121.5	112.2	103.9	98.7	100.2	106.2	99.5	113.5	126.9
Energy.....	72.1	69.4	85.0	87.3	68.6	78.5	122.1	122.8	102.0	147.5	174.7
Other.....	97.0	105.8	105.7	103.5	84.5	91.1	118.0	101.8	101.0	116.8	149.0

43. U.S. export price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2004										2005			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
0	Food and live animals.....	126.1	126.7	123.9	119.8	116.4	117.6	118.3	118.7	118.1	118.2	118.3	120.1	121.0	
01	Meat and meat preparations.....	127.6	127.7	127.3	123.0	126.1	124.8	126.9	125.4	124.6	121.3	125.2	128.3	132.4	
04	Cereals and cereal preparations.....	147.7	146.0	141.2	128.0	120.6	122.0	115.6	113.1	116.4	119.2	116.2	121.4	117.0	
05	Vegetables, fruit, and nuts, prepared fresh or dry.....	109.5	113.3	111.1	110.0	113.2	119.8	130.6	137.2	129.9	127.4	128.1	125.2	130.5	
2	Crude materials, inedible, except fuels.....	132.8	132.5	125.7	132.1	118.0	119.4	118.2	119.5	119.4	123.1	122.0	127.4	129.3	
22	Oilseeds and oleaginous fruits.....	197.1	199.0	168.5	184.5	117.4	125.1	109.1	110.3	111.1	115.2	109.7	128.9	124.6	
24	Cork and wood.....	97.6	98.2	98.3	98.9	98.8	99.1	99.1	98.4	98.8	98.7	98.9	99.2	98.7	
25	Pulp and waste paper.....	98.8	100.4	100.8	100.1	99.5	98.7	98.1	98.2	98.8	100.0	100.7	103.0	101.8	
26	Textile fibers and their waste.....	115.9	114.9	108.7	102.9	101.1	102.1	100.2	97.5	96.4	98.4	98.8	104.4	105.0	
28	Metalliferous ores and metal scrap.....	176.2	170.6	167.5	190.2	183.6	178.5	190.4	197.0	195.0	205.8	206.0	206.4	223.3	
3	Mineral fuels, lubricants, and related products.....	123.2	135.1	131.8	137.5	139.6	141.2	156.0	151.1	146.5	148.5	154.2	170.8	183.2	
33	Petroleum, petroleum products, and related materials....	119.8	135.0	129.7	134.5	136.2	138.0	156.4	151.0	144.6	147.3	155.7	177.1	192.1	
5	Chemicals and related products, n.e.s.	105.5	105.6	105.8	107.0	108.6	109.7	111.6	112.9	114.0	116.1	116.2	116.6	118.0	
54	Medicinal and pharmaceutical products.....	105.7	105.7	105.8	107.9	108.1	108.0	106.7	106.9	107.2	108.3	107.9	107.9	108.1	
55	Essential oils; polishing and cleaning preparations.....	104.1	104.4	104.3	104.1	105.1	105.6	106.6	107.5	109.1	109.8	110.4	109.4	110.0	
57	Plastics in primary forms	102.2	102.9	103.2	104.8	107.3	109.9	113.2	117.2	118.9	126.6	127.5	127.7	127.8	
58	Plastics in nonprimary forms.....	96.9	96.7	96.5	97.2	97.1	97.4	98.1	98.7	99.9	101.5	102.1	102.9	103.0	
59	Chemical materials and products, n.e.s.	104.8	104.8	104.9	104.6	106.2	105.5	105.2	105.3	105.8	106.5	106.4	105.9	106.7	
6	Manufactured goods classified chiefly by materials....	105.6	106.6	107.0	108.5	109.6	110.5	111.3	111.8	112.2	113.0	113.3	113.5	114.3	
62	Rubber manufactures, n.e.s.	110.9	110.8	111.2	111.8	112.0	111.4	111.6	112.4	112.9	113.8	114.2	114.4	115.2	
64	Paper, paperboard, and articles of paper, pulp, and paperboard.....	98.7	99.0	99.2	101.2	101.9	102.7	104.0	103.7	104.2	104.1	104.1	103.7	104.1	
66	Nonmetallic mineral manufactures, n.e.s.	99.7	99.5	99.9	99.9	100.2	100.4	101.1	101.3	101.6	101.9	102.0	102.2	102.5	
68	Nonferrous metals.....	98.1	97.6	95.4	95.4	96.5	99.0	99.1	100.6	101.5	103.4	104.8	106.4	108.5	
7	Machinery and transport equipment.....	98.4	98.4	98.2	98.2	98.2	98.2	98.4	98.4	98.5	98.7	98.7	98.7	98.4	
71	Power generating machinery and equipment.....	108.7	108.7	108.7	108.9	109.0	109.0	109.4	110.3	110.4	111.4	111.4	111.6	112.0	
72	Machinery specialized for particular industries.....	105.1	105.4	105.4	105.7	105.9	106.1	107.3	107.6	108.0	109.3	109.2	109.4	110.4	
74	General industrial machines and parts, n.e.s., and machine parts.....	104.5	104.8	104.9	105.2	105.3	105.3	106.2	106.4	106.6	107.6	108.2	108.3	108.8	
75	Computer equipment and office machines.....	88.8	88.6	87.2	86.6	86.4	86.0	85.1	84.4	83.8	83.0	83.0	82.0	79.4	
76	Telecommunications and sound recording and reproducing apparatus and equipment.....	92.2	92.0	91.8	91.5	90.7	90.7	90.5	90.5	90.4	90.5	90.5	90.4	89.8	
77	Electrical machinery and equipment.....	88.5	88.6	88.2	88.3	88.2	88.1	87.9	87.7	87.9	87.8	87.6	87.7	87.5	
78	Road vehicles.....	102.3	102.3	102.4	102.5	102.5	102.4	102.8	102.8	103.0	103.0	103.0	103.0	103.1	
87	Professional, scientific, and controlling instruments and apparatus.....	102.2	102.1	102.0	101.7	101.9	101.8	102.2	102.3	102.6	103.4	103.4	103.4	103.5	

44. U.S. import price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2004										2005			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
0	Food and live animals.....	106.4	106.1	106.9	107.4	107.4	109.2	111.1	111.0	111.9	110.9	112.6	117.3	117.3	
01	Meat and meat preparations.....	121.7	124.4	128.9	133.7	134.2	134.9	134.2	131.8	133.0	134.5	134.8	135.9	137.5	
03	Fish and crustaceans, mollusks, and other aquatic invertebrates.....	85.1	84.1	84.1	86.1	86.9	86.0	85.6	84.7	85.0	86.0	87.0	88.5	88.9	
05	Vegetables, fruit, and nuts, prepared fresh or dry.....	109.5	106.1	105.9	102.1	100.6	109.2	114.5	116.3	112.2	107.7	107.8	122.0	121.5	
07	Coffee, tea, cocoa, spices, and manufactures thereof.....	103.6	102.4	107.0	102.7	103.4	105.6	104.5	108.9	114.4	118.9	122.8	130.2	128.9	
1	Beverages and tobacco.....	105.3	105.4	105.3	105.9	106.1	106.2	106.5	106.7	107.1	107.5	107.7	107.7	107.8	
11	Beverages.....	105.5	105.7	105.6	106.4	106.6	106.7	106.9	107.1	107.6	107.9	108.1	108.2	108.3	
2	Crude materials, inedible, except fuels.....	122.9	127.3	125.8	125.7	134.0	135.1	125.1	121.7	125.5	129.6	135.9	134.5	133.2	
24	Cork and wood.....	127.8	139.0	136.1	132.1	148.9	151.1	126.3	117.1	124.7	127.0	132.1	137.2	132.6	
25	Pulp and waste paper.....	100.8	103.4	106.5	108.0	107.7	105.5	99.8	98.0	100.3	103.6	107.2	108.7	109.7	
28	Metalliferous ores and metal scrap.....	148.2	143.5	140.4	145.3	160.8	162.6	166.2	167.0	167.3	170.8	170.8	179.8	188.3	
29	Crude animal and vegetable materials, n.e.s.....	99.3	102.1	98.0	101.2	97.6	98.7	96.3	96.5	98.3	110.1	137.5	102.8	96.3	
3	Mineral fuels, lubricants, and related products.....	121.1	131.6	131.5	133.9	144.2	146.8	161.2	157.2	140.6	142.2	148.1	164.8	170.7	
33	Petroleum, petroleum products, and related materials...	120.3	131.5	130.0	133.0	144.8	149.5	165.7	155.3	137.0	140.4	148.4	167.0	171.2	
34	Gas, natural and manufactured.....	123.3	129.5	140.0	134.8	136.3	121.9	124.1	166.2	163.5	150.8	143.3	145.8	164.0	
5	Chemicals and related products, n.e.s.....	103.5	103.5	103.8	104.6	105.1	106.7	108.4	108.9	109.6	110.2	111.8	112.0	113.8	
52	Inorganic chemicals.....	115.9	117.5	119.8	122.2	123.8	124.1	125.5	126.8	126.7	127.6	128.5	129.3	130.9	
53	Dyeing, tanning, and coloring materials.....	100.6	100.8	100.3	98.3	98.4	98.4	98.5	98.7	98.7	97.9	98.6	98.6	99.8	
54	Medicinal and pharmaceutical products.....	107.7	107.3	107.1	107.3	107.3	106.6	106.4	107.4	108.9	110.5	110.3	110.2	111.1	
55	Essential oils; polishing and cleaning preparations.....	93.5	93.4	93.5	93.5	93.4	93.4	93.6	93.7	94.4	94.9	95.3	95.5	95.5	
57	Plastics in primary forms.....	105.5	105.8	104.6	107.8	108.4	109.6	109.9	113.2	116.1	123.0	124.2	126.6	127.6	
58	Plastics in nonprimary forms.....	102.9	102.9	102.3	103.0	103.2	103.8	104.4	105.1	105.7	106.7	106.5	106.5	106.8	
59	Chemical materials and products, n.e.s.....	95.4	95.1	95.2	94.7	94.1	94.4	95.3	95.8	96.1	96.2	97.7	97.8	99.5	
6	Manufactured goods classified chiefly by materials.....	105.6	106.9	106.1	106.1	107.7	108.9	108.9	109.4	110.4	111.4	111.9	113.0	113.7	
62	Rubber manufactures, n.e.s.....	99.9	100.0	100.5	100.5	100.8	100.8	101.0	101.3	101.9	102.2	102.6	103.5	103.6	
64	Paper, paperboard, and articles of paper, pulp, and paperboard.....	94.8	95.5	95.5	96.4	96.9	97.9	99.2	99.4	99.0	100.0	99.9	100.3	101.6	
66	Nonmetallic mineral manufactures, n.e.s.....	99.3	99.4	99.4	99.3	100.2	100.4	100.5	100.5	100.7	100.9	100.8	100.9	101.1	
68	Nonferrous metals.....	105.8	106.1	101.6	102.3	105.6	106.3	106.6	108.6	111.0	112.1	114.1	116.2	118.7	
69	Manufactures of metals, n.e.s.....	102.3	102.4	102.4	102.7	103.3	103.9	104.4	105.3	106.7	108.1	108.5	108.8	109.1	
7	Machinery and transport equipment.....	95.2	95.2	95.1	95.0	95.0	95.0	94.9	95.1	95.2	95.3	95.2	95.1	94.9	
72	Machinery specialized for particular industries.....	106.5	106.7	106.6	107.2	107.6	107.4	107.8	108.5	109.5	110.5	110.5	111.2	111.5	
74	General industrial machines and parts, n.e.s., and machine parts.....	103.5	103.6	103.5	104.0	104.1	104.3	104.6	104.9	105.3	106.2	106.7	106.9	107.4	
75	Computer equipment and office machines.....	76.5	76.4	75.5	74.9	74.3	73.9	73.2	73.0	72.8	72.4	71.9	71.1	70.2	
76	Telecommunications and sound recording and reproducing apparatus and equipment.....	84.9	84.9	84.7	84.3	84.0	83.8	83.4	83.4	83.1	83.0	82.8	82.7	82.2	
77	Electrical machinery and equipment.....	94.9	94.8	94.7	94.6	94.7	94.6	94.3	94.4	94.6	94.6	94.4	94.4	94.4	
78	Road vehicles.....	102.2	102.3	102.4	102.6	102.8	103.1	103.4	103.6	103.7	103.6	103.7	103.6	103.8	
85	Footwear.....	100.6	100.6	100.4	100.4	100.1	100.5	100.5	100.5	100.5	100.3	100.3	100.3	100.2	
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.....	99.4	99.3	99.0	98.2	98.2	98.2	98.2	98.3	98.6	99.1	99.1	99.1	99.3	

45. U.S. export price indexes by end-use category

[2000 = 100]

Category	2004										2005			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
ALL COMMODITIES	103.7	104.1	103.4	103.9	103.4	103.8	104.4	104.7	104.8	105.6	105.7	106.3	106.9	
Foods, feeds, and beverages.....	134.8	135.6	129.1	128.0	116.5	118.7	117.5	118.3	116.9	117.1	116.3	120.9	120.9	
Agricultural foods, feeds, and beverages.....	137.0	138.0	131.1	129.9	117.0	119.3	117.8	118.5	116.6	116.7	115.9	120.7	120.8	
Nonagricultural (fish, beverages) food products.....	113.4	112.7	110.7	110.1	110.9	113.0	114.4	115.5	118.4	119.7	119.8	121.8	121.3	
Industrial supplies and materials.....	109.1	110.2	109.9	112.0	113.1	114.0	116.6	117.4	118.0	120.1	120.6	122.1	124.4	
Agricultural industrial supplies and materials.....	114.8	113.7	110.7	109.0	108.4	109.4	109.2	108.5	109.5	112.9	112.9	115.7	116.8	
Fuels and lubricants.....	109.6	117.5	114.9	118.6	120.4	121.5	132.2	128.3	125.4	128.3	133.0	144.0	153.9	
Nonagricultural supplies and materials, excluding fuel and building materials.....	109.4	109.9	110.0	112.4	113.5	114.4	116.4	117.9	118.9	121.0	120.9	121.1	122.7	
Selected building materials.....	103.4	103.9	103.4	102.8	103.3	104.0	103.9	104.0	104.4	104.6	104.8	105.3	105.2	
Capital goods.....	98.1	98.1	97.8	97.8	97.8	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.1	
Electric and electrical generating equipment.....	101.7	101.7	102.0	102.2	102.2	102.4	103.3	103.5	103.6	103.8	103.5	104.0	104.0	
Nonelectrical machinery.....	94.6	94.6	94.1	94.0	94.0	93.9	93.9	93.8	93.9	94.0	94.0	93.8	93.4	
Automotive vehicles, parts, and engines.....	102.2	102.3	102.3	102.4	102.6	102.5	102.7	102.8	102.9	103.1	103.1	103.2	103.4	
Consumer goods, excluding automotive.....	100.4	100.5	100.4	100.9	101.1	101.0	100.9	101.0	101.2	101.7	101.6	101.6	101.9	
Nondurables, manufactured.....	100.1	100.1	100.0	100.8	101.0	101.0	100.5	100.6	101.0	101.6	101.4	101.4	101.8	
Durables, manufactured.....	100.5	100.6	100.7	100.8	101.0	100.9	100.8	101.0	101.1	101.4	101.5	101.6	101.8	
Agricultural commodities.....	133.0	133.7	127.4	126.1	115.5	117.6	116.3	116.7	115.4	116.1	115.4	119.8	120.2	
Nonagricultural commodities.....	101.4	101.7	101.5	102.2	102.5	102.8	103.6	103.9	104.1	104.9	105.0	105.4	105.9	

46. U.S. import price indexes by end-use category

[2000 = 100]

Category	2004										2005			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
ALL COMMODITIES	100.4	101.9	101.7	102.1	103.6	104.1	105.8	105.5	104.0	104.6	105.5	107.6	108.5	
Foods, feeds, and beverages.....	107.2	106.8	106.9	107.5	107.3	108.7	110.0	110.3	111.5	111.1	112.2	115.8	116.3	
Agricultural foods, feeds, and beverages.....	114.2	114.0	114.3	114.5	114.1	116.4	118.4	119.1	120.7	119.6	120.9	125.7	126.3	
Nonagricultural (fish, beverages) food products.....	91.7	90.6	90.3	91.8	92.3	91.4	91.1	90.7	91.0	92.0	92.8	93.9	93.8	
Industrial supplies and materials.....	113.9	119.7	119.3	120.6	126.6	128.5	134.9	133.2	126.4	127.9	130.7	139.1	142.7	
Fuels and lubricants.....	120.6	131.0	130.9	133.2	143.4	146.2	160.8	157.0	141.0	142.5	147.8	163.9	170.5	
Petroleum and petroleum products.....	119.9	131.2	129.7	132.7	144.4	149.2	165.8	155.9	138.1	141.2	148.2	166.4	171.6	
Paper and paper base stocks.....	96.8	98.2	99.0	100.0	100.4	101.1	101.4	101.1	101.3	102.4	103.0	103.8	104.9	
Materials associated with nondurable supplies and materials.....	105.1	105.4	106.0	106.5	107.7	108.0	108.7	109.3	109.8	111.3	112.0	112.9	114.0	
Selected building materials.....	120.2	123.6	120.5	117.6	124.0	125.6	115.3	111.8	115.6	117.9	120.0	123.1	120.8	
Unfinished metals associated with durable goods.....	121.7	126.2	124.4	126.1	129.8	133.1	134.2	136.4	138.5	139.6	139.1	141.5	144.7	
Nonmetals associated with durable goods.....	99.3	99.1	98.7	98.5	98.5	98.8	98.9	99.2	99.7	100.9	100.7	100.5	100.7	
Capital goods.....	92.6	92.6	92.2	92.2	92.1	92.0	91.8	91.9	92.2	92.5	92.4	92.2	92.1	
Electric and electrical generating equipment.....	97.2	97.1	97.0	97.5	97.7	97.4	97.4	97.5	98.0	98.4	98.7	98.7	98.9	
Nonelectrical machinery.....	90.6	90.5	90.1	90.0	89.9	89.8	89.5	89.6	89.9	90.1	90.0	89.7	89.5	
Automotive vehicles, parts, and engines.....	102.0	102.0	102.2	102.3	102.5	102.7	103.0	103.1	103.2	103.2	103.2	103.2	103.4	
Consumer goods, excluding automotive.....	98.6	98.5	98.5	98.5	98.4	98.4	98.5	98.7	99.0	99.6	100.1	99.8	99.7	
Nondurables, manufactured.....	101.1	101.0	100.9	101.0	100.9	100.8	100.9	101.1	101.4	102.2	102.8	102.8	102.8	
Durables, manufactured.....	96.3	96.0	96.1	95.9	95.9	95.9	96.0	96.2	96.5	96.8	96.7	96.7	96.6	
Nonmanufactured consumer goods.....	96.4	97.3	96.8	97.4	97.9	97.9	97.9	98.0	98.2	100.1	105.0	99.4	98.2	

47. U.S. international price indexes for selected categories of services

[2000 = 100, unless indicated otherwise]

Category	2003				2004				2005
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Air freight (inbound).....	108.8	109.4	112.5	112.9	116.2	116.6	118.7	125.2	126.3
Air freight (outbound).....	97.2	95.4	95.5	94.9	96.1	99.0	100.7	104.7	103.7
Inbound air passenger fares (Dec. 2003 = 100).....	—	—	—	100.0	105.1	106.1	110.1	112.5	114.5
Outbound air passenger fares (Dec. 2003 = 100).....	—	—	—	100.0	99.3	114.2	114.2	105.4	105.0
Ocean liner freight (inbound).....	94.0	116.1	116.2	117.7	119.1	121.1	120.3	122.7	121.2

NOTE: Dash indicates data not available.

48. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	2002				2003				2004				2005
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
Business													
Output per hour of all persons.....	122.6	123.2	124.6	125.0	126.3	128.6	131.1	131.8	133.1	134.1	134.7	136.0	136.7
Compensation per hour.....	143.2	144.5	145.0	145.1	147.4	149.6	151.5	152.9	154.0	156.0	158.2	160.1	161.8
Real compensation per hour.....	115.1	115.2	115.0	114.8	115.3	116.8	117.6	118.5	118.2	118.5	119.6	120.0	120.6
Unit labor costs.....	116.7	117.2	116.3	116.3	116.8	116.4	115.6	116.0	115.7	116.4	117.4	117.8	118.4
Unit nonlabor payments.....	113.4	113.6	115.7	116.8	117.7	119.0	120.8	120.7	122.9	124.4	123.5	124.8	126.0
Implicit price deflator.....	115.5	115.9	116.1	116.5	117.1	117.3	117.5	117.8	118.4	119.4	119.7	120.4	121.3
Nonfarm business													
Output per hour of all persons.....	122.4	122.8	124.1	124.6	125.8	127.9	130.5	131.5	132.7	134.0	134.4	135.1	136.0
Compensation per hour.....	142.5	143.8	144.3	144.7	146.7	148.7	150.8	152.3	153.1	155.3	157.4	158.9	160.8
Real compensation per hour.....	114.6	114.7	114.5	114.2	114.6	116.1	117.1	118.0	117.5	117.9	119.0	119.1	119.8
Unit labor costs.....	116.4	117.1	116.2	116.1	116.6	116.3	115.5	115.9	115.4	115.9	117.1	117.6	118.2
Unit nonlabor payments.....	115.1	115.4	117.7	118.9	119.6	120.4	122.3	121.9	124.3	125.7	125.2	126.4	127.6
Implicit price deflator.....	116.0	116.5	116.8	117.2	117.7	117.8	118.0	118.1	118.7	119.6	120.1	120.8	121.7
Nonfinancial corporations													
Output per hour of all employees.....	126.7	128.2	129.0	129.6	130.9	132.7	135.8	136.6	136.9	138.0	139.6	141.4	-
Compensation per hour.....	139.9	141.3	142.1	142.8	144.2	146.4	148.4	149.8	150.8	152.8	154.9	156.5	-
Real compensation per hour.....	112.5	112.8	112.7	112.8	112.7	114.3	115.3	116.1	115.7	116.0	117.1	117.3	-
Total unit costs.....	111.3	111.0	110.9	110.9	111.6	110.9	110.5	110.4	110.4	110.9	111.0	110.6	-
Unit labor costs.....	110.4	110.3	110.1	110.2	110.7	110.3	109.8	109.7	110.2	110.7	110.9	110.7	-
Unit nonlabor costs.....	113.6	112.7	112.8	112.8	114.0	112.6	112.6	112.2	111.1	111.4	111.3	110.2	-
Unit profits.....	88.8	94.5	95.8	102.3	100.0	112.2	120.3	125.1	129.9	136.3	136.0	147.5	-
Unit nonlabor payments.....	107.0	107.9	108.3	110.0	110.3	112.5	114.7	115.7	116.1	118.1	117.9	120.2	-
Implicit price deflator.....	109.3	109.5	109.5	110.1	110.5	111.0	111.4	111.7	112.2	113.2	113.2	113.9	-
Manufacturing													
Output per hour of all persons.....	144.4	146.5	148.7	149.5	151.6	152.9	156.9	158.1	159.3	162.2	164.0	166.5	168.1
Compensation per hour.....	143.8	146.7	148.3	149.4	155.5	158.4	161.6	163.6	162.4	165.1	168.7	171.7	173.7
Real compensation per hour.....	115.6	117.0	117.7	117.9	121.5	123.6	125.5	126.8	124.6	125.3	127.6	128.4	129.4
Unit labor costs.....	99.6	100.2	99.7	99.9	102.6	103.6	103.0	103.5	101.9	101.8	102.9	103.1	103.3

NOTE: Dash indicates data not available.

49. Annual indexes of multifactor productivity and related measures, selected years

[2000 = 100, unless otherwise indicated]

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Private business													
Productivity:													
Output per hour of all persons.....	81.4	82.7	86.2	86.5	87.5	87.7	90.3	91.9	94.4	97.2	100.0	102.7	107.2
Output per unit of capital services.....	102.6	99.7	101.7	102.6	104.5	103.6	103.9	104.1	102.6	101.8	100.0	96.3	95.5
Multifactor productivity.....	90.9	90.3	92.7	93.1	94.1	93.8	95.5	96.3	97.4	98.7	100.0	100.1	102.0
Output.....	68.6	68.1	70.9	73.2	76.9	79.1	82.8	87.2	91.5	96.2	100.0	100.4	102.3
Inputs:													
Labor input.....	80.1	79.1	80.0	82.4	86.1	88.5	90.4	94.0	96.2	99.0	100.0	98.6	97.4
Capital services.....	66.9	68.4	69.7	71.3	73.5	76.4	79.7	83.8	89.2	94.5	100.0	104.2	107.1
Combined units of labor and capital input.....	75.5	75.4	76.5	78.6	81.7	84.3	86.7	90.5	93.9	97.5	100.0	100.4	100.3
Capital per hour of all persons.....	79.3	83.0	84.8	84.4	83.7	84.6	86.9	88.3	92.0	95.4	100.0	106.6	112.2
Private nonfarm business													
Productivity:													
Output per hour of all persons.....	81.7	83.1	86.5	86.9	87.9	88.4	90.8	92.2	94.7	97.3	100.0	102.6	107.2
Output per unit of capital services.....	104.2	101.1	102.2	103.8	105.4	104.7	104.7	104.6	103.0	102.1	100.0	96.3	95.4
Multifactor productivity.....	91.5	91.0	93.2	93.6	94.5	94.6	96.0	96.6	97.7	98.8	100.0	100.0	102.0
Output.....	68.6	68.1	70.8	73.2	76.7	79.3	82.9	87.2	91.5	96.3	100.0	100.5	102.4
Inputs:													
Labor input.....	79.8	78.7	79.6	82.2	85.6	88.0	90.0	93.7	96.0	99.0	100.0	98.8	97.3
Capital services.....	65.8	67.4	68.8	70.6	72.8	75.7	79.2	83.3	88.8	94.3	100.0	104.4	107.3
Combined units of labor and capital input.....	75.0	74.8	75.9	78.2	81.2	83.8	86.3	90.2	93.7	97.5	100.0	100.5	100.3
Capital per hour of all persons.....	78.4	82.3	84.1	83.7	83.3	84.4	86.7	88.2	91.9	95.3	100.0	106.6	112.4
Manufacturing [1996 = 100]													
Productivity:													
Output per hour of all persons.....	82.2	84.1	88.6	90.2	93.0	96.5	100.0	103.8	108.9	114.0	118.3	119.7	—
Output per unit of capital services.....	97.5	93.6	95.9	96.9	99.7	100.6	100.0	101.4	101.7	101.7	101.0	95.1	—
Multifactor productivity.....	93.3	92.4	94.0	95.1	97.3	99.2	100.0	103.1	105.7	108.7	111.3	110.3	—
Output.....	83.2	81.5	85.5	88.3	92.9	96.9	100.0	105.6	110.5	114.7	117.4	112.1	—
Inputs:													
Hours of all persons.....	101.1	96.9	96.5	97.8	99.9	100.4	100.0	101.7	101.5	100.7	99.2	93.6	—
Capital services.....	85.3	87.1	89.1	91.1	93.2	96.4	100.0	104.1	108.7	112.8	116.2	117.9	—
Energy.....	93.1	93.2	93.1	96.6	99.9	102.3	100.0	97.5	100.6	102.9	104.3	98.9	—
Nonenergy materials.....	77.5	78.5	83.5	86.5	90.3	93.1	100.0	101.9	107.5	107.9	106.9	105.5	—
Purchased business services.....	84.7	84.6	92.0	92.9	96.0	100.4	100.0	103.9	103.1	105.4	106.5	97.7	—
Combined units of all factor inputs.....	89.1	88.3	90.9	92.8	95.5	97.7	100.0	102.4	104.6	105.5	105.5	101.6	—

NOTE: Dash indicates data not available.

50. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
Business													
Output per hour of all persons.....	48.9	66.2	79.2	94.5	104.6	106.5	109.4	112.6	115.9	118.8	123.9	129.5	134.6
Compensation per hour.....	13.9	23.6	54.2	90.6	109.6	113.1	119.9	125.6	134.5	140.1	144.5	150.5	157.2
Real compensation per hour.....	60.9	78.8	89.2	96.2	99.6	100.6	105.1	107.9	111.8	113.3	115.0	117.0	119.2
Unit labor costs.....	28.4	35.6	68.4	95.9	104.8	106.1	109.6	111.6	116.1	118.0	116.6	116.2	116.8
Unit nonlabor payments.....	24.9	31.4	61.3	93.9	111.8	113.8	109.8	109.2	107.2	109.9	114.9	119.6	123.9
Implicit price deflator.....	27.1	34.1	65.8	95.1	107.4	109.0	109.7	110.7	112.7	114.9	116.0	117.4	119.5
Nonfarm business													
Output per hour of all persons.....	51.8	67.9	80.6	94.6	104.8	106.5	109.3	112.3	115.5	118.3	123.5	128.9	134.1
Compensation per hour.....	14.5	23.7	54.4	90.4	109.5	112.9	119.6	125.1	134.0	139.3	143.8	149.6	156.3
Real compensation per hour.....	63.3	79.1	89.5	96.0	99.5	100.4	104.9	107.5	111.4	112.7	114.5	116.4	118.5
Unit labor costs.....	27.9	34.9	67.5	95.6	104.5	106.0	109.4	111.4	116.0	117.7	116.5	116.1	116.5
Unit nonlabor payments.....	24.3	31.1	60.4	93.6	112.0	114.5	110.8	110.7	108.7	111.5	116.8	121.1	125.4
Implicit price deflator.....	26.6	33.5	64.9	94.9	107.3	109.1	109.9	111.1	113.3	115.4	116.6	117.9	119.8
Nonfinancial corporations													
Output per hour of all employees.....	56.2	69.8	80.8	95.4	107.1	109.9	113.5	117.3	121.5	123.5	128.4	133.7	139.0
Compensation per hour.....	16.2	25.7	57.2	91.1	108.5	111.7	118.1	123.5	132.0	137.3	141.5	147.2	153.1
Real compensation per hour.....	70.8	85.9	94.1	96.8	98.6	99.4	103.6	106.1	109.7	111.1	112.7	114.6	116.5
Total unit costs.....	27.3	35.6	69.2	96.0	100.9	101.1	102.9	104.0	107.4	111.6	111.0	110.8	110.7
Unit labor costs.....	28.8	36.9	70.8	95.5	101.3	101.7	104.1	105.3	108.6	111.2	110.3	110.1	110.6
Unit nonlabor costs.....	23.3	32.2	64.9	97.3	100.0	99.7	99.5	100.4	104.2	112.6	113.0	112.9	111.0
Unit profits.....	50.2	44.4	66.9	96.9	150.0	154.3	137.0	129.1	108.7	82.2	95.4	114.6	137.5
Unit nonlabor payments.....	30.5	35.4	65.5	97.2	113.3	114.3	109.5	108.0	105.4	104.5	108.3	113.3	118.1
Implicit price deflator.....	29.4	36.4	69.0	96.1	105.3	105.9	105.9	106.2	107.5	108.9	109.6	111.2	113.1
Manufacturing													
Output per hour of all persons.....	41.8	54.2	70.1	92.9	113.9	118.0	123.6	128.1	134.1	136.9	147.3	154.8	163.0
Compensation per hour.....	14.9	23.7	55.6	90.5	109.3	112.2	118.7	123.4	134.7	137.8	147.0	159.7	167.0
Real compensation per hour.....	65.0	79.2	91.4	96.1	99.3	99.8	104.2	106.0	112.0	111.5	117.0	124.3	126.5
Unit labor costs.....	35.6	43.8	79.3	97.3	96.0	95.1	96.0	96.4	100.5	100.7	99.8	103.2	102.4
Unit nonlabor payments.....	26.8	29.3	80.2	100.8	110.7	110.4	104.2	105.1	107.1	105.9	-	-	-
Implicit price deflator.....	30.2	35.0	79.9	99.5	105.2	104.6	101.1	101.8	104.6	103.9	-	-	-

Dash indicates data not available.

51. Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Mining														
21	Mining.....	86.0	86.8	95.2	96.2	99.6	101.8	101.7	100.0	103.4	111.1	109.5	107.7	112.3
211	Oil and gas extraction.....	78.4	78.8	81.9	85.1	90.3	95.5	98.9	100.0	101.6	107.9	115.2	117.4	119.3
212	Mining, except oil and gas.....	79.3	80.0	86.8	89.9	93.0	94.0	96.0	100.0	104.6	105.9	106.8	109.0	111.7
2121	Coal mining.....	68.1	69.3	75.3	79.9	83.9	88.2	94.9	100.0	106.5	110.3	115.8	114.4	112.2
2122	Metal ore mining.....	79.9	82.7	91.7	102.2	104.1	98.5	95.3	100.0	109.5	112.7	124.4	131.8	143.9
2123	Nonmetallic mineral mining and quarrying.....	92.3	89.5	96.1	93.6	96.9	97.3	97.1	100.0	101.3	101.2	96.2	99.3	103.8
Utilities														
2211	Power generation and supply.....	71.2	73.8	74.2	78.7	83.0	88.6	95.5	100.0	103.8	104.1	107.0	106.4	102.4
2212	Natural gas distribution.....	71.4	72.7	75.8	79.8	82.1	89.0	96.1	100.0	99.1	103.1	113.1	110.0	114.9
Manufacturing														
3111	Animal food.....	90.1	89.3	90.2	90.2	87.3	94.0	87.5	100.0	109.4	109.5	109.7	127.2	-
3112	Grain and oilseed milling.....	89.0	91.2	91.1	93.8	94.7	99.1	91.3	100.0	107.5	114.2	112.5	117.3	-
3113	Sugar and confectionery products.....	91.0	93.8	90.5	92.5	94.0	94.3	98.2	100.0	104.0	107.1	111.9	109.9	-
3114	Fruit and vegetable preserving and specialty.....	86.4	89.7	90.7	93.8	94.9	97.1	98.2	100.0	106.8	108.4	109.8	117.0	-
3115	Dairy products.....	90.8	92.1	95.4	93.9	95.4	98.7	98.0	100.0	99.1	94.5	96.0	96.2	-
3116	Animal slaughtering and processing.....	94.5	96.8	101.5	100.9	97.4	98.5	94.3	100.0	99.9	100.3	101.9	102.7	-
3117	Seafood product preparation and packaging.....	117.5	112.0	115.3	113.9	114.1	108.4	116.2	100.0	117.0	130.2	137.6	147.3	-
3118	Bakeries and tortilla manufacturing.....	92.6	92.3	95.6	96.0	96.7	99.7	97.7	100.0	103.8	105.4	105.3	106.3	-
3119	Other food products.....	91.9	93.5	95.9	102.8	100.3	101.3	103.0	100.0	106.9	108.8	110.2	103.2	-
3121	Beverages.....	86.5	90.1	93.8	93.2	97.7	99.6	101.1	100.0	98.5	92.4	90.6	91.7	-
3122	Tobacco and tobacco products.....	81.4	77.3	79.6	73.7	89.8	97.5	99.4	100.0	98.1	92.1	98.0	100.0	-
3131	Fiber, yarn, and thread mills.....	73.9	74.7	80.1	84.6	87.2	92.0	98.7	100.0	102.2	104.6	102.6	110.5	-
3132	Fabric mills.....	75.0	77.7	81.5	85.0	91.9	95.8	98.0	100.0	103.9	109.8	110.2	109.1	-
3133	Textile and fabric finishing mills.....	81.7	80.4	83.7	86.0	87.8	84.5	85.0	100.0	100.6	101.7	104.0	109.7	-
3141	Textile furnishings mills.....	88.2	88.6	93.0	93.7	90.1	92.5	93.3	100.0	99.9	101.2	106.8	106.9	-
3149	Other textile product mills	91.1	90.0	92.0	90.3	94.5	95.9	96.3	100.0	97.0	110.4	110.4	105.0	-
3151	Apparel knitting mills.....	85.6	88.7	93.2	102.5	104.3	109.5	121.9	100.0	96.6	102.0	110.2	108.4	-
3152	Cut and sew apparel.....	70.1	72.0	73.1	76.6	80.5	85.5	90.5	100.0	104.0	118.8	127.7	131.7	-
3159	Accessories and other apparel.....	100.9	97.3	98.7	99.0	104.6	112.4	112.6	100.0	110.8	103.3	104.9	114.8	-
3161	Leather and hide tanning and finishing.....	60.8	56.6	76.7	83.1	75.9	78.6	91.5	100.0	98.0	101.6	110.0	109.7	-
3162	Footwear.....	77.1	74.7	83.1	81.7	90.4	95.6	103.4	100.0	100.9	116.8	124.1	142.7	-
3169	Other leather products.....	102.5	100.2	97.0	94.3	80.0	73.2	79.7	100.0	109.2	100.4	107.6	114.1	-
3211	Sawmills and wood preservation.....	79.2	81.6	86.1	82.6	85.1	91.0	96.2	100.0	100.8	105.4	106.5	109.0	-
3212	Plywood and engineered wood products.....	102.3	107.4	114.7	108.9	105.8	101.8	101.2	100.0	105.6	99.9	100.5	105.0	-
3219	Other wood products.....	105.4	104.7	104.0	103.0	99.3	100.4	100.8	100.0	101.5	105.4	104.0	104.6	-
3221	Pulp, paper, and paperboard mills.....	88.5	88.1	92.3	92.9	97.6	102.0	97.6	100.0	103.1	111.4	115.7	117.5	-
3222	Converted paper products.....	90.5	93.5	93.7	96.3	97.6	97.2	98.3	100.0	102.7	101.5	101.9	101.0	-
3231	Printing and related support activities.....	96.6	95.4	101.3	100.1	98.3	98.8	99.6	100.0	100.5	103.5	104.9	105.6	-
3241	Petroleum and coal products.....	76.7	75.8	78.9	84.5	85.6	90.1	94.8	100.0	102.1	107.8	113.2	112.2	-
3251	Basic chemicals.....	91.4	90.1	89.4	89.9	95.1	92.3	90.0	100.0	102.5	114.7	118.4	111.0	-
3252	Resin, rubber, and artificial fibers.....	75.8	74.7	80.6	83.8	93.5	95.9	93.3	100.0	105.5	108.8	108.1	103.8	-
3253	Agricultural chemicals.....	84.6	81.0	81.3	85.6	87.4	90.7	92.1	100.0	98.8	87.6	91.4	91.1	-
3254	Pharmaceuticals and medicines.....	91.4	92.6	88.2	88.1	92.4	96.3	99.9	100.0	92.9	94.6	93.4	97.4	-
3255	Paints, coatings, and adhesives.....	85.1	85.9	87.6	90.9	94.1	92.7	98.3	100.0	99.1	98.8	98.5	102.1	-
3256	Soap, cleaning compounds, and toiletries.....	83.2	84.2	83.4	86.9	88.6	93.9	95.6	100.0	96.6	91.1	99.2	102.7	-
3259	Other chemical products and preparations.....	76.6	78.0	84.7	90.6	92.6	94.4	94.2	100.0	99.4	109.2	120.0	111.3	-
3261	Plastics products.....	84.7	86.3	90.3	91.9	94.4	94.5	97.0	100.0	103.5	109.3	111.2	113.3	-
3262	Rubber products.....	83.0	83.8	84.9	90.4	90.3	92.8	94.4	100.0	100.5	101.4	103.9	104.2	-
3271	Clay products and refractories.....	89.2	87.5	91.5	91.9	96.6	97.4	102.6	100.0	101.3	103.5	103.6	97.6	-
3272	Glass and glass products.....	80.0	79.1	84.3	86.1	87.5	88.8	96.5	100.0	102.7	108.6	109.7	105.2	-
3273	Cement and concrete products.....	94.8	93.7	94.8	96.5	95.0	98.2	100.6	100.0	103.5	104.1	100.4	97.1	-
3274	Lime and gypsum products.....	84.1	82.7	88.5	90.1	87.8	88.8	92.4	100.0	113.1	102.7	97.0	100.1	-
3279	Other nonmetallic mineral products.....	79.8	81.4	90.2	89.3	90.5	91.7	96.5	100.0	98.8	95.5	95.6	96.8	-
3311	Iron and steel mills and ferroalloy production.....	69.6	67.2	74.1	81.7	87.2	89.7	94.1	100.0	101.7	106.5	108.5	106.7	-
3312	Steel products from purchased steel.....	83.8	86.4	89.9	95.9	100.0	100.5	100.5	100.0	100.3	94.2	96.4	97.1	-
3313	Alumina and aluminum production.....	91.9	93.3	96.8	96.0	100.3	96.8	95.9	100.0	101.1	104.3	97.8	96.9	-
3314	Other nonferrous metal production.....	95.6	95.8	98.8	101.8	105.1	102.9	105.7	100.0	111.2	108.9	103.1	100.5	-
3315	Foundries.....	85.3	84.5	85.8	89.8	91.4	93.1	96.2	100.0	101.6	104.9	104.0	109.3	-
3321	Forging and stamping.....	88.6	86.5	91.7	94.6	93.7	94.2	97.6	100.0	103.7	110.9	121.3	121.8	-
3322	Cutlery and hand tools.....	85.1	85.4	87.2	91.7	94.4	97.8	104.4	100.0	100.0	107.8	105.8	110.2	-
3323	Architectural and structural metals.....	87.8	89.1	92.5	93.4	95.1	93.9	94.2	100.0	101.1	101.8	101.0	100.7	-
3324	Boilers, tanks, and shipping containers.....	90.4	92.6	95.3	94.8	100.5	97.8	100.7	100.0	101.3	98.9	97.7	98.2	-
3325	Hardware.....	84.4	83.8	86.9	89.6	95.7	97.3	102.6	100.0	101.0	106.5	115.8	114.6	-
3326	Spring and wire products.....	85.2	88.4	90.9	95.3	91.5	99.5	102.8	100.0	111.6	112.9	114.6	110.6	-
3327	Machine shops and threaded products.....	78.8	79.8	87.2	86.9	91.6	98.7	100.0	100.0	99.3	103.9	107.2	107.2	-

51. Continued—Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
3328	Coating, engraving, and heat treating metals.....	81.6	78.1	86.9	91.9	96.5	102.8	102.9	100.0	101.7	101.5	105.9	105.1	-
3329	Other fabricated metal products.....	86.7	85.9	90.6	92.1	95.0	97.1	98.9	100.0	102.3	100.2	100.8	98.2	-
3331	Agriculture, construction, and mining machinery	82.8	77.2	79.6	84.1	91.0	95.6	95.9	100.0	104.2	95.0	101.0	99.5	-
3332	Industrial machinery.....	80.6	81.1	79.5	84.9	90.0	97.9	98.8	100.0	94.4	105.2	129.7	104.6	-
3333	Commercial and service industry machinery.....	91.4	89.6	96.5	101.7	101.2	103.0	106.3	100.0	107.5	111.2	101.4	94.4	-
3334	HVAC and commercial refrigeration equipment	88.8	88.2	90.8	93.8	97.3	96.6	97.8	100.0	106.6	110.4	108.3	110.8	-
3335	Metalworking machinery.....	85.3	82.3	89.3	89.3	94.0	99.1	98.1	100.0	99.1	100.5	106.4	102.0	-
3336	Turbine and power transmission equipment.....	85.1	84.6	81.2	84.8	93.3	92.1	97.9	100.0	106.4	113.3	117.1	130.2	-
3339	Other general purpose machinery.....	85.9	85.2	85.1	89.8	91.5	94.6	95.1	100.0	103.2	105.6	113.0	109.4	-
3341	Computer and peripheral equipment.....	14.3	15.8	20.6	27.9	35.9	51.3	72.6	100.0	138.6	190.3	225.4	237.0	-
3342	Communications equipment.....	47.3	49.3	59.3	62.1	70.1	74.6	84.3	100.0	102.7	134.0	165.5	155.2	-
3343	Audio and video equipment.....	75.5	82.8	92.1	98.8	108.5	140.0	104.7	100.0	103.1	116.2	123.3	126.3	-
3344	Semiconductors and electronic components.....	21.4	24.5	29.6	34.1	43.1	63.4	81.8	100.0	125.2	174.5	233.3	231.6	-
3345	Electronic instruments.....	76.0	80.5	83.1	85.8	88.8	96.8	97.7	100.0	101.3	105.1	114.3	116.1	-
3346	Magnetic media manufacturing and reproduction	86.6	91.2	93.0	96.8	106.1	106.7	103.8	100.0	105.4	106.8	104.0	98.6	-
3351	Electric lighting equipment.....	87.3	88.5	93.6	90.8	94.5	92.2	95.6	100.0	103.8	102.5	101.9	105.4	-
3352	Household appliances.....	76.4	76.4	82.4	88.9	95.0	92.7	93.1	100.0	105.1	104.3	117.5	122.6	-
3353	Electrical equipment.....	73.6	72.7	78.9	85.8	89.0	98.1	100.2	100.0	99.8	98.9	100.6	101.0	-
3359	Other electrical equipment and components.....	75.3	74.2	81.6	86.8	89.4	92.0	96.0	100.0	105.5	114.8	120.5	113.5	-
3361	Motor vehicles.....	86.0	82.4	91.2	89.8	90.3	88.6	91.0	100.0	113.3	123.3	110.4	108.7	-
3362	Motor vehicle bodies and trailers.....	75.8	71.8	88.3	96.3	97.7	97.3	98.4	100.0	102.7	103.1	98.4	99.4	-
3363	Motor vehicle parts.....	75.7	74.5	82.4	88.5	91.8	92.3	93.1	100.0	104.8	110.4	112.7	114.8	-
3364	Aerospace products and parts.....	87.7	92.1	94.1	98.2	93.8	93.7	98.1	100.0	118.5	118.0	101.0	114.7	-
3365	Railroad rolling stock.....	77.2	80.0	81.1	82.3	83.1	82.0	80.9	100.0	102.9	116.0	117.7	124.7	-
3366	Ship and boat building.....	99.6	92.6	98.5	101.3	99.0	93.1	94.1	100.0	100.3	112.2	120.1	119.8	-
3369	Other transportation equipment.....	62.6	62.0	88.4	99.8	93.4	93.1	99.8	100.0	110.8	113.3	130.9	146.9	-
3371	Household and institutional furniture.....	87.6	88.2	92.9	93.8	94.1	91.1	99.5	100.0	102.7	103.7	102.5	106.1	-
3372	Office furniture and fixtures.....	80.8	78.8	86.2	87.9	83.4	84.3	85.6	100.0	100.1	98.5	100.2	97.1	-
3379	Other furniture-related products.....	88.1	88.6	88.4	90.5	93.6	94.5	96.7	100.0	107.2	102.5	100.1	105.3	-
3391	Medical equipment and supplies.....	81.2	83.1	88.1	91.1	90.8	95.0	100.0	100.0	108.9	109.6	114.2	119.0	-
3399	Other miscellaneous manufacturing.....	90.1	90.6	90.0	92.3	93.0	96.0	99.6	100.0	101.9	105.2	112.9	110.9	-
Wholesale trade														
42	Wholesale trade.....	77.8	79.1	86.2	89.5	91.3	93.3	96.2	100.0	104.4	110.9	114.1	117.1	123.6
423	Durable goods.....	65.7	66.1	75.0	80.5	84.5	88.9	94.0	100.0	105.6	115.3	119.6	120.3	127.7
4231	Motor vehicles and parts.....	76.6	73.3	82.2	88.0	94.1	93.6	94.9	100.0	104.7	119.8	114.0	114.1	121.7
4232	Furniture and furnishings.....	82.4	87.2	92.0	95.8	93.3	96.8	97.0	100.0	97.5	100.8	105.5	105.4	101.8
4233	Lumber and construction supplies.....	115.0	113.2	119.6	113.9	111.9	103.6	103.0	100.0	102.9	104.8	101.7	108.6	119.2
4234	Commercial equipment.....	33.8	37.3	48.2	56.2	60.5	74.7	88.4	100.0	118.2	141.1	148.9	164.9	189.4
4235	Metals and minerals.....	101.6	102.6	109.1	111.7	110.1	101.2	102.7	100.0	102.4	96.0	99.2	102.2	102.2
4236	Electric goods.....	46.8	47.6	51.4	59.1	68.2	79.3	87.8	100.0	105.9	126.2	151.7	148.1	161.2
4237	Hardware and plumbing.....	88.8	86.5	95.6	94.3	101.3	98.0	99.1	100.0	103.5	107.8	111.1	102.6	107.9
4238	Machinery and supplies.....	78.9	74.2	79.7	84.3	85.4	89.7	93.9	100.0	104.2	101.4	104.1	102.7	100.2
4239	Miscellaneous durable goods.....	89.5	96.6	112.1	113.2	106.1	99.2	101.0	100.0	101.8	112.6	116.7	116.1	125.5
424	Nondurable goods.....	98.4	99.8	103.2	103.0	101.8	99.7	99.2	100.0	102.8	104.1	103.5	106.9	112.6
4241	Paper and paper products.....	81.0	85.5	96.5	97.2	101.5	99.0	96.5	100.0	100.4	105.5	105.5	109.0	120.2
4242	Druggists' goods.....	81.8	86.6	91.8	89.3	92.8	95.4	98.3	100.0	99.6	101.7	96.8	101.2	116.0
4243	Apparel and piece goods.....	103.9	103.3	100.1	97.7	103.8	92.2	99.0	100.0	104.1	103.5	102.7	102.4	111.5
4244	Grocery and related products.....	96.4	98.2	103.6	105.1	103.3	103.0	99.8	100.0	101.9	103.6	105.2	109.4	111.8
4245	Farm product raw materials.....	80.6	85.9	85.9	84.0	80.4	87.7	90.6	100.0	100.4	114.2	119.0	120.0	135.4
4246	Chemicals.....	107.3	106.6	112.5	110.0	110.5	102.1	100.0	100.0	99.3	98.0	95.8	93.6	96.9
4247	Petroleum.....	97.3	107.0	118.3	119.1	115.8	108.7	105.9	100.0	115.0	112.0	112.5	116.5	126.0
4248	Alcoholic beverages.....	109.4	111.2	107.4	105.6	105.9	102.5	104.5	100.0	109.7	110.1	111.0	111.6	117.3
4249	Miscellaneous nondurable goods.....	107.3	98.2	93.9	97.5	94.8	96.2	98.7	100.0	101.7	99.6	106.2	104.2	97.0
425	Electronic markets and agents and brokers.....	70.7	73.6	81.5	85.9	88.0	91.1	95.7	100.0	104.6	114.4	124.1	131.3	132.6
42511	Business to business electronic markets.....	70.4	72.6	80.3	84.8	88.3	90.5	95.3	100.0	103.5	121.7	141.3	169.4	205.0
42512	Wholesale trade agents and brokers.....	70.8	74.0	82.3	86.8	88.4	91.8	96.1	100.0	104.8	110.5	115.7	114.2	109.3
Retail trade														
44-45	Retail trade.....	83.2	83.3	86.8	89.4	92.8	94.7	97.7	100.0	104.3	110.3	114.2	117.4	122.7
441	Motor vehicle and parts dealers.....	89.7	88.3	92.6	94.0	96.9	97.0	98.8	100.0	102.7	106.4	107.2	110.0	109.7
4411	Automobile dealers.....	92.1	90.8	94.8	96.0	98.0	97.2	98.9	100.0	102.7	106.4	106.6	109.1	106.0
4412	Other motor vehicle dealers.....	69.0	71.7	78.3	84.1	90.2	91.0	97.7	100.0	105.9	113.0	108.6	112.6	116.4
4413	Auto parts, accessories, and tire stores.....	85.0	84.0	89.1	90.6	95.4	97.9	98.3	100.0	105.7	110.0	112.0	109.3	115.8
442	Furniture and home furnishings stores.....	80.7	81.1	88.1	88.3	90.4	94.1	99.4	100.0	101.7	109.6	115.7	118.5	125.1
4421	Furniture stores.....	82.1	83.5	89.0	89.0	88.9	92.5	97.8	100.0	102.1	108.2	114.8	121.1	128.6
4422	Home furnishings stores.....	78.5	77.6	86.8	87.2	92.1	95.9	101.3	100.0	101.3	111.4	116.8	115.6	121.4
443	Electronics and appliance stores.....	46.0	49.2	56.9	65.5	77.6	89.2	95.0	100.0	122.9	152.2	177.7	199.1	240.0
444	Building material and garden supply stores.....	81.8	80.2	84.0	88.0	93.7	93.7	97.5	100.0	106.7	112.3	113.1	115.8	119.9

51. Continued--Annual indexes of output per hour for selected NAICS industries, 1990-2002

[1997=100]

NAICS	Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
4441	Building material and supplies dealers.....	83.2	80.7	84.7	89.1	94.8	94.8	97.6	100.0	107.6	113.7	113.8	115.3	119.8
4442	Lawn and garden equipment and supplies stores	74.5	77.5	80.2	81.5	86.9	87.0	97.1	100.0	101.2	103.5	108.2	119.4	121.2
445	Food and beverage stores.....	107.1	106.6	106.9	105.4	104.3	102.5	100.3	100.0	99.9	103.7	105.1	107.6	110.3
4451	Grocery stores.....	106.5	106.6	106.7	105.9	104.9	103.0	100.8	100.0	100.3	104.3	104.9	107.5	110.3
4452	Specialty food stores.....	122.9	115.0	111.4	107.6	104.5	101.1	95.5	100.0	95.0	99.6	105.6	110.8	114.2
4453	Beer, wine and liquor stores.....	100.1	100.2	101.0	94.4	92.9	96.2	103.1	100.0	105.8	99.8	111.1	110.4	111.8
446	Health and personal care stores.....	92.0	91.6	90.7	91.9	91.8	93.0	95.7	100.0	104.1	106.9	111.4	112.7	118.8
447	Gasoline stations.....	84.8	85.7	88.5	92.8	96.8	99.7	99.4	100.0	105.6	110.6	106.5	109.8	117.5
448	Clothing and clothing accessories stores.....	69.5	70.5	75.3	78.9	83.3	91.2	97.9	100.0	105.4	112.8	120.3	123.5	129.0
4481	Clothing stores.....	68.9	71.4	77.1	79.2	81.9	90.1	97.1	100.0	106.7	113.3	120.9	125.2	132.7
4482	Shoe stores.....	73.7	73.1	78.2	79.2	88.3	93.7	102.4	100.0	97.8	104.9	109.6	115.8	120.0
4483	Jewelry, luggage, and leather goods stores.....	68.6	64.5	65.0	77.1	85.0	94.1	97.3	100.0	107.0	118.3	128.0	122.5	121.5
451	Sporting goods, hobby, book, and music stores...	80.8	85.6	83.8	84.0	87.2	93.0	94.7	100.0	108.7	114.9	121.1	125.4	132.9
4511	Sporting goods and musical instrument stores....	77.1	82.8	79.8	80.6	83.9	92.3	92.5	100.0	112.9	120.4	128.3	130.4	137.9
4512	Book, periodical, and music stores.....	89.0	91.8	92.5	91.6	94.5	94.5	99.3	100.0	101.0	104.7	108.0	116.0	123.8
452	General merchandise stores.....	75.3	79.0	83.0	88.5	90.6	92.2	96.9	100.0	105.0	113.1	119.9	124.2	130.5
4521	Department stores.....	84.0	88.3	91.6	95.0	95.1	94.7	98.4	100.0	100.6	104.5	106.3	104.0	104.7
4529	Other general merchandise stores.....	61.4	64.8	69.7	77.8	82.6	87.6	94.3	100.0	113.4	129.8	145.9	162.1	177.5
453	Miscellaneous store retailers.....	70.6	68.0	74.2	79.1	87.0	89.5	95.0	100.0	108.3	109.8	111.3	108.4	115.6
4531	Florists.....	75.1	75.9	85.1	91.4	85.4	83.5	96.1	100.0	101.2	117.3	116.0	108.6	120.7
4532	Office supplies, stationery and gift stores.....	64.6	66.3	71.5	75.8	87.5	90.9	91.8	100.0	113.0	118.0	124.1	125.1	140.3
4533	Used merchandise stores.....	84.9	83.1	89.7	88.9	87.3	90.2	97.4	100.0	113.5	109.8	115.7	115.0	121.4
4539	Other miscellaneous store retailers.....	79.6	69.2	74.7	80.5	89.7	90.5	98.0	100.0	105.0	101.6	99.6	93.2	92.8
454	Nonstore retailers.....	54.4	55.0	63.4	66.7	73.8	80.9	91.6	100.0	111.3	125.4	142.8	146.9	169.6
4541	Electronic shopping and mail-order houses.....	43.5	46.7	50.6	58.3	62.9	71.9	84.4	100.0	118.2	141.5	159.8	177.5	209.8
4542	Vending machine operators.....	97.1	95.4	95.1	92.8	94.1	89.3	96.9	100.0	114.1	118.1	127.1	110.4	113.3
4543	Direct selling establishments.....	70.0	67.6	82.1	79.7	89.2	94.7	102.2	100.0	96.2	96.3	104.3	98.7	110.2
Transportation and warehousing														
481	Air transportation.....	77.5	78.2	81.4	84.7	90.8	95.3	98.8	100.0	97.6	98.2	98.2	91.9	103.2
482111	Line-haul railroads.....	69.8	75.3	82.3	85.7	88.6	92.0	98.4	100.0	102.1	105.5	114.3	121.9	131.9
48412	General freight trucking, long-distance.....	88.5	92.4	97.5	95.6	98.1	95.4	95.7	100.0	99.1	102.0	105.5	104.2	109.4
491	U.S. Postal service.....	96.1	95.8	96.5	99.0	98.5	98.3	96.7	100.0	101.4	102.4	104.9	106.1	107.0
Information														
5111	Newspaper, book, and directory publishers.....	97.4	96.1	95.8	95.3	93.0	93.5	92.7	100.0	104.5	108.5	110.1	106.4	108.1
5112	Software publishers.....	28.6	30.6	42.7	51.7	64.6	73.0	88.0	100.0	115.9	113.0	103.9	101.9	106.7
51213	Motion picture and video exhibition.....	109.4	108.9	104.1	104.6	103.4	99.9	100.0	100.0	99.9	102.0	106.5	104.7	104.4
5151	Radio and television broadcasting.....	96.1	97.8	102.8	101.4	106.0	106.1	104.1	100.0	99.1	99.4	98.4	94.3	100.4
5152	Cable and other subscription programming.....	98.8	94.3	96.0	93.6	92.0	94.4	93.7	100.0	129.3	133.2	135.7	125.3	131.4
5171	Wired telecommunications carriers.....	64.8	68.4	74.5	79.7	85.1	90.6	97.5	100.0	105.5	112.7	119.9	121.0	130.6
5172	Wireless telecommunications carriers.....	76.3	73.8	85.6	94.8	97.1	98.3	103.0	100.0	114.2	134.3	139.0	172.7	192.0
5175	Cable and other program distribution.....	99.1	94.3	95.9	93.5	91.9	94.2	93.5	100.0	95.7	94.5	90.4	87.6	93.5
Finance and insurance														
52211	Commercial banking.....	80.5	83.2	83.3	90.3	92.9	96.0	99.3	100.0	98.0	101.5	104.2	101.6	103.8
Real estate and rental and leasing														
532111	Passenger car rental.....	89.8	97.8	104.4	106.1	107.9	101.1	108.9	100.0	101.2	113.1	112.0	112.1	113.3
53212	Truck, trailer and RV rental and leasing.....	70.7	71.7	69.5	75.8	82.0	90.3	96.7	100.0	93.7	97.8	95.9	93.6	91.4
Professional, scientific, and technical services														
541213	Tax preparation services.....	92.4	84.7	99.5	119.1	119.9	96.2	92.1	100.0	105.1	99.2	91.8	78.2	92.1
54181	Advertising agencies.....	105.0	99.7	111.9	111.3	106.8	101.4	102.1	100.0	95.8	110.1	116.6	116.7	123.9
Accommodation and food services														
7211	Traveler accommodations.....	82.9	85.4	92.9	93.0	97.0	99.2	100.1	100.0	100.0	103.6	107.7	102.0	104.1
722	Food services and drinking places.....	102.9	102.3	101.7	102.3	100.8	100.6	99.2	100.0	101.2	101.1	103.5	103.7	104.9
7221	Full-service restaurants.....	99.1	98.3	97.5	97.7	97.8	96.6	96.3	100.0	100.0	99.2	100.8	100.8	102.0
7222	Limited-service eating places.....	103.3	103.3	102.7	105.6	103.6	104.7	102.2	100.0	102.4	102.5	105.1	106.6	107.1
7223	Special food services.....	107.2	106.9	106.4	103.8	101.1	99.3	97.6	100.0	102.1	106.0	111.7	108.4	108.1
7224	Drinking places, alcoholic beverages.....	125.7	121.2	121.5	112.7	102.6	104.4	102.4	100.0	100.0	99.4	100.4	98.2	107.2
Other services (except public administration)														
8111	Automotive repair and maintenance.....	92.8	86.5	90.0	91.2	96.7	102.9	98.9	100.0	105.0	106.9	108.6	109.3	103.7
81211	Hair, nail and skin care services.....	81.6	79.8	85.6	84.3	88.7	92.4	97.1	100.0	102.7	103.6	103.0	109.5	104.2
81221	Funeral homes and funeral services.....	96.1	94.3	104.7	100.4	103.6	100.4	97.9	100.0	103.8	100.4	94.5	93.9	90.9
8123	Drycleaning and laundry services.....	95.6	93.2	94.9	93.8	95.9	98.8	101.6	100.0	105.0	109.5	113.7	121.1	120.2
81292	Photofinishing.....	117.3	115.6	116.2	123.6	124.9	114.7	103.2	100.0	99.4	106.9	107.6	115.0	133.6

NOTE: Dash indicates data are not available.

52. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		2003				2004				2005
	2003	2004	I	II	III	IV	I	II	III	IV	I
United States.....	6.0	5.5	5.8	6.1	6.1	5.9	5.6	5.6	5.5	5.4	5.3
Canada.....	6.9	6.4	6.7	6.9	7.1	6.8	6.6	6.5	6.4	6.3	6.2
Australia.....	6.1	5.5	6.2	6.2	6.0	5.8	5.7	5.6	5.6	5.2	5.1
Japan.....	5.3	4.8	5.4	5.5	5.2	5.1	4.9	4.7	4.8	4.6	4.6
France.....	9.6	9.8	9.3	9.5	9.7	9.8	9.7	9.8	9.8	9.8	9.9
Germany.....	9.7	9.8	9.6	9.8	9.8	9.7	9.7	9.8	10.0	10.1	11.0
Italy.....	8.5	8.1	8.7	8.4	8.6	8.4	8.3	8.1	8.1	8.1	—
Sweden.....	5.8	6.6	5.3	5.5	5.8	6.3	6.7	6.8	6.6	6.4	6.3
United Kingdom.....	5.0	4.8	5.1	5.0	5.0	4.9	4.8	4.8	4.7	4.7	—

NOTE: Dash indicates data not available. Quarterly figures for Japan, France, Germany, Italy, and Sweden are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series.

for further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries, 1960-2004* (Bureau of Labor Statistics, May 13, 2005), on the Internet at <http://www.bls.gov/fls/home.htm>.

Monthly and quarterly unemployment rates, updated monthly, are also on this site.

53. Annual data: employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Civilian labor force												
United States.....	129,200	131,056	132,304	133,943	136,297	137,673	139,368	142,583	143,734	144,863	146,510	147,401
Canada.....	14,233	14,336	14,439	14,604	14,863	15,115	15,389	15,632	15,892	16,367	16,729	16,956
Australia.....	8,613	8,770	8,995	9,115	9,204	9,339	9,414	9,590	9,752	9,907	10,092	10,244
Japan.....	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990	66,860	66,240	66,010	65,760
France.....	24,490	24,676	24,743	24,985	25,109	25,434	25,764	26,078	26,354	26,686	26,870	—
Germany.....	39,102	39,074	38,980	39,142	39,415	39,754	39,375	39,301	39,456	39,499	39,591	39,698
Italy.....	22,771	22,592	22,574	22,674	22,749	23,000	23,172	23,357	23,520	23,728	24,021	24,065
Netherlands.....	7,014	7,152	7,208	7,301	7,536	7,617	7,848	8,149	8,338	8,285	8,353	8,457
Sweden.....	4,444	4,418	4,460	4,459	4,418	4,402	4,430	4,489	4,530	4,544	4,567	4,576
United Kingdom.....	28,094	28,124	28,135	28,243	28,406	28,478	28,782	28,957	29,090	29,340	29,562	29,748
Participation rate¹												
United States.....	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.1	66.8	66.6	66.2	66.0
Canada.....	65.5	65.1	64.8	64.6	64.9	65.3	65.7	65.8	65.9	66.7	67.3	67.3
Australia.....	63.5	63.9	64.5	64.6	64.3	64.3	64.0	64.4	64.4	64.4	64.6	64.7
Japan.....	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0	61.6	60.8	60.3	60.0
France.....	55.4	55.6	55.4	55.7	55.6	55.9	56.3	56.6	56.9	57.2	57.4	—
Germany.....	57.8	57.4	57.1	57.1	57.3	57.7	56.9	56.7	56.7	56.5	56.4	—
Italy.....	48.3	47.6	47.3	47.3	47.3	47.6	47.9	48.1	48.2	48.5	49.1	49.1
Netherlands.....	57.9	58.6	58.8	59.2	60.8	61.1	62.6	64.5	65.6	64.7	64.9	65.5
Sweden.....	64.5	63.7	64.1	64.0	63.3	62.8	62.8	63.8	63.7	64.0	64.0	63.7
United Kingdom.....	62.6	62.4	62.4	62.4	62.5	62.5	62.8	62.9	62.7	62.9	63.0	63.0
Employed												
United States.....	120,259	123,060	124,900	126,708	129,558	131,463	133,488	136,891	136,933	136,485	137,736	139,252
Canada.....	12,694	12,960	13,185	13,309	13,607	13,946	14,314	14,676	14,866	15,221	15,579	15,864
Australia.....	7,699	7,942	8,256	8,364	8,444	8,618	8,762	8,989	9,091	9,271	9,481	9,677
Japan.....	63,820	63,860	63,900	64,200	64,900	64,450	63,920	63,790	63,460	62,650	62,510	62,630
France.....	21,714	21,750	21,956	22,039	22,169	22,597	23,053	23,693	24,128	24,293	24,293	—
Germany.....	35,989	35,756	35,780	35,637	35,508	36,061	36,042	36,236	36,346	36,061	35,754	35,796
Italy.....	20,543	20,171	20,030	20,120	20,165	20,366	20,613	20,969	21,356	21,665	21,973	22,105
Netherlands.....	6,572	6,664	6,730	6,858	7,163	7,321	7,595	7,912	8,130	8,059	8,035	8,061
Sweden.....	4,028	3,992	4,056	4,019	3,973	4,034	4,117	4,229	4,303	4,310	4,303	4,276
United Kingdom.....	25,165	25,691	25,696	25,945	26,418	26,691	27,056	27,373	27,604	27,817	28,079	28,334
Employment-population ratio²												
United States.....	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.4	63.7	62.7	62.3	62.3
Canada.....	58.4	58.9	59.2	59.0	59.5	60.3	61.2	61.9	61.9	62.4	63.0	63.4
Australia.....	56.8	57.8	59.2	59.3	59.0	59.3	59.6	60.3	60.1	60.3	60.7	61.2
Japan.....	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0	58.4	57.5	57.1	57.1
France.....	49.2	49.0	49.2	49.1	49.1	49.7	50.4	51.5	52.1	52.1	51.9	—
Germany.....	53.2	52.6	52.4	52.0	51.6	52.3	52.1	52.2	52.2	51.6	51.0	—
Italy.....	43.6	42.5	42.0	42.0	41.9	42.2	42.6	43.2	43.8	44.3	44.9	45.1
Netherlands.....	54.3	54.6	54.9	55.6	57.8	58.7	60.6	62.7	63.9	62.9	62.4	62.4
Sweden.....	58.5	57.6	58.3	57.7	56.9	57.6	58.4	60.1	60.5	60.7	60.3	59.5
United Kingdom.....	56.0	57.0	57.0	57.3	58.2	58.5	59.1	59.4	59.5	59.6	59.8	60.0
Unemployed												
United States.....	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,692	6,801	8,378	8,774	8,149
Canada.....	1,538	1,376	1,254	1,295	1,256	1,169	1,075	956	1,026	1,146	1,150	1,092
Australia.....	914	829	739	751	759	721	652	602	661	636	611	567
Japan.....	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200	3,400	3,590	3,500	3,130
France.....	2,776	2,926	2,787	2,946	2,940	2,837	2,711	2,385	2,226	2,393	2,577	2,630
Germany.....	3,113	3,318	3,200	3,505	3,907	3,693	3,333	3,065	3,109	3,438	3,838	3,899
Italy.....	2,227	2,421	2,544	2,555	2,584	2,634	2,559	2,388	2,164	2,062	2,048	1,960
Netherlands.....	442	489	478	443	374	296	253	237	208	227	318	396
Sweden.....	416	426	404	440	445	368	313	260	227	234	264	300
United Kingdom.....	2,930	2,433	2,439	2,298	1,987	1,788	1,726	1,584	1,486	1,524	1,484	1,414
Unemployment rate												
United States.....	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0	5.5
Canada.....	10.8	9.6	8.7	8.9	8.4	7.7	7.0	6.1	6.5	7.0	6.9	6.4
Australia.....	10.6	9.4	8.2	8.2	8.3	7.7	6.9	6.3	6.8	6.4	6.1	5.5
Japan.....	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8	5.1	5.4	5.3	4.8
France.....	11.3	11.9	11.3	11.8	11.7	11.2	10.5	9.1	8.4	9.0	9.6	9.8
Germany.....	8.0	8.5	8.2	9.0	9.9	9.3	8.5	7.8	7.9	8.7	9.7	9.8
Italy.....	9.8	10.7	11.3	11.3	11.4	11.5	11.0	10.2	9.2	8.7	8.5	8.1
Netherlands.....	6.3	6.8	6.6	6.1	5.0	3.9	3.2	2.9	2.5	2.7	3.8	4.7
Sweden.....	9.4	9.6	9.1	9.9	10.1	8.4	7.1	5.8	5.0	5.1	5.8	6.6
United Kingdom.....	10.4	8.7	8.7	8.1	7.0	6.3	6.0	5.5	5.1	5.2	5.0	4.8

¹ Labor force as a percent of the working-age population.

² Employment as a percent of the working-age population.

NOTE: Dash indicates data not available. See "Notes on the data" for information on breaks in series.

For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics*,

Ten Countries, 1960-2004 (Bureau of Labor Statistics, May 13, 2005), on the Internet at

<http://www.bls.gov/fls/home.htm>.

54. Annual indexes of manufacturing productivity and related measures, 15 economies

[1992 = 100]

Measure and economy	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Output per hour																
United States.....	—	0.0	70.5	96.9	97.9	102.1	107.3	113.8	117.0	121.3	126.5	132.8	143.5	145.2	160.0	171.0
Canada.....	37.8	54.9	72.9	93.4	95.3	105.8	110.8	112.4	109.7	113.5	115.5	122.1	129.3	127.0	130.5	132.1
Australia.....	—	—	69.5	91.6	96.4	106.1	104.9	105.8	113.6	115.2	118.5	119.9	128.0	132.4	136.2	140.7
Japan.....	13.9	37.7	63.6	94.4	99.0	101.7	103.3	111.0	116.1	121.0	121.2	126.7	135.9	135.9	139.9	146.2
Korea.....	—	—	—	81.5	91.6	108.5	118.2	129.3	142.3	160.4	178.8	198.9	215.8	214.3	235.2	256.4
Taiwan.....	—	—	47.6	88.8	96.5	102.8	106.7	115.1	123.1	129.3	135.9	143.4	151.0	160.8	170.9	177.2
Belgium.....	18.0	32.9	65.4	96.8	99.1	102.5	108.4	113.2	116.3	125.5	126.9	125.5	130.8	132.6	141.7	146.2
Denmark.....	25.2	46.3	83.2	98.4	100.3	100.2	112.6	112.5	109.8	118.0	117.4	123.1	126.6	127.2	131.3	136.9
France.....	19.9	39.0	61.6	93.9	97.0	101.0	108.9	114.4	114.7	121.7	127.9	133.0	142.5	148.0	155.1	158.0
Germany.....	29.2	52.0	77.2	99.0	98.3	101.8	109.6	112.3	114.7	120.4	122.0	121.4	127.0	127.8	131.0	134.4
Italy.....	24.6	46.2	78.6	96.6	96.1	101.2	104.8	107.9	108.3	110.3	110.8	110.6	113.5	114.0	112.1	110.9
Netherlands.....	18.8	38.5	69.1	98.7	99.0	102.0	113.1	117.3	119.3	121.4	124.1	127.0	132.7	132.5	135.4	—
Norway.....	37.6	59.1	77.9	98.1	98.2	99.6	99.6	100.7	102.5	102.0	99.9	103.6	106.6	109.8	111.7	113.5
Sweden.....	27.3	52.2	73.1	94.6	95.5	107.3	117.8	124.5	129.5	141.0	149.5	162.7	175.5	170.3	185.6	196.5
United Kingdom.....	30.0	43.2	54.3	89.2	93.9	103.8	108.0	106.2	105.4	106.9	108.4	113.6	121.0	125.1	127.7	134.8
Output																
United States.....	—	—	75.8	101.6	98.3	103.5	111.1	118.4	121.3	127.9	133.1	138.9	147.6	139.6	142.9	145.4
Canada.....	33.4	58.9	83.6	106.0	99.0	105.9	114.1	119.6	119.6	127.7	133.9	144.9	159.2	153.6	158.0	157.3
Australia.....	—	—	89.8	104.1	100.7	103.8	109.1	108.7	112.6	115.1	118.6	118.3	123.8	123.8	128.7	130.2
Japan.....	10.8	39.4	60.8	97.1	102.0	96.3	94.9	98.9	103.0	106.5	100.2	101.9	109.2	105.5	103.4	106.7
Korea.....	—	7.0	29.9	86.7	95.0	105.4	116.8	129.9	138.3	145.0	133.5	162.6	190.2	194.3	209.1	219.1
Taiwan.....	—	12.7	44.0	90.0	96.1	102.4	108.5	114.9	120.3	128.3	132.6	141.5	151.8	143.1	152.1	160.9
Belgium.....	30.7	57.6	78.2	101.0	100.7	97.0	101.4	104.2	105.9	112.7	114.4	114.4	119.9	120.4	121.6	120.9
Denmark.....	42.0	72.7	94.3	101.7	100.7	97.0	107.3	112.6	107.7	115.9	116.7	117.9	121.9	121.6	120.8	121.4
France.....	27.9	57.7	81.6	99.1	99.8	95.7	100.3	104.9	104.6	109.7	115.0	118.7	124.3	128.0	129.1	128.5
Germany.....	41.5	70.9	85.3	99.1	102.3	92.4	95.1	95.2	92.5	95.7	97.7	95.8	100.1	99.9	99.6	99.8
Italy.....	23.0	48.1	84.4	99.4	99.3	96.5	102.4	107.2	105.4	108.8	110.7	110.3	113.6	113.0	111.7	110.2
Netherlands.....	31.9	59.8	76.9	99.0	99.8	97.7	104.5	108.2	108.9	111.6	114.9	117.6	122.8	121.9	121.0	117.6
Norway.....	57.7	91.0	104.9	101.4	99.0	101.7	104.6	107.3	110.3	114.2	113.7	113.6	112.8	112.3	111.5	107.3
Sweden.....	45.9	80.7	90.7	110.1	104.1	101.9	117.0	131.9	136.4	146.5	158.3	172.5	188.3	183.1	190.6	194.4
United Kingdom.....	67.5	90.2	87.2	105.3	100.1	101.5	106.2	107.8	108.6	110.7	111.3	112.1	115.0	113.4	109.9	110.3
Total hours																
United States.....	92.1	104.4	107.5	104.8	100.4	101.4	103.6	104.0	103.6	105.4	105.2	104.6	102.9	96.2	89.3	85.0
Canada.....	88.3	107.1	114.6	113.5	103.9	100.1	103.0	106.4	109.0	112.4	115.9	118.7	123.1	120.9	121.1	119.1
Australia.....	—	—	129.2	113.6	104.4	97.8	103.9	102.8	99.1	100.0	100.1	98.7	96.7	93.5	94.5	92.5
Japan.....	77.8	104.3	95.5	102.9	103.1	94.7	91.9	89.1	88.7	88.0	82.7	80.4	80.3	77.7	74.0	73.0
Korea.....	—	—	—	106.5	103.7	97.1	98.8	100.4	97.2	90.4	74.7	81.8	88.1	90.7	88.9	85.4
Taiwan.....	—	—	92.4	101.4	99.6	99.6	101.7	99.8	97.7	99.2	97.6	98.7	100.5	89.0	89.0	90.8
Belgium.....	170.7	174.7	119.7	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.2	91.2	91.7	90.8	85.8	82.7
Denmark.....	166.7	157.1	113.4	103.3	100.5	96.7	95.2	100.1	98.1	98.2	99.4	95.8	96.3	95.6	92.0	88.7
France.....	140.3	147.8	132.5	105.6	102.9	94.7	92.1	91.7	91.2	90.2	89.9	89.2	87.2	86.5	83.2	81.3
Germany.....	142.3	136.3	110.5	100.1	104.1	90.8	86.8	84.8	80.6	79.5	80.1	78.9	78.8	78.2	76.1	74.3
Italy.....	93.5	104.0	107.4	102.9	103.3	95.4	97.7	99.4	97.3	98.6	99.9	99.8	100.1	99.1	99.7	99.3
Netherlands.....	169.8	155.5	111.2	100.3	100.8	95.8	92.4	92.3	91.2	91.9	92.6	92.6	92.5	92.0	89.4	—
Norway.....	153.6	153.9	134.7	103.4	100.8	102.1	105.0	106.6	107.6	112.0	113.7	109.6	105.9	102.3	99.8	94.5
Sweden.....	168.3	154.7	124.0	116.4	109.0	94.9	99.4	105.9	105.3	103.9	105.9	106.0	107.3	107.5	102.7	98.9
United Kingdom.....	224.6	208.8	160.5	118.1	106.6	97.7	98.4	101.5	103.1	103.5	102.7	98.7	95.0	90.7	86.0	81.9
Hourly compensation (national currency basis)																
United States.....	14.9	23.7	55.6	90.8	95.6	102.7	105.6	107.9	109.4	111.5	117.4	122.0	133.2	136.3	145.4	157.8
Canada.....	10.0	17.1	47.5	88.3	95.0	102.0	103.7	106.0	107.0	109.3	111.7	115.8	119.6	123.7	126.8	131.4
Australia.....	—	—	—	86.3	94.0	105.9	104.3	113.2	122.8	124.6	128.2	133.0	140.0	149.5	154.7	—
Japan.....	4.3	16.4	58.6	90.6	96.5	102.7	104.7	108.3	109.1	112.6	115.4	114.8	113.7	114.6	122.8	123.8
Korea.....	—	—	—	68.6	86.2	114.3	129.8	158.3	184.3	200.3	218.2	219.4	234.2	241.7	266.1	290.9
Taiwan.....	—	—	29.6	85.2	93.5	105.9	111.1	120.2	128.2	132.4	140.3	144.3	146.6	150.0	145.8	146.7
Belgium.....	5.4	13.7	52.5	90.1	97.3	104.8	106.1	109.2	111.1	115.2	117.0	118.5	120.6	127.2	136.5	—
Denmark.....	3.9	11.1	45.1	93.5	97.9	102.4	106.0	108.1	112.8	116.6	119.6	127.3	130.2	136.5	143.2	150.0
France.....	4.3	10.5	41.2	90.9	96.4	103.1	106.5	110.4	112.2	111.8	112.7	116.6	122.8	128.3	135.2	139.1
Germany.....	8.1	20.7	53.6	89.4	91.5	106.4	111.8	117.6	123.3	125.7	127.6	130.6	137.4	142.0	145.5	148.9
Italy.....	1.8	5.3	30.4	87.6	94.2	105.7	106.8	111.3	119.0	123.0	122.2	124.2	127.8	132.5	135.7	140.0
Netherlands.....	6.2	19.4	60.5	89.8	94.8	104.5	109.0	112.1	114.4	117.2	122.0	126.0	132.0	138.2	147.3	—
Norway.....	4.7	11.8	39.0	92.3	97.5	101.5	104.4	109.2	113.6	118.7	125.7	133.0	140.5	148.9	157.9	164.6
Sweden.....	4.1	10.7	37.3	87.8	95.5	97.4	99.8	106.8	115.2	121.0	125.6	130.3	136.8	143.8	148.8	154.3
United Kingdom.....	2.9	6.1	32.0	82.9	93.8	104.5	107.3	108.8	111.4	115.7	123.0	129.9	137.6	144.3	152.2	160.3

See notes at end of table.

54. Continued- Annual indexes of manufacturing productivity and related measures, 15 economies

Measure and economy	1960	1970	1980	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Unit labor costs																
(national currency basis)																
United States.....	-	-	78.8	93.7	97.6	100.6	98.5	94.8	93.5	91.9	92.8	91.9	92.8	93.9	90.9	92.3
Canada.....	26.4	31.1	65.2	94.6	99.6	96.4	93.6	94.3	97.5	96.2	96.7	94.9	92.5	97.4	97.2	99.4
Australia.....	-	-	-	94.2	97.5	99.8	99.4	107.0	108.1	108.2	108.2	110.9	109.4	112.9	113.5	-
Japan.....	31.1	43.6	92.1	95.9	97.5	101.0	101.4	97.5	94.0	93.0	95.2	90.6	83.6	84.4	87.8	84.7
Korea.....	-	-	-	84.2	94.1	105.4	109.8	122.4	129.6	124.9	122.0	110.3	108.5	112.8	113.1	113.5
Taiwan.....	-	23.8	62.2	95.9	96.8	103.0	104.1	104.5	104.1	102.3	103.2	100.7	97.1	93.3	85.3	82.7
Belgium.....	30.1	41.7	80.3	93.0	98.1	102.3	97.9	96.4	95.5	91.8	92.2	94.4	92.2	95.9	96.4	-
Denmark.....	15.3	23.9	54.2	95.0	97.6	102.2	94.2	96.1	102.8	98.8	101.9	103.4	102.8	107.3	109.0	109.6
France.....	21.7	26.8	67.0	96.8	99.3	102.0	97.8	96.5	97.8	91.9	88.1	87.6	86.2	86.6	87.2	88.0
Germany.....	27.8	39.8	69.4	90.3	93.1	104.5	102.0	104.7	107.5	104.5	104.6	107.6	108.1	111.2	111.1	110.8
Italy.....	7.2	11.4	38.7	90.7	98.0	104.5	101.9	103.2	109.8	111.4	110.3	112.3	112.6	116.2	121.1	126.2
Netherlands.....	32.9	50.4	87.6	91.1	95.7	102.4	96.4	95.6	95.9	96.5	98.3	99.1	99.5	104.3	108.8	112.6
Norway.....	12.6	20.0	50.0	94.2	99.2	101.9	104.8	108.4	110.8	116.4	125.7	128.4	131.9	135.6	141.3	144.9
Sweden.....	15.0	20.6	51.0	92.9	100.0	90.8	84.7	85.8	89.0	85.8	84.0	80.1	77.9	84.4	80.2	78.6
United Kingdom.....	9.8	14.1	59.0	93.0	100.0	100.7	99.4	102.5	105.7	108.2	113.5	114.3	113.7	115.4	119.2	118.9
Unit labor costs																
(U.S. dollar basis)																
United States.....	-	-	78.8	93.7	97.6	100.6	98.5	94.8	93.5	91.9	92.8	91.9	92.8	93.9	90.9	92.3
Canada.....	32.9	36.0	67.4	98.0	105.1	90.3	82.8	83.0	86.4	84.0	78.8	77.2	75.2	76.0	74.8	85.8
Australia.....	-	-	-	100.1	103.3	92.3	98.9	107.8	115.1	109.4	92.6	97.3	86.5	79.4	84.0	-
Japan.....	11.0	15.4	51.5	83.9	91.8	115.3	125.8	131.6	109.5	97.4	92.2	101.0	98.4	88.0	88.9	92.6
Korea.....	-	-	-	93.0	100.3	102.6	106.8	124.3	126.3	103.4	68.4	72.7	75.3	68.5	71.0	74.7
Taiwan.....	-	14.9	43.4	89.7	91.1	98.1	99.0	99.2	95.4	89.5	77.4	78.3	78.1	69.4	62.1	60.5
Belgium.....	19.4	27.0	88.3	89.5	92.3	95.1	94.2	105.2	99.1	82.4	81.6	80.2	67.8	68.4	72.6	-
Denmark.....	13.4	19.3	58.1	92.7	92.0	95.1	89.4	103.6	107.0	90.2	91.7	89.3	76.7	77.8	83.5	100.6
France.....	23.4	25.7	83.9	94.1	93.1	95.3	93.4	102.5	101.2	83.3	79.1	75.3	64.2	62.6	66.5	80.4
Germany.....	10.4	17.1	59.6	87.3	87.5	98.7	98.2	114.2	111.6	94.0	92.9	91.5	79.7	79.5	83.9	100.1
Italy.....	14.3	22.3	55.7	93.3	97.3	81.8	77.9	78.0	87.7	80.6	78.2	76.2	66.2	66.2	72.9	90.9
Netherlands.....	15.3	24.5	77.5	87.9	90.0	96.9	93.2	104.8	100.0	87.0	87.2	84.3	73.3	74.5	82.1	101.7
Norway.....	11.0	17.4	62.9	93.6	95.0	89.2	92.3	106.4	106.6	102.1	103.5	102.2	93.0	93.7	110.0	127.2
Sweden.....	16.9	23.1	70.2	91.3	96.3	67.8	64.0	70.0	77.3	65.4	61.5	56.4	49.5	47.6	48.1	56.6
United Kingdom.....	15.6	19.1	77.6	93.9	100.0	85.6	86.2	91.6	93.4	100.4	106.5	104.7	97.6	94.0	101.4	110.0

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

55. 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 SECTOR⁵													
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 fishing⁵													
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.

55. 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.

56. Fatal occupational injuries by event or exposure, 1998-2003

Event or exposure ¹	Fatalities			
	1998-2002 average ²	2002 ³	2003	
		Number	Number	Percent
Total.....	6,896	5,534	5,559	100
Transportation incidents.....	2,549	2,385	2,367	42
Highway incident.....	1,417	1,373	1,350	24
Collision between vehicles, mobile equipment.....	696	636	648	12
Moving in same direction.....	136	155	135	2
Moving in opposite directions, oncoming.....	249	202	269	5
Moving in intersection.....	148	146	123	2
Vehicle struck stationary object or equipment in roadway.....	27	33	17	(⁴)
Vehicle struck stationary object, or equipment on side of road.....	281	293	324	6
Noncollision incident.....	367	373	321	6
Jackknifed or overturned—no collision.....	303	312	252	5
Nonhighway (farm, industrial premises) incident.....	358	323	347	6
Overturned.....	192	164	186	3
Worker struck by a vehicle.....	380	356	336	6
Rail vehicle.....	63	64	43	1
Water vehicle.....	92	71	68	1
Aircraft.....	235	194	208	4
Assaults and violent acts.....	910	840	901	16
Homicides.....	659	609	631	11
Shooting.....	519	469	487	9
Stabbing.....	61	58	58	1
Self-inflicted injuries.....	218	199	218	4
Contact with objects and equipment.....	963	872	911	16
Struck by object.....	547	505	530	10
Struck by falling object.....	336	302	322	6
Struck by flying object.....	55	38	58	1
Caught in or compressed by equipment or objects.....	272	231	237	4
Caught in running equipment or machinery.....	141	110	121	2
Caught in or crushed in collapsing materials.....	126	116	126	2
Falls.....	738	719	691	12
Fall to lower level.....	651	638	601	11
Fall from ladder.....	113	126	113	2
Fall from roof.....	152	143	127	2
Fall from scaffold, staging.....	91	88	85	2
Fall on same level.....	65	64	69	1
Exposure to harmful substances or environments.....	526	539	485	9
Contact with electric current.....	289	289	246	4
Contact with overhead power lines.....	130	122	107	2
Contact with temperature extremes.....	45	60	42	1
Exposure to caustic, noxious, or allergenic substances.....	102	99	121	2
Inhalation of substances.....	50	49	65	1
Oxygen deficiency.....	89	90	73	1
Drowning, submersion.....	69	60	52	1
Fires and explosions.....	190	165	198	4

¹ Based on the 1992 BLS *Occupational Injury and Illness Classification Manual*. Includes other events and exposures, such as bodily reaction, in addition to those shown separately.

² Excludes fatalities from the Sept. 11, 2001, terrorist attacks.

³ The BLS news release of September 17, 2003, reported a total of 5,524 fatal work injuries for calendar year 2003.

Since then, an additional 10 job-related fatalities were identified, bringing the total job-related fatality count for 2002 to 5,534.

⁴ Equal to or greater than 0.5 percent.

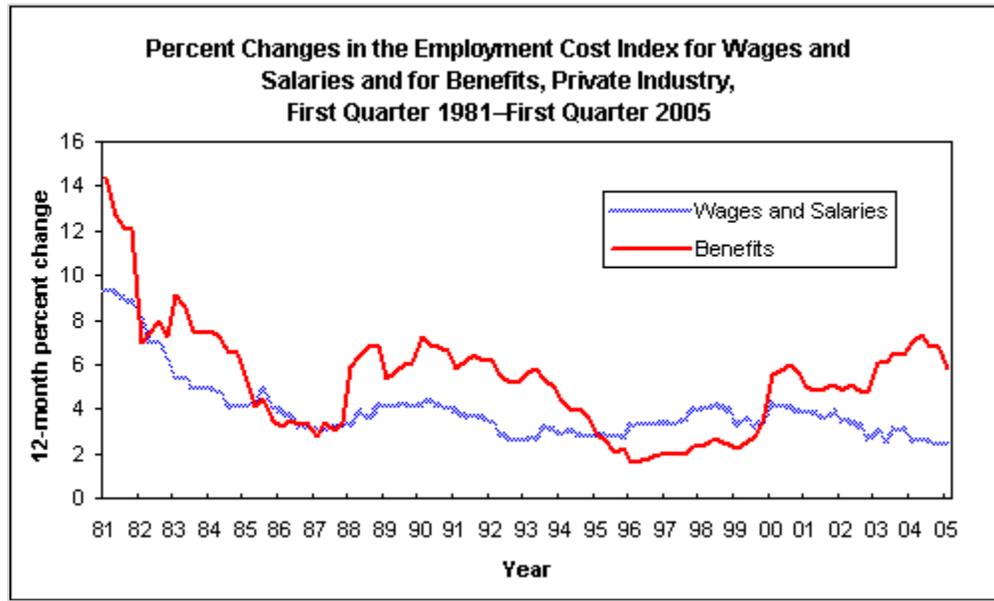
NOTE: Totals for major categories may include sub-categories not shown separately. Percentages may not add to totals because of rounding.

Percent Changes in the Employment Cost Index for Wages and Salaries and for Benefits, Private Industry, First Quarter 1981-First Quarter 2005

by Lawrence H. Leith

Bureau of Labor Statistics

Originally Posted: June 29, 2005



- Except for two relatively brief periods in the 1980s and 1990s, the 12-month percent change in the cost of benefits--as measured by the BLS [Employment Cost Index \(ECI\)](#)--has generally exceeded that of wages and salaries in private industry. The ECI, a component of the [National Compensation Survey](#), measures quarterly changes in total compensation costs, including the costs of wages and salaries and the costs to employers for employee benefits (paid leave, supplementary pay, retirement, insurance, and legally required benefits such as Social Security and State unemployment insurance).
- From the first quarter of 1981 to the first quarter of 1985, the 12-month percent change in the cost of benefits averaged 8.6 percent, ranging from 14.4 percent in the beginning of that period to 5.3 percent by the end of it. Over the same period, the 12-month percent change in wages and salaries averaged 6.3 percent and ranged from 9.4 percent to 4.1 percent.
- From early 1985 to late 1987, the 12-month percent changes in the cost of benefits and in wages and salaries were about even, with the costs of benefits increasing by 3.5 percent, on average, and wages and salaries increasing by 3.6 percent. Increases in benefits costs slowed during this period due to a decline in the growth of health benefit costs, as well as a rapid decline in the growth of retirement plan costs and smaller increases in the Social Security tax rate.¹
- During the period from early 1988 to late 1994, the average 12-month percent increase in benefits was 5.8 percent, while the comparable increase in wages and salaries was 3.5 percent.
- In the middle-to-late 1990s, the 12-month percent change in wages and salaries (3.4 percent, on average) outpaced that of benefits (2.3 percent). This was the only sustained period in which wages and salaries grew more rapidly than the cost of benefits. Part of the reason for slower growth in the cost of benefits during this period was the relatively slow growth in health insurance costs from 1995 to 1998.
- From the first quarter of 2000 to the first quarter of 2005, the average 12-month percent change in wages and salaries was 3.3 percent, while that of benefit costs was 5.8 percent.

NOTE: The year 1981 is the first year data are available for four quarters of 12-month percent changes both in wages and salaries and in benefits. For more information, see the Employment Cost Index website at <http://www.bls.gov/ncs/ect/home.htm>.

Lawrence H. Leith
 Economist, Office of Publications and Special Studies, Bureau of Labor Statistics.
 Telephone: (202) 691-7922; E-mail: Leith.Lawrence@bls.gov

Notes

¹ See *Employment Cost Indexes, 1975-99*, Bulletin 2532 (Bureau of Labor Statistics, September 2000), p. 4.

Data for Chart: Percent Changes in Employment Cost Index for Wages and Salaries and for Benefits, Private Industry, First Quarter 1981-First Quarter 2005

Year/Qtr	Wages and Salaries	Benefits
81 - Q1	9.4	14.4
Q2	9.3	12.7
Q3	9	12.2
Q4	8.8	12.1
82 - Q1	8.1	7
Q2	7.1	7.4
Q3	7	8
Q4	6.3	7.2
83 - Q1	5.4	9.1
Q2	5.4	8.6
Q3	5	7.5
Q4	4.9	7.4
84 - Q1	5	7.5
Q2	4.7	7.2
Q3	4.1	6.5
Q4	4.2	6.5
85 - Q1	4.1	5.3
Q2	4.3	4.1
Q3	4.8	4.5
Q4	4.1	3.5
86 - Q1	4	3.2
Q2	3.7	3.5
Q3	3.2	3.3
Q4	3.2	3.4
87 - Q1	3.1	2.8
Q2	3	3.4
Q3	3.2	3
Q4	3.3	3.4
88 - Q1	3.3	5.9
Q2	3.8	6.4
Q3	3.7	6.8
Q4	4.1	6.9

Year/Qtr	Wages and Salaries	Benefits
89 - Q1	4.2	5.4
Q2	4.1	5.6
Q3	4.3	6
Q4	4.1	6.1
90 - Q1	4.2	7.2
Q2	4.5	6.9
Q3	4.2	6.8
Q4	4	6.6
91 - Q1	4	5.8
Q2	3.7	6.2
Q3	3.7	6.4
Q4	3.7	6.2
92 - Q1	3.4	6.3
Q2	3	5.5
Q3	2.7	5.2
Q4	2.6	5.2
93 - Q1	2.7	5.6
Q2	2.7	5.8
Q3	3.1	5.4
Q4	3.1	5
94 - Q1	2.9	4.4
Q2	3.1	3.9
Q3	2.9	4
Q4	2.8	3.7
95 - Q1	2.9	2.9
Q2	2.9	2.6
Q3	2.8	2.1
Q4	2.8	2.2
96 - Q1	3.2	1.6
Q2	3.4	1.7
Q3	3.3	1.8
Q4	3.4	2
97 - Q1	3.4	2
Q2	3.3	2
Q3	3.6	2
Q4	3.9	2.3
98 - Q1	4	2.3
Q2	4	2.6
Q3	4.3	2.6
Q4	3.9	2.4
99 - Q1	3.3	2.2
Q2	3.6	2.5
Q3	3.2	2.8
Q4	3.5	3.4

Year/Qtr	Wages and Salaries	Benefits
00 - Q1	4.2	5.5
Q2	4.1	5.7
Q3	4.1	6
Q4	3.9	5.6
01 - Q1	3.8	5
Q2	3.8	4.8
Q3	3.6	4.9
Q4	3.8	5.1
02 - Q1	3.5	4.8
Q2	3.6	5.1
Q3	3.2	4.8
Q4	2.7	4.7
03 - Q1	3	6.1
Q2	2.6	6.1
Q3	3	6.5
Q4	3	6.4
04 - Q1	2.6	7
Q2	2.6	7.3
Q3	2.6	6.8
Q4	2.4	6.9
05 - Q1	2.4	5.8

The Effect of Unions on Employee Benefits: Recent Results from the Employer Costs for Employee Compensation Data

by [John W. Budd](#)

Originally Posted: June 29, 2005

It is well-established that unionized workers in the United States are covered by more extensive employee benefits than are comparable nonunion workers.¹ Data from the March 2002 [Current Population Survey \(CPS\)](#), for example, show that unionized workers are 16.4 percentage points more likely than similar nonunion workers to be covered by an employer-provided health insurance plan, and 18.8 percentage points more likely to participate in an employer-sponsored retirement plan.² What is less clear, however, is why this is so. In their seminal book *What Do Unions Do?*, Richard Freeman and James Medoff argue that greater benefits for unionized workers stem from two factors: 1) union bargaining power (what economists call the "monopoly face" or "monopoly effect" because they liken union bargaining power to that of a monopolist), and 2) union voice (or what is sometimes called the "collective voice" face).³

An important and longstanding question is, What is the relative importance of these two explanations? In particular, note that the welfare implications of each explanation are quite different. The monopoly face distorts competitive outcomes and reduces aggregate welfare, and monopolies of any kind are viewed as inefficient (and therefore less desirable) in standard economic thought. The collective voice face, however, can overcome market imperfections and increase aggregate welfare relative to what would result from individual, self-interested behavior. Thus, to evaluate accurately the aggregate welfare effects of labor unions on employee benefits, one must separate the positive and negative effects in empirical studies.

The key to isolating these two effects is to note that the monopoly effect increases total compensation while the collective voice effect tends to rearrange the total compensation package rather than to increase it.⁴ In statistical terms, then, holding total compensation constant in empirical analyses will separate out the monopoly and collective voice effects. Freeman and Medoff use the BLS Employer Expenditures for Employee Compensation data from the 1970s⁵ and find that the union effect on employee benefits is roughly equally split between a monopoly and a collective voice effect. Widely available data sets like the public-use samples of the Current Population Survey, however, lack good measures of total compensation. Consequently, researchers have only rarely tested the continued currency of these early results.

Recent research conducted by this author, which will be published later this year in the *Journal of Labor Research*, uses the BLS [Employer Costs for Employee Compensation \(ECEC\)](#) data from the March 2004 [National Compensation Survey \(NCS\)](#) to investigate whether the earlier results are still accurate 30 years later. The forthcoming analysis is based on 33,776 private-sector jobs in 7,863 establishments. The results suggest that the two-face framework of Freeman and Medoff continues to be relevant. More specifically, the analysis has three main findings: First, jobs that are represented by a union have total expenditures on nonmandatory benefit items that are 25- to 50-percent higher than similar nonunion jobs. Second, the union effect on benefits is particularly large for lower paid establishments and for small establishments. And third, the union effect on employee benefits consists of both a monopoly and a collective voice effect, though there is wide variation--depending on the specification, the collective voice effect might be as low as 25 percent or as high as 75 percent. But there always appears to be a nontrivial mix of both the monopoly and collective voice effects.

These preliminary results underscore the importance of empirical analyses of significant employment-related questions and provide an example of the diverse applications of the NCS and other BLS data sources.

John W. Budd

Industrial Relations Landgrant Professor, Carlson School of Management, University of Minnesota.

Author of *Employment with a Human Face: Balancing Efficiency, Equity, and Voice* (Cornell University Press) and *Labor Relations: Striking a Balance* (McGraw-Hill/Irwin).

The views expressed in this article are those of the author and do not necessarily reflect the policies or positions of the Bureau of Labor Statistics.

Notes

1 See, for example, Thomas C. Buchmueller, John DiNardo, and Robert G. Valletta, "Union Effects on Health Insurance Provision and Coverage in the United States," *Industrial and Labor Relations Review*, July 2002, pp. 610-27; John W. Budd, "Non-Wage Forms of Compensation," *Journal of Labor Research*, Fall 2004, pp. 597-622; Richard B. Freeman, "The Effect of Unionism on Fringe Benefits," *Industrial and Labor Relations Review*, July 1981, pp. 489-509; Richard B. Freeman, "Longitudinal Analyses of the Effects of Trade Unionism," *Journal of Labor Economics*, January 1984, pp. 1-26; and Richard B. Freeman and James L. Medoff, *What Do Unions Do?* (New York, Basic Books, 1984).

2 Budd, "Non-Wage Forms of Compensation." The differences shown here are generated from probit models controlling for gender, marital status, ethnic background, education, potential labor market experience, part-time status, hourly paid status, employer size, public sector employee, industry, occupation, and region. Basic statistics can also be accessed from the Census Bureau's Federal Electronic Research and Review Extraction Tool (FERRET) at <http://dataferrett.census.gov/>. Statistics obtained using FERRET will differ slightly from the figures cited here because the cited figures are from probit models which control for differences in union-nonunion worker characteristics.

3 Freeman and Medoff, *What Do Unions Do?* An additional possibility is that unions promote awareness of existing benefits; see John W. Budd and Karen Mumford, "Trade Unions and Family-Friendly Policies in Britain," *Industrial and Labor Relations Review*, January 2004, pp. 204-22.

4 The monopoly-voice model can be applied to various aspects of unionism; see Freeman and Medoff, *What Do Unions Do?* For example, theoretically, the collective voice effect can lead to increased productivity (greater output at every level of labor input), which might, in turn, increase total compensation. It is nevertheless common to distinguish between the monopoly and collective voice effects on compensation by examining the extent to which the voice effect rearranges rather than increases the compensation package, for two reasons: 1) the power to capture increased productivity in the form of higher wages stems from monopoly power, and 2) when analyzing different compensation packages between union and nonunion workplaces at one particular point in time, any effects of unions on productivity have already occurred.

5 The BLS Employer Expenditures for Employee Compensation data were separate and distinct from the subsequent Employer Costs for Employee Compensation (ECEC) data. For a discussion of the differences between these two sources of data, see Felicia Nathan, "Analyzing Employers' Costs for Wages, Salaries, and Benefits," *Monthly Labor Review*, October 1987; on the Internet at <http://www.bls.gov/opub/mlr/1987/10/art1full.pdf>.

Wages in Profit and Nonprofit Hospitals and Universities

by [Karen P. Shahpoori](#) and [James Smith](#)

Bureau of Labor Statistics

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Do for-profit establishments pay higher wages than nonprofit establishments? A new research project finds few significant differences in hourly pay.

The term "nonprofit organizations" may bring to mind small social services agencies, museums, or membership organizations. But the majority of workers in nonprofit organizations are employed by large health services or educational services establishments. These two industries have a high number of both for-profit and not-for-profit establishments, making it possible to compare wages in similar occupations. A research project based on the [National Compensation Survey](#) has provided some interesting wage comparisons.

This article compares average hourly earnings in private for-profit hospitals to those in private nonprofit hospitals. It then compares those rates to the rates in State and local government hospitals, which by definition are nonprofit. The comparisons include average hourly rates for all workers, full-time workers, part-time workers, registered nurses, and licensed practical nurses. Next, the article compares average hourly rates in State and local government colleges and universities to those in private nonprofit colleges and universities. In addition to comparing the rates for all workers, full-time workers, and part-time workers, the study compares the average hourly rates for all teachers.

National Compensation Survey

The [National Compensation Survey \(NCS\)](#) provides comprehensive measures of occupational earnings, compensation cost trends, benefit incidence, and detailed plan provisions. Research for this article was based on extracts from the database used for the most recent bulletin covering wage data in the United States, entitled [National Compensation Survey: Occupational Wages in the United States, July 2003](#).¹ This article includes previously unpublished wage information by industry and by establishment profit and nonprofit status.²

When a sampled establishment is first visited by a BLS representative, specific establishment characteristics are recorded, including the industry and the profit or nonprofit status. A large majority (84 percent) of the private nonprofit establishments studied for the 2003 NCS wage survey were classified as health services (43 percent), educational services (27 percent), or social services (14 percent).³ Health services include doctors' offices, nursing facilities, hospitals, medical laboratories, and home health care services. Educational services include elementary and secondary schools, colleges and universities, libraries, and vocational schools.

Establishments Studied

Hospitals, along with colleges and universities,⁴ were chosen for this analysis because a large number of both for-profit and not-for-profit establishments were found in these two industry groups. Approximately 76 percent of surveyed private hospitals, 795 out of 1,047, were classified as nonprofit. In addition, 259 State and local government hospitals were analyzed. (See chart 1.) By surveyed employment, 83 percent of private hospital workers, 1,651,000 out of 1,980,000 workers, were in nonprofit establishments. Government hospitals in the survey employed 604,000 workers.⁵

Relatively few of the private colleges and universities examined in this study were classified as for-profit. In fact, approximately 92 percent of surveyed private colleges and universities (339 out of 369) were classified as nonprofit. An additional 70 State and local government colleges and universities were studied as well. (See chart 2.) By surveyed employment, 97 percent of private college and university workers (445,000 out of 461,000) were in nonprofit establishments. The 70 government colleges and universities in the survey employed 483,000 workers, nearly the same number as those in private establishments.

Other Studies

An Internet search reveals several studies of wages in nonprofit establishments, a number of which were conducted in the health care field. These studies mention the general assumption that the earnings of employees in for-profit establishments are higher than those in not-for-profit establishments.⁶ However, in health care, where many occupations in both profit and nonprofit establishments are similar, the wages are usually found to be comparable.

One article suggests that the similar pay in health care establishments is due to the fact that the rates insurers pay for health services are not determined by the profit or nonprofit status of the provider.⁷ An article entitled *Compensation in the Nonprofit Sector*, which is posted on the website of the National Bureau of Economic Research, includes a summary of previous research on nonprofit earnings differentials.⁸

Findings In Private Hospitals

In data extracted from the July 2003 National Compensation Survey, the average hourly rate for all workers in profit hospitals, \$19.26, was found to be lower than the average hourly rate for all workers in nonprofit hospitals, \$20.16.

Full-time workers in for-profit hospitals had a lower average hourly rate than their not-for-profit counterparts, but part-time workers in profit and nonprofit hospitals had nearly identical average hourly rates. Full-time workers in profit hospitals, at \$19.21, averaged nearly a dollar per hour less than full-time workers in nonprofit hospitals, at \$20.20. But the average hourly rates for part-time workers in the two types of hospitals were very similar, as profit hospitals averaged \$19.68, and nonprofit hospitals averaged \$19.95.⁹ (See chart 3.)

The lower average wage rate in profit hospitals may be due to the fact that the profit hospitals were smaller than the hospitals classified as nonprofit.¹⁰ Of the 252 private for-profit hospitals studied, only 34 (13 percent) employed more than 2,500 workers. But of the 795 private nonprofit hospitals studied, 220 (28 percent) had more than 2,500 workers.

Nurses And Other Occupations In Private Hospitals

The average hourly earnings for registered nurses (full and part time) followed the same pattern as the earnings for all workers, with registered nurses in profit hospitals showing a lower rate per hour (\$25.58) than those in nonprofit hospitals (\$27.02).¹¹ Full-time registered nurses in for-profit establishments earned \$25.32 per hour, which is considerably lower than the rate for those working in nonprofit establishments (\$27.01 per hour). Yet, for part-time registered nurses, the average hourly rates were virtually identical for those working in for-profit and nonprofit hospitals--\$27.02 per hour and \$27.06 per hour, respectively. (See chart 4.)

Licensed practical nurses earned nearly the same average hourly rates, whether they were employed by profit hospitals (\$15.88) or nonprofit hospitals (\$15.82). Similarly, the rates for full-time licensed practical nurses in each type of hospital were within pennies of each other, with those working in profit hospitals earning \$15.89 per hour, and those working in nonprofit hospitals earning \$15.77. The average hourly rate for part-time workers appeared to be slightly lower in for-profit establishments (\$15.64) than in nonprofit establishments (\$16.04), although that difference is not statistically significant. (See chart 5.)

In other specific occupations, there was no pattern to whether profit or nonprofit hospitals paid higher rates. The average hourly rate for managers, medicine and health, appeared to be lower in for-profit hospitals (\$33.73) than in nonprofit hospitals (\$37.60), but that difference is not statistically significant. For physical therapists, the hourly rate of \$25.44 in profit establishments was lower than the hourly rate of \$27.58 in nonprofit establishments. For radiological technicians, the average hourly rate in profit establishments (\$21.44) was similar to the average hourly rate in nonprofit establishments (\$23.00). Finally, the hourly rate for health record technologists and technicians in profit hospitals (\$15.42) was close to the hourly rate in nonprofit hospitals (\$14.93).

Government Hospitals

How do wage rates in government hospitals compare with those in profit and nonprofit private hospitals? As part of this research project, data from the National Compensation Survey for hospitals in the State and local government sector were extracted. The average hourly rate of \$18.71 for all government hospital workers was relatively close to the average rate of \$19.26 for all workers in private profit hospitals, but was significantly lower than the average rate of \$20.16 for all workers in private nonprofit hospitals.

Full-time workers followed a similar pattern. The average hourly rate of \$18.56 for all full-time government hospital workers was close to the average rate for full-time workers in private for-profit hospitals (\$19.21), but it was significantly lower than the average rate for full-time workers in private nonprofit hospitals (\$20.20). However, the part-time average hourly rate for all government hospital workers (\$20.49) was not much different from the part-time average hourly rates for private workers in both profit and nonprofit hospitals (\$19.68 and \$19.95, respectively).

Nurses In Government Hospitals

Registered nurses in State and local government hospitals, with an average hourly rate of \$25.68, earned about the same as those in private for-profit hospitals (\$25.58) but slightly less than those in private not-for-profit hospitals, where they earned \$27.02 per hour. The average hourly rates for licensed practical nurses were remarkably similar across the different types of hospitals: government hospitals paid \$15.87; profit hospitals paid \$15.88; and nonprofit hospitals paid \$15.82.

It is not unusual for full-time nurses to receive a lower average hourly rate than part-time nurses, whether in private or government hospitals. The analysis for this article did not consider benefit costs, and full-time workers often receive a better benefit package than part-time workers.¹² Within government hospitals, full-time registered nurses were paid \$25.22 per hour, while part-time registered nurses were paid \$28.91 per hour. Although this difference seems to be large, it is not statistically significant. Full-time licensed practical nurses earned an average of \$15.81 per hour, which was similar to the average of \$16.68 per hour for part-time licensed practical nurses. (See chart 6.)

Table 1 summarizes the average hourly earnings for all workers and for nurses in private for-profit, private nonprofit, and government hospitals. Relative standard errors are included.¹³

Findings In Colleges And Universities

As mentioned previously, this study found few private colleges and universities classified as for-profit establishments. Again, the findings presented here are based on data extracted from the July 2003 National Compensation Survey. Only 8 percent of the surveyed private universities (30 out of 369) were considered for-profit establishments, and these employed only 4 percent of the surveyed workers in private colleges and universities. A brief comparison of wages in private for-profit and private nonprofit universities appears later in this article.

Government Colleges And Universities

Estimates of average hourly earnings for workers in government colleges and universities, including State colleges, were calculated for this study. The average hourly rate for all workers in government colleges and universities was \$25.37. All full-time workers in government universities averaged \$25.57 per hour, and all part-time workers averaged \$16.20 per hour.

For the occupational category teachers, college and university¹⁴, the average hourly rate in government colleges and universities was \$38.92. Full-time college and university teachers in government universities averaged \$39.14 per hour, and part-time college and university teachers in government universities averaged \$29.02 per hour.¹⁵ (See chart 7.)

Government And Private Nonprofit Colleges And Universities

Since most private universities are nonprofit, and government universities are by definition nonprofit, a direct comparison might be useful. In total, the two types of universities employ similar numbers of workers: The 339 private nonprofit

universities examined in this study employed 445,000 workers, and the 70 government universities employed 483,000 workers.

All workers in private nonprofit colleges and universities averaged \$26.21 per hour, while all workers in government colleges and universities averaged \$25.37 per hour. However, this difference is not statistically significant. The full-time average hourly rate for private nonprofit universities was \$26.43, while the full-time rate for government universities was \$25.57. The difference between the part-time average hourly rate in private nonprofit universities (\$19.34) and the part-time rate in government universities (\$16.20), is not statistically significant.

Do teachers in government or private universities receive higher wages? For all college and university teachers, the private nonprofit average hourly rate of \$44.86 was nearly \$6.00 higher than the average hourly rate in government establishments (\$38.92). Full-time college and university teachers followed a similar pattern, with those in private nonprofit universities averaging \$45.36 per hour, while those in government universities averaged \$39.14 per hour. For part-time college and university teachers, however, the average hourly rates were similar: \$31.29 per hour in private nonprofit establishments, and \$29.02 in government establishments. (See chart 8.)

Private Colleges And Universities

Very few private colleges and universities are classified as for-profit establishments. In private colleges and universities, the average hourly earnings within for-profit institutions were similar to those in not-for-profit institutions. Data showed the average hourly rate for all workers in private for-profit universities to be \$28.45, while the average hourly rate for all workers in private nonprofit universities was \$26.21. All full-time workers in for-profit universities averaged \$29.33 per hour, and those in nonprofit establishments averaged \$26.43 per hour. The average hourly rate for all part-time workers in for-profit universities was \$16.22, while the rate in nonprofit establishments was \$19.34. (See chart 9.)

The hourly earnings for all college and university teachers were nearly identical, regardless of whether they worked in private for-profit universities or in private not-for-profit universities. The average hourly earnings for all teachers in for-profit universities was \$44.29, and the hourly earnings for those in nonprofit universities was \$44.86. Full-time teachers in both types of universities showed virtually identical average hourly rates, with full-time teachers in profit establishments averaging \$45.26 per hour, and full-time teachers in nonprofit establishments averaging \$45.36 per hour. As for part-time teachers, those in profit establishments averaged \$34.30 per hour, and those in nonprofit establishments averaged \$31.29 per hour. (See chart 10.)

Table 2 summarizes the average hourly rates for all workers and teachers in private for-profit, private nonprofit, and government colleges and universities. Relative standard errors are included.

Conclusion

Contrary to the authors' expectations, this study found that the average hourly rate for all workers in private for-profit hospitals was lower than the average hourly rate for all workers in private nonprofit hospitals. This may be due to the fact that the larger, higher paying, hospitals were classified as nonprofit. Full-time Registered Nurses followed a similar pattern, as those in private profit hospitals had a lower average hourly rate than those in private nonprofit hospitals. For part-time registered nurses, the average hourly rates in both profit and nonprofit hospitals were nearly identical. In State and local government hospitals, the average hourly rate for all workers was similar to the average rate for all workers in private for-profit hospitals, but it was lower than the average rate for all workers in private nonprofit hospitals. Registered nurses in government hospitals earned about the same as those in private profit hospitals, but they earned less than their colleagues in private nonprofit hospitals.

In State and local government colleges and universities, the average hourly rate for all workers was similar to the average rate for all workers in private nonprofit colleges and universities. College and university teachers in government establishments had a lower average hourly rate than those in private nonprofit establishments. Very few private colleges and universities were found to be classified as for-profit establishments. The average hourly rates within private profit universities

were similar to those in private nonprofit universities. Earnings for teachers, college and university, were nearly identical in private profit universities and private nonprofit universities.

Karen P. Shahpoori

Economist, Office of Compensation and Working Conditions, Bureau of Labor Statistics.

Telephone: (202) 691-6290; E-mail: Shahpoori.Karen@bls.gov

James Smith

Economist, Office of Compensation and Working Conditions, Bureau of Labor Statistics.

Telephone: (202) 691-6207; E-mail: Smith.James@bls.gov

Notes

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1 *National Compensation Survey: Occupational Wages in the United States, July 2003*, Bulletin 2568 (Bureau of Labor Statistics, September 2004); available on the Internet at www.bls.gov/ncs/home.htm.

2 The profit or nonprofit designation is determined by the Internal Revenue Service (IRS). Section 501(c)(3) of the Internal Revenue Code, which permits a number of different types of organizations to be exempt from Federal income taxes, identifies the charitable, religious, educational, scientific, and other organizations that may qualify for tax-exempt status. The IRS requires a written application with a full description of the purposes and activities of the organization, plus financial statements and other information. The IRS issues a ruling or determination letter if an organization's application and supporting documents establish that it meets the tax-exempt requirements. See Internal Revenue Service Publication 557, *Tax-Exempt Status for Your Organization* (Revised March 2005), on the Internet at <http://www.irs.gov/publications/p557/index.html> (visited June 21, 2005).

3 The classification of establishments for this article was based on the Standard Industrial Classification (SIC). Health services are in major group 80, education services are in major group 82, and social services are in major group 83.

4 Estimations for hospitals included SIC 8062, general medical and surgical hospitals, SIC 8063, psychiatric hospitals, and SIC 8069, specialty hospitals, except psychiatric. Estimations for colleges and universities included SIC 8221, colleges, universities, and professional schools. Those classified in SIC 8222, junior colleges and technical institutes, were not included in this study.

5 Surveyed employment figures were estimated from the National Compensation Survey and are not as precise as those developed from other BLS surveys with larger samples and with designs geared toward generating employment estimates. The employment estimates in this article are presented only to indicate the proportion of workers within profit and nonprofit establishments.

6 The Internet site NonProfitExpert.com, located at <http://www.nonprofitexpert.com/salary.htm> (visited June 7, 2005), states the following: "It is safe to say that people who work in the nonprofit arena do not do so for the money!"

7 See Susan Raymond, "Looking at Wages in Non-profits vs. For-profits," onPhilanthropy.com (Changing Our World, Inc., October 11, 2000), on the Internet at: http://www.onphilanthropy.com/tren_comm/tc2001-09-06q.html (visited February 18, 2005).

8 Christopher J. Ruhm and Carey Borkoski, "Compensation in the Nonprofit Sector," *NBER Working Paper 7562* (National Bureau of Economic Research, February 2000), on the Internet at: <http://www.nber.org/papers/w7562.pdf> (visited February 18, 2005).

9 All the statements of comparisons appearing in this article are significant at a standard error level of 1.6 or better, unless otherwise indicated. A more detailed explanation is available from the authors upon request.

10 For an analysis of earnings by size of establishment, see Robert W. Van Giezen, "Occupational Pay by Establishment Size," *Compensation and Working Conditions* (Bureau of Labor Statistics, spring 1998).

11 The classification of registered nurses was based on the 1990 Census of Population. A selected job may fall into 1 of about 480 occupational classifications.

12 Data from the BLS [Employer Costs for Employee Compensation](#) program show that the employer benefit cost for full-time workers in private industry in December 2004 was \$8.19 per hour, while the employer benefit cost for part-time workers in private industry was \$2.68 per hour. See [Employer Costs for Employee Compensation-December 2004](#), USDL 05-432 (U.S. Department of Labor), March 16, 2005, table 11.

13 The standard error, or sampling error, indicates the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error (RSE) is the standard error divided by the estimate.

14 The occupational category "teachers, college and university," includes 28 specific Census of Population teacher disciplines, as well as two "other" teacher groupings. For a complete list of the occupational categories, see *National Compensation Survey: Occupational Wages in the United States, July 2003*, Bulletin 2568, Appendix B, pp. 164-71.

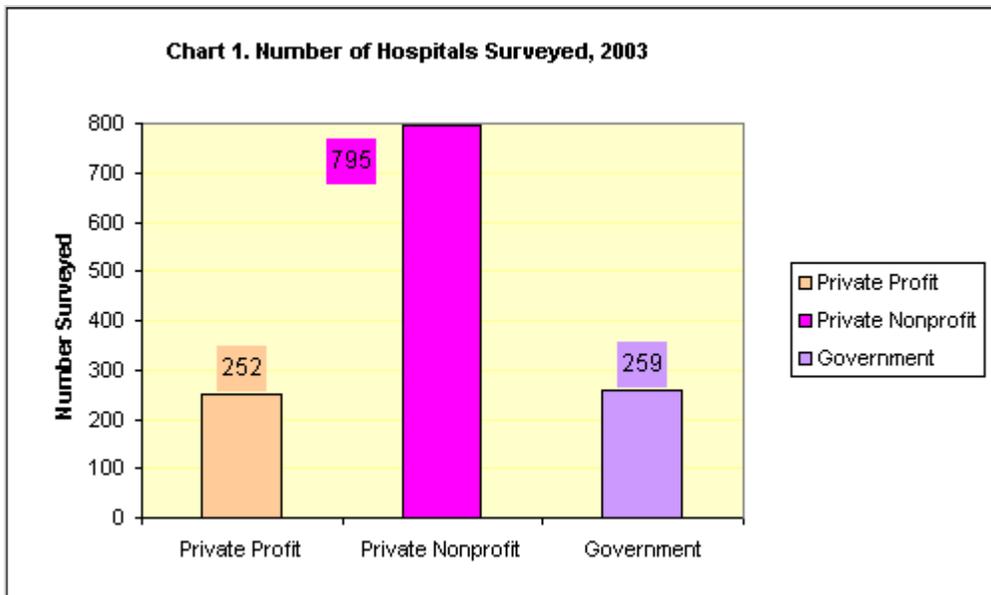
15 Teachers at all levels generally do not work 12 months per year. To convert an hourly rate for full-time teachers to an annual rate, multiply by 1,583 hours for government establishments, or by 1,598 hours for private establishments, rather than by a 12-month figure of 2,080 hours. See *National Compensation Survey: Occupational Wages in the United States, July 2003: Supplementary Tables* (Bureau of Labor Statistics, August 2004), table 4.2, pp. 73-74.

Table 1. Average Hourly Earnings in Hospitals, 2003

Occupation and Full-time or Part-time Status	Private				State and local government	
	Profit		Nonprofit		Hourly Mean	Relative Standard Error
	Hourly Mean	Relative Standard Error	Hourly Mean	Relative Standard Error		
All workers	\$19.26	1.9	\$20.16	1.2	\$18.71	2.3
Full Time	19.21	1.9	20.20	1.1	18.56	2.1
Part Time	19.68	4.2	19.95	2.5	20.49	7.8
Registered Nurses	25.58	2.5	27.02	1.2	25.68	2.7
Full Time	25.32	2.6	27.01	1.6	25.22	2.2
Part Time	27.02	2.4	27.06	1.5	28.91	7.6
Licensed Practical Nurses	15.88	1.9	15.82	1.7	15.87	3.0
Full Time	15.89	2.0	15.77	1.9	15.81	3.2
Part Time	15.64	2.6	16.04	2.6	16.68	3.1

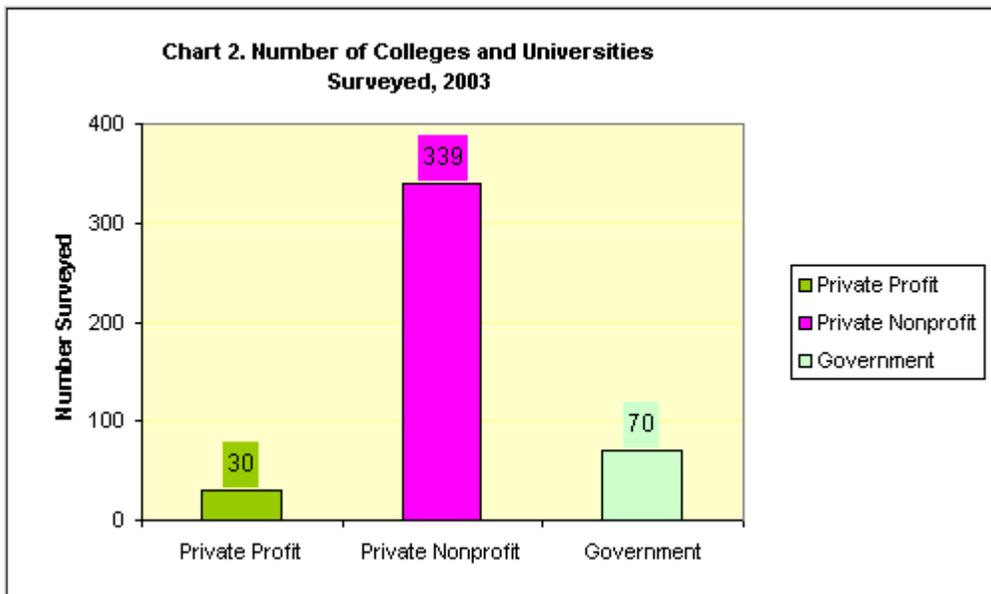
Table 2. Average Hourly Earnings in Colleges and Universities, 2003

Occupation and Full-time or Part-time Status	Private				State and Local Government	
	Profit		Nonprofit		Hourly Mean	Relative Standard Error
	Hourly Mean	Relative Standard Error	Hourly Mean	Relative Standard Error		
All Workers	\$28.45	9.4	\$26.21	2.6	\$25.37	6.4
Full Time	29.33	9.7	26.43	2.7	25.57	6.4
Part Time	16.22	8.7	19.34	8.2	16.20	7.8
Teachers	44.29	13.0	44.86	3.3	38.92	6.1
Full Time	45.26	13.9	45.36	3.2	39.14	6.2
Part Time	34.30	18.2	31.29	14.9	29.02	24.8



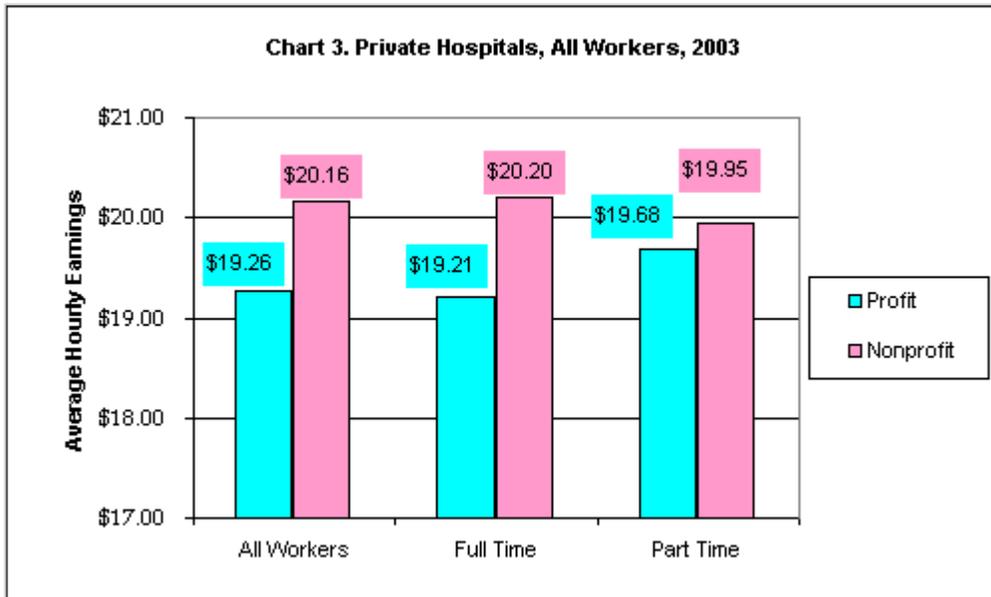
Data for Chart 1. Number of Hospitals Surveyed, 2003

Type of Hospital	Number Surveyed
Private Profit	252
Private Nonprofit	795
Government	259



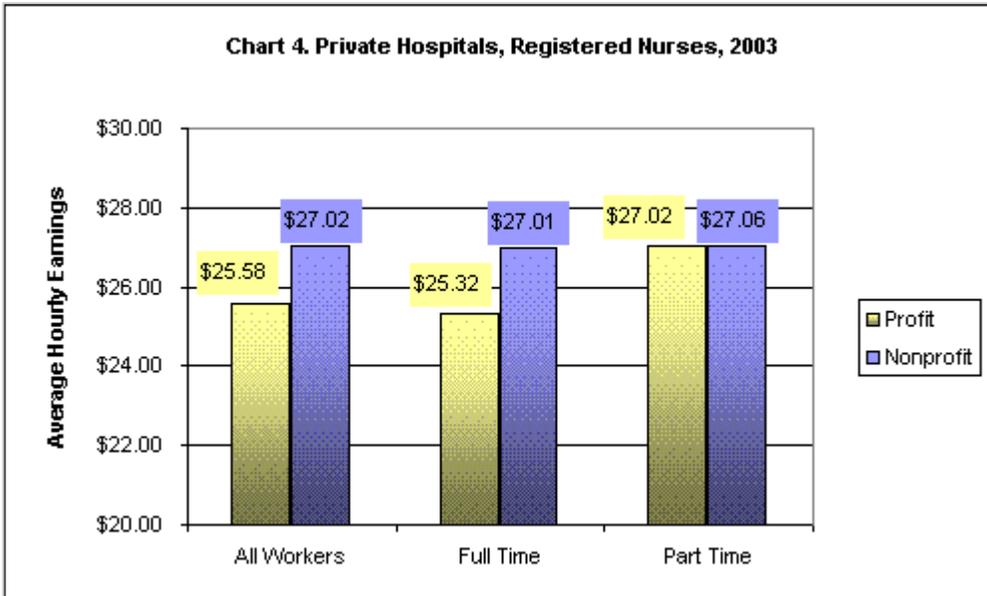
Data for Chart 2. Number of Colleges and Universities Surveyed, 2003

Type of College or University	Number Surveyed
Private Profit	30
Private Nonprofit	339
Government	70



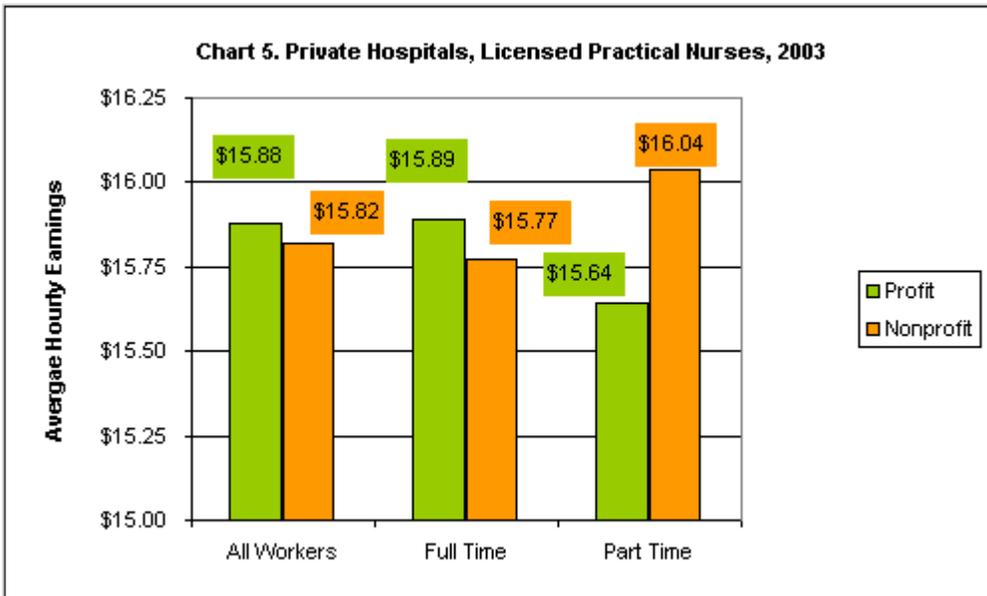
Data for Chart 3. Private Hospitals, All Workers, 2003

	Profit	Nonprofit
All Workers	\$19.26	\$20.16
Full Time	\$19.21	\$20.20
Part Time	\$19.68	\$19.95



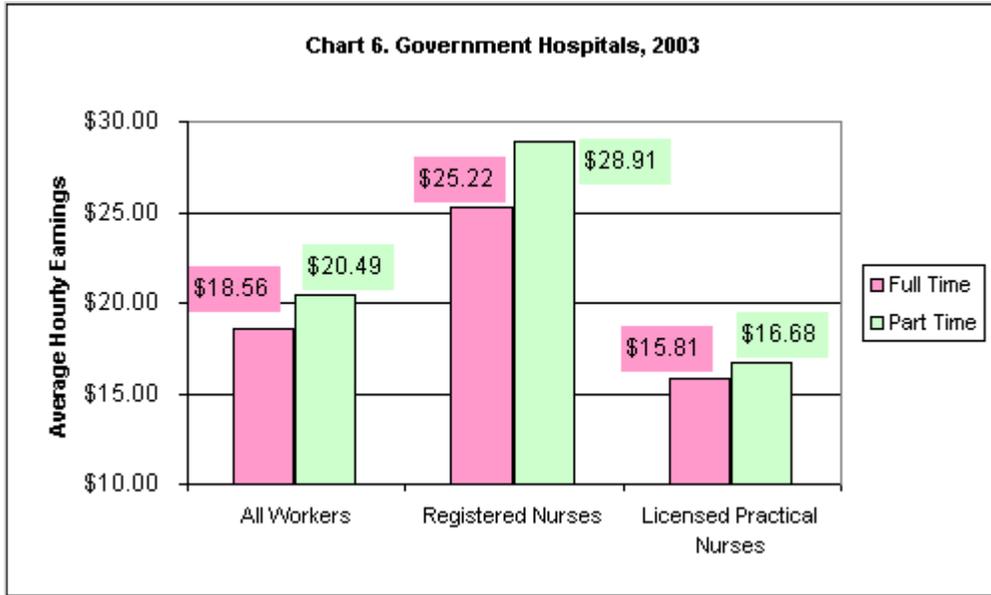
Data for Chart 4. Private Hospitals, Registered Nurses, 2003

	Profit	Nonprofit
All Workers	\$25.58	\$27.02
Full Time	\$25.32	\$27.01
Part Time	\$27.02	\$27.06



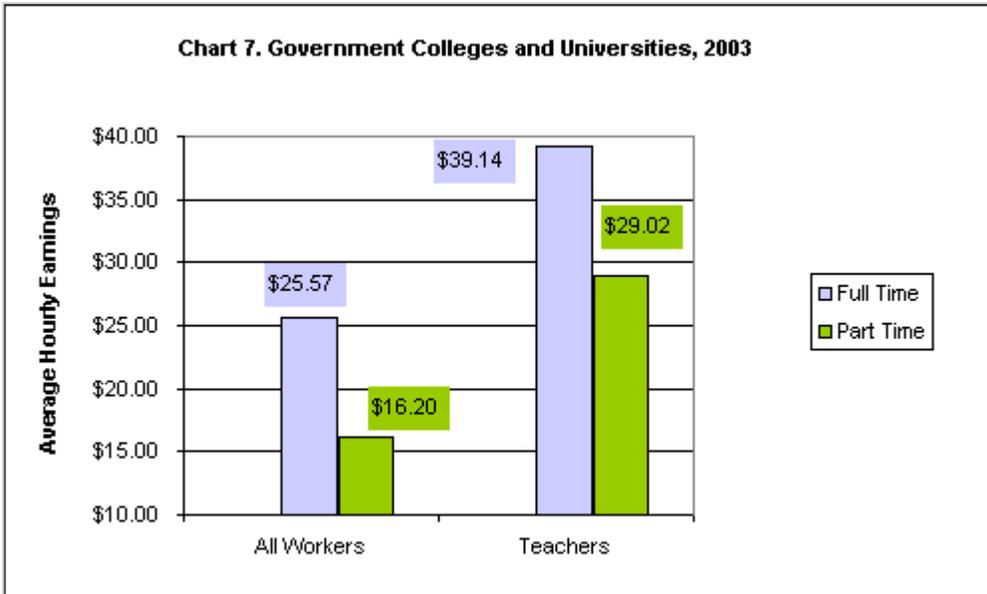
Data for Chart 5. Private Hospitals, Licensed Practical Nurses, 2003

	Profit	Nonprofit
All Workers	\$15.88	\$15.82
Full Time	\$15.89	\$15.77
Part Time	\$15.64	\$16.04



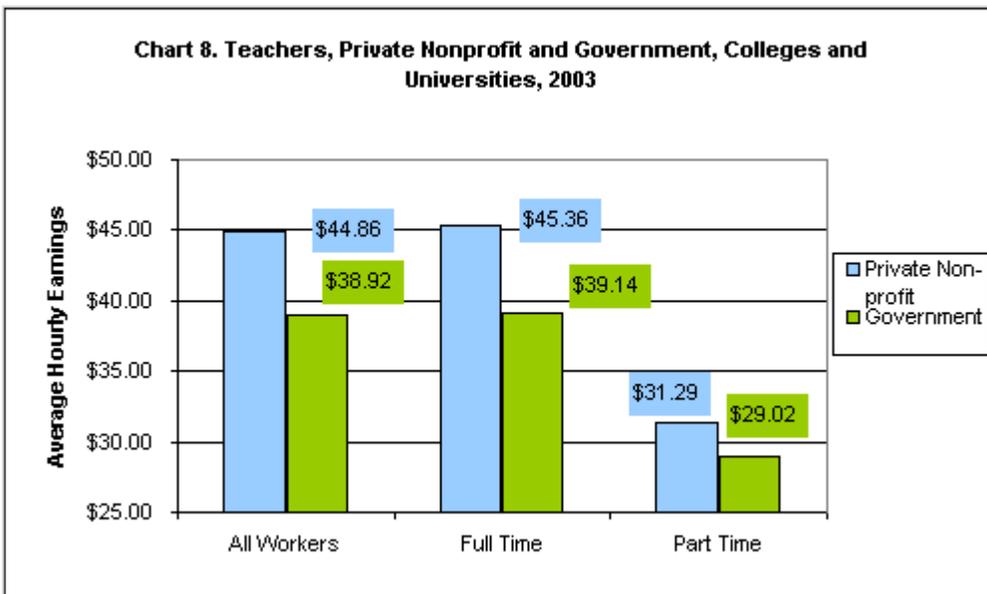
Data for Chart 6. Government Hospitals, 2003

	Full Time	Part Time
All Workers	\$18.56	\$20.49
Registered Nurses	\$25.22	\$28.91
Licensed Practical Nurses	\$15.81	\$16.68



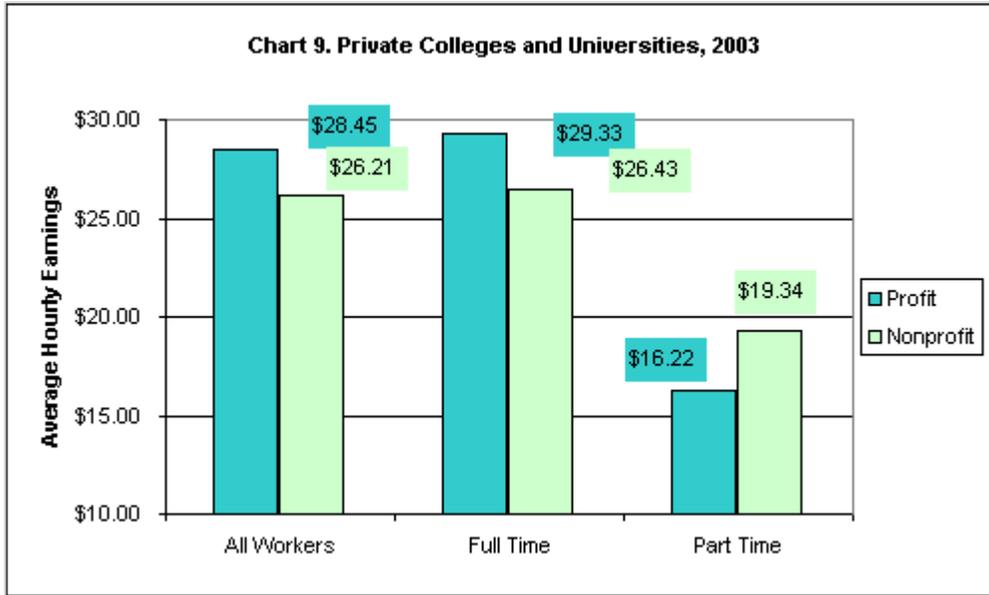
Data for Chart 7. Government Colleges and Universities, 2003

	Full Time	Part Time
All Workers	\$25.57	\$16.20
Teachers	\$39.14	\$29.02



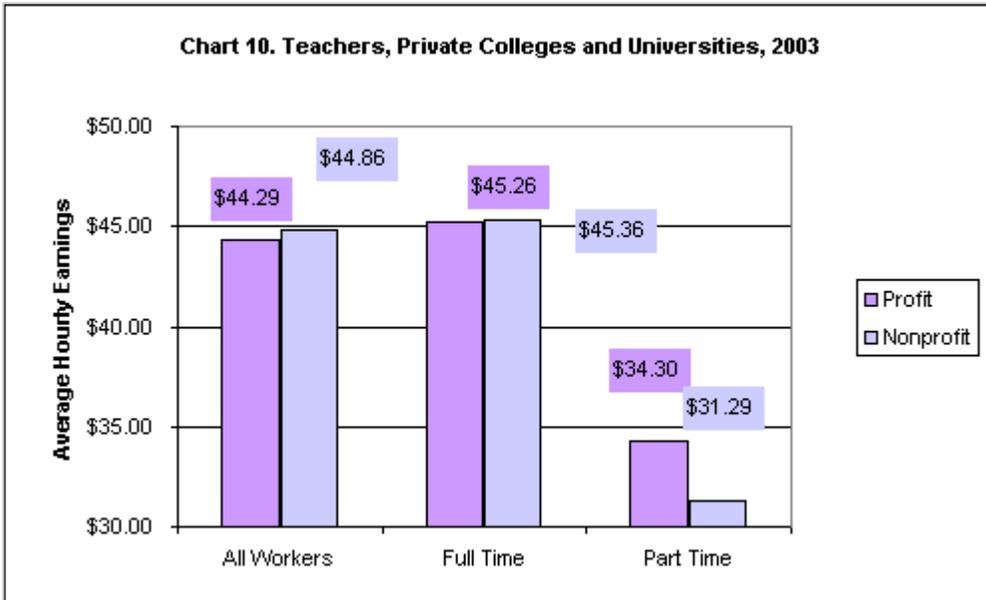
Data for Chart 8. Teachers, Private Nonprofit and Government, Colleges and Universities, 2003

	Private Nonprofit	Government
All Workers	\$44.86	\$38.92
Full Time	\$45.36	\$39.14
Part Time	\$31.29	\$29.02



Data for Chart 9. Private Colleges and Universities, 2003

	Profit	Nonprofit
All Workers	\$28.45	\$26.21
Full Time	\$29.33	\$26.43
Part Time	\$16.22	\$19.34



Data for Chart 10. Teachers, Private Colleges and Universities, 2003

	Profit	Nonprofit
All Workers	\$44.29	\$44.86
Full Time	\$45.26	\$45.36
Part Time	\$34.30	\$31.29