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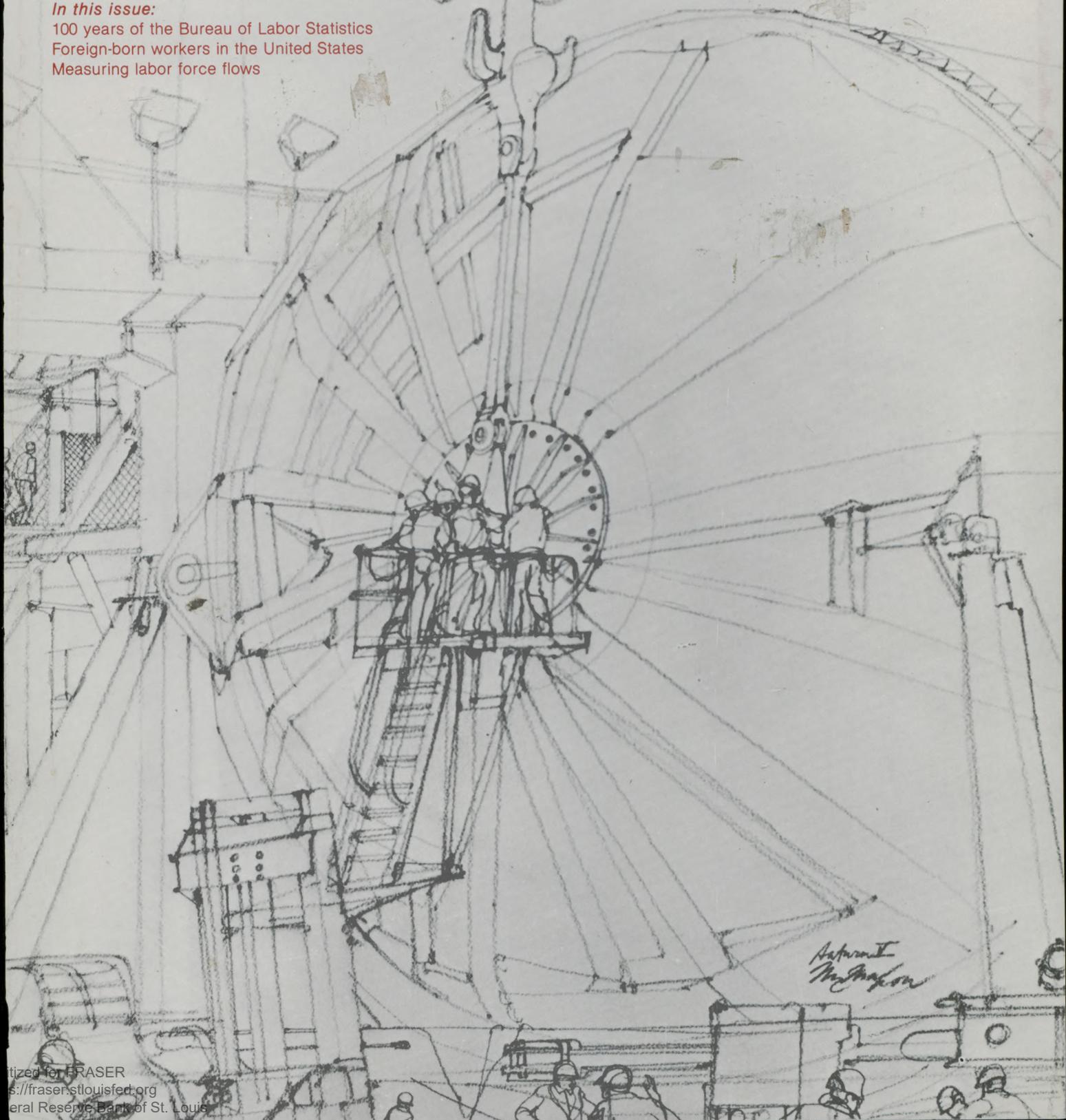
MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
July 1985

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In this issue:

- 100 years of the Bureau of Labor Statistics
- Foreign-born workers in the United States
- Measuring labor force flows





U.S. DEPARTMENT OF LABOR
William E. Brock, Secretary
BUREAU OF LABOR STATISTICS
Janet L. Norwood, Commissioner

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MONTHLY LABOR REVIEW

JULY 1985

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Henry Lowenstern, Editor-in-Chief
Robert W. Fisher, Executive Editor

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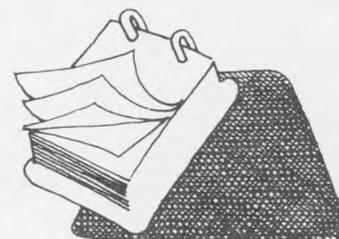
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Labor Month In Review

JOB OUTLOOK. Commissioner of Labor Statistics Janet L. Norwood challenged several widely held views on the future of the U.S. job market in a keynote address, June 11, to the 5th International Symposium on Forecasting in Montreal, Canada. Norwood noted that many people view present trends in the workplace as having negative consequences on future wages, productivity, and even job creation. According to Norwood, this pessimistic view is based largely on the perceived effects of our shift towards a service-producing economy and, related to that, the loss of many factory jobs. Here are excerpts from her address.

Productivity growth. Over the last decade, the longer term growth rates in productivity in the U.S. business economy have fallen substantially. Some people believe that the productivity problem is, in part, a reflection of the shift to the service-producing sector. Industries in the service-producing sector are believed by some to have a lower productivity *growth* than industries in the goods-producing sector, and their greater importance over recent decades is believed to have contributed to the productivity deceleration in the business economy.

Industries in the service-producing sector are also believed to have a lower *level* of productivity than the goods-producing industries, and therefore the increasing importance of the service-producing industries is thought by some to have pulled down the overall level of productivity in the economy relative to previous periods.

The evidence from BLS data do not support these conclusions. The productivity growth rates of the service-producing industries vary substantially; they are not uniformly lower than those of goods-producing industries. Some service-producing industries, such as telephone communications, gasoline service stations, and air transportation, had

very high productivity growth rates over the 1973-83 period. Others, such as commercial banking, gas and electric utilities, laundry and cleaning services, showed very small productivity growth rates and, in some cases, declines. These industries did contribute to the reduction in productivity growth, as did many goods-producing industries. In general, however, the range of growth rates in the service-producing industries was very wide and had no disproportionate effect on productivity growth in the business economy.

Wage structure. There are many who believe that the wage structure of the United States is shifting away from the high-paying manufacturing jobs toward low-paying jobs in services. I think that this notion stems from several sources. A large number of U.S. workers have lost jobs in the smokestack industries. These workers traditionally have been viewed as the backbone of the blue-collar labor force, the heart of the trade union movement, and the prime example of the improved prosperity of U.S. workers in general. High tech industries, which have been an important source of growth in recent years, are thought to be dominated by a small number of high-wage professionals and a large number of low-wage production workers, with few jobs in the middle. Jobs in the service-producing sector are thought of as requiring little skill and paying little more than the legally required minimum wage. In addition, many jobs in the huge, fast-growing service-producing sector are seen as part time or dead-end. Does the evidence support this view? What do we know about the types of jobs that are growing now and which we expect to continue to grow through the next decade or so?

We know that the job loss in high-wage manufacturing industries has been severe. We know that workers displaced from these jobs are primarily men who have held them for some time, tend to

have family obligations, and are not as mobile as younger workers. But the job losses have been just as severe at the bottom end of the manufacturing wage structure, especially in such industries as textiles, apparel, and leather. In fact, job losses in these industries have been going on for many years. Workers displaced from some of these low-paying industries tend to be disproportionately female and minority group members who always have a difficult time in the labor market.

The service-producing sector is so diverse that its jobs cannot be categorized as either high wage or low wage. In fact, it is that diversity itself that makes the sector somewhat unique. Many very low-wage workers are employed in the service sector—in fast-food restaurants, in personal service establishments, or in nursing homes. But this sector is also the home of computer services, legal services, advertising, and communications, where workers, on average, earn fairly high wages. And then there are workers in insurance, wholesale trade, and auto repair who earn near-average earnings. Thus, the stereotype of jobs in the fast-growth services sector as low paid and dead-end is not an accurate description of many of the jobs in this sector.

And we must also remember that the occupational composition of the Nation's jobs is also shifting markedly. We need more research to determine exactly how the occupational and industrial restructuring that has been taking place affects the prosperity of workers in the United States. BLS research completed thus far shows some shift in employment toward high-paying occupations and some reduction in employment in lower paying occupations.

Single copies of Commissioner Norwood's address are available from Inquiries and Correspondence Section, Bureau of Labor Statistics, Washington, D.C. 20212. □

One hundred years of the Bureau of Labor Statistics

Following its establishment in 1884, the Bureau embarked on investigation of a wide range of issues affecting working men and women; major advances in survey scope and technique over the years have enhanced these efforts

JANET L. NORWOOD

It is now 100 years since the law creating a Bureau of Labor in the Department of the Interior was signed by President Chester A. Arthur. The new Bureau, which until 1913 functioned as the only Federal agency concerned with the world of work, was directed by the Congress to collect information in the labor field.

The first BLS Commissioner—Carroll D. Wright—understood the importance of employer-employee relationships in the U.S. economy. He recognized the role that objective information could play in the development of an atmosphere in which workers could realize their full potential and industry could be innovative and efficient. He believed that disinterested information could promote effective, rational, and equitable decisionmaking. It was Wright who established the motto that has, during the past century, become the hallmark of the BLS—“judicious investigations and the fearless publication of the results thereof.”¹

Early interests

Carroll Wright's early Bureau, with a staff of three and a budget of \$25,000, was a far cry from the BLS of today, a well-established institution of some 2,000 employees with a budget of more than \$170 million. But its activities foreshadowed the range of areas in which we continue to operate today. In its first quarter of a century, for example, the

Bureau gathered information on working conditions. Also during this early period, and especially between its establishment in 1884 and its merger into the new Department of Labor in 1913, the Bureau of Labor investigated and reported on just about every important labor dispute in the country. Commissioner Wright's agents gathered data on the Missouri and Wabash and the Southwest railroad strikes of the middle 1880's. Bureau agents collected information on labor conflicts in the Pennsylvania anthracite coal fields and in the Colorado mines in the early 1900's. Wright himself was involved, at the request of the President, in investigating the Pullman strike in 1894, and served as recorder for the Anthracite Coal Commission following a 1902 strike. Bureau agents also investigated the packinghouse strikes in Chicago during 1904.

Charles P. Neill, the Bureau's second Commissioner, helped to conciliate more than 50 railroad disputes under the Erdman Act, and Neill himself or the Bureau staff investigated almost all of the major strikes of the period. Later commissioners studied such issues as industrial democracy, technological displacement, and pensions; collected information on changing conditions in industry; and provided data for major collective bargaining situations.

The first important study undertaken by the new Bureau of Labor dealt with the industrial turmoil growing out of the depression of 1873-78 and the recurrent labor disputes of the 1870's and the 1880's. In addition to presenting data, the study sought to explain the background of this unrest and to propose some remedies. For one thing, Commissioner

Janet L. Norwood is U.S. Commissioner of Labor Statistics. This article is based on her address to a special plenary session of the annual meeting of the Industrial Relations Research Association, Dallas, TX, Dec. 28, 1984.

Wright suggested that capital and labor "each shall treat with the other through representatives" in disputes, and suggested further that the party refusing conciliatory methods could be considered as responsible for the full effects growing out of the dispute.²

Interest in collective bargaining issues, therefore, began early in the history of the BLS. In those days, the agency was viewed as a part of a movement for social reform. In addition to developing reports to shed light on the social and economic issues of the day, Commissioners were called upon to mediate industrial disputes and to advise the Government on a broad range of labor issues. Indeed, the Bureau performed many of the tasks which today are performed by other parts of the Department of Labor.

In a very real sense, therefore, this observance of the Bureau's centennial is an observance of Federal involvement in issues relating to the working men and women of this country. The establishment of the Bureau of Labor was, in fact, evidence of the interest of the Congress in the plight of the American worker. As one Congressman put it during debate on the legislation creating the new Bureau: "A great deal of public attention in and out of Congress has been given to the American hog and the American steer, I submit, Mr. Chairman, that it is time to give more attention to the American man."³

These early activities in the industrial relations of this growing country produced a large series of reports, findings, and data, as well as a number of statements supporting collective bargaining, mediation, and conciliation. But the Bureau also collected a good deal of information on earnings and working conditions. Data collection was not easy. Bureau agents went out to business establishments to search their records for data. Numbers were carefully transcribed onto previously tested collection schedules, properly verified, then combined into estimates for publication.

This early work on conditions of employment had many problems. Indeed, some of them remain unsolved to this day. The Bureau found, for example, that hours of work and earnings were frequently reported differently by employers and by employees. In addition, the earnings levels—and particularly their reliability—looked very different depending on whether the point of collection was the worker or the employer.

Data collection also presented problems. Then, as now, high-wage employers were happy to report their wage practices, whereas those paying very low wages were less eager to expose their positions. The Bureau's strict rules on confidentiality of data, which began with the administration of Commissioner Wright, have gone a long way toward breaking down this reticence.

Response rate issues also dogged the early data collectors. Special efforts were made to increase responses to Bureau surveys. Indeed, as the commissioner of one of the State bureaus of labor statistics commented in reporting on the work of his agency in 1885:

If questions are asked of five hundred men indiscriminately, and two hundred actually give answers, these two hundred will not be average representatives of the whole five hundred. They will, on the average, have more brains than the other three hundred. The very fact that they answer, while the others do not, shows this.⁴

As the Bureau developed, its data base grew. And the approach taken in its reports and analyses was very broad. It is interesting to look at some of the early reports. For example, *Working Women in Large Cities*, which was published in the Bureau's fourth year of existence, was a real trailblazer. The first of its kind, that study of women working in city "manufactories" covered 354 industries in 22 cities. Data for the study were collected by women who were paid the same wages as the male agents of the Bureau. In this respect, the Bureau was ahead of its time. The report itself is full of concern for the plight of women workers, who earned generally no more than \$2 to \$3 per week. ". . . the figures tell a sad story, [the report declares] and one is forced to ask how women can live on such earnings."⁵ Statistics were presented on women's wages and general working conditions, incomes and expenses, as well as home surroundings.

The study on working women was but one of the early reviews of the economic and social conditions of workers and their families. In this work, one can see a recognition of the difficulties in interpreting aggregates and averages. Indeed, as early as 1889, we find Commissioner Wright lecturing his State colleagues on the employment mix problem. He pointed out that there were many temporary workers on the railroads, many of whom did not work full time. It is very easy, he said, to obtain two simple facts from the railroads—the aggregate wages paid and the total number of workers employed at a given time. Division of one number by the other results, Wright said, in "a vicious quotient" to represent the average earnings of all railroad workers in the country. This general average could be quite misleading, he maintained, and insisted that those involved with data collection work out methods to "individualize" the accounts so that the actual earnings of each worker would be properly reported.⁶

It took many years for the Bureau's occupational wage surveys in major industries and in particular areas of the country to solve some of these problems. Indeed, the average earnings series from the BLS Current Employment Statistics program, a monthly Federal-State cooperative survey of business establishments, is still based on aggregate earnings and employment figures collected from company payroll records.

This BLS business survey was also the basis of some of the country's earliest efforts to estimate the number of workers who had lost their jobs. Long before the Current Population Survey, which today provides both employment and unemployment data from households, was begun by the Works Progress Administration, BLS reports on payroll em-

ployment constituted the most important source of continuing information on the number of workers in the country. Indeed, when the Congress requested unemployment figures from the Secretary of Labor, he turned to the Bureau of Labor Statistics for an estimate. Pointing to the differences between unemployment and a reduction in payroll employment, the Bureau responded with an estimate of the "shrinkage in employment" as measured in its business survey.⁷ A reading of this history sometimes helps to put into context the problems we have in explaining some of the differences between the current estimates from the household survey and the business survey.

With the Great Depression and the New Deal of Franklin Roosevelt came development of a system of social benefits, as well as landmark labor legislation such as the Wagner-Peyser Act, the Fair Labor Standards Act, and the National Labor Relations Act. Later, World War II brought government wage and price stabilization programs. The BLS refined and expanded its activities to provide data needed for these new initiatives. The number of occupational industry wage surveys was increased, a system of area wage surveys was inaugurated, and a comprehensive approach to information on and for collective bargaining was put in place.

The record of recent years

During the Commissionership of Geoffrey Moore (1969–73), a new and innovative approach was established for analysis of wage developments with publication of the BLS Employment Cost Index (ECI). The ECI, a Laspeyres index based on a fixed-employment-weighted market basket of occupations in establishments, controls for both occupational and employment shifts over time. The index—which filled an important void in the Nation's economic intelligence system—has become increasingly important as the structure of earnings has shifted from reliance on wage rates to greater emphasis on nonwage compensation or fringe benefits.

The ECI needs expansion—in occupations, establishments, industries, and areas—for economic and social analysis to be made available to users. We are currently developing plans at BLS to reweight the ECI, to expand its detail in the service-producing sector, and to find methods to provide levels, as well as rates of change, for employer costs of wages and fringe benefits.

We at BLS have not forgotten our heritage. We understand the need for revising and rescaling our programs to provide the kind of data required for modern collective bargaining as well as for analysis of economic and social developments at the micro level. Although budget cuts during recent years forced some retrenchment in the BLS industrial relations and collective bargaining programs, we nevertheless continue to provide a large body of data bearing on issues in labor-management relations. Our quarterly series on major collective bargaining settlements in private industry continues to reflect the results of successful labor-management ne-

gotiations. This series was recently supplemented with a semiannual series on settlements in State and local government bargaining units with 1,000 employees or more.

We have also maintained our monthly *Current Wage Developments* reports on individual bargaining settlements and major work stoppages, as well as our collective bargaining agreement public reference file. In addition, we began publishing data on union membership from the Current Population Survey (CPS) in January 1985. This set of data from the household survey permits analysis relating union membership to the rich body of demographic data collected in the CPS.

In spite of this work, however, we know that more data are needed. Collective bargaining is a dynamic process, and our programs must keep abreast of important changes. We have asked both our business and our labor advisory committees for advice on their data needs for collective bargaining. We believe that the collective bargaining process can take place fairly only when decisions are made in a knowledgeable atmosphere. A new initiative is required, based upon the needs of both business and labor, which takes account of the conditions under which collective bargaining is conducted today. I believe that development of new measures in this area is very much in the public interest.

We also need to know more than we now do about changes in employer practices and conditions of employment. More attention needs to be given to the collection of an integrated set of data covering wage and employment conditions for analysis that can be accomplished in a longitudinal framework.

Information on the safety and health of the workplace is now, and will continue to be, an essential element in improving conditions of work. We have recently begun to work more closely with the National Institute for Occupational Safety and Health and the National Center for Health Statistics to coordinate available data sources and to develop long-range improvement plans.

Outlook

The Bureau of Labor Statistics is now 100 years old. Its program over the past century has changed with the times. The Bureau began by producing a large body of information touching on most of the social and economic issues of the labor markets of the time. Over the years, the Bureau's output has moved from the collection of data on social issues to the development of information on economic problems, from one-time publication of statistics on particular industries in a few cities to regular time series for the Nation as a whole. Through the years, the pendulum of focus has swung back and forth between social data and economic data and between micro and macro series.

The Bureau has been faced with the problem of setting priorities for use of limited resources in a period of increasing use of statistics in public policy programs. At the same time, there has been increasing demand for data by a pop-

ulation concerned with understanding the complex issues that confront the country as well as by traditional groups of data users. A 1.0-percent change in the Consumer Price Index, originally developed for wage adjustment, now triggers \$2 billion to \$2.5 billion in Federal expenditures for entitlement programs.⁸ Published unemployment rates determine the allocation of Federal funds to States and local areas. BLS average earnings and producer price series are used to escalate payments in long-term defense contracts. Over the last two decades, as the uses of BLS data have grown, the Bureau has been reassessing its priorities and spending more time and money than before to modernize and to improve the quality of some of its series.

During the last 100 years, the Bureau of Labor Statistics

has, I believe, contributed to an understanding of labor conditions themselves and to the effective functioning of wage determination and collective bargaining. We have just begun the Bureau's second century. As we move forward, we need to act rapidly to keep our data systems relevant and accurate. The world of the labor market changes quickly. It is only by providing a data base that reflects these social and economic changes, as well as the most modern state of the statistical art, that the Bureau can fulfill its basic mission to provide the country with "information upon the subject of labor, its relation to capital, the hours of labor and the earnings of laboring men and women, and the means of promoting their material, social, intellectual and moral prosperity." □

—FOOTNOTES—

¹ Commissioner of Labor Caroll Wright to Secretary Teller, Feb. 4, 1885, National Archives Record Group 48.

² *First Annual Report, Industrial Depressions* (U.S. Bureau of Labor, 1886), pp. 290-93.

³ *Congressional Record*, 48th Cong., 1st sess., Apr. 19, 1884, p. 3140.

⁴ *First Annual Report*, second series (Connecticut Bureau of Labor Statistics, 1885), p. 3.

⁵ *Fourth Annual Report, Working Women in Large Cities* (U.S. Bureau of Labor, 1888), p. 10.

⁶ National Convention of Chiefs and Commissioners of the Various Bureaus of Statistics of Labor in the United States, *Proceedings* (1889), p. 20.

⁷ Secretary of Labor to the President of the Senate, Aug. 12, 1921, and Stewart to the Secretary of the same date, file 20/145, National Archives Record Group 174; and *Congressional Record*, 70th Cong., 1st sess., Mar. 26, 1928, p. 5337.

⁸ Congressional Budget Office, *Indexing with the Consumer Price Index: Problems and Alternatives* (June 1981), p. xiii.

September publication planned for book about BLS

A book-length history of the first hundred years of the Bureau of Labor Statistics is scheduled for publication in September. The book is the product of 4 years of research by historians Joseph P. Goldberg and William T. Moye, who had access to the records of the Bureau, consulted other public and private collections, and interviewed recent commissioners, secretaries of labor, and others familiar with the work of the Bureau.

The book traces the careers of the Bureau's ten commissioners and reports on the development of the Bureau's programs, statistical breakthroughs, and public controversies.

The First Hundred Years of the Bureau of Labor Statistics will be available for sale by the Government Printing Office in both hard-bound and soft-bound editions. The *Review* will report price and ordering information as soon as these are available.

Measuring labor force flows: a special conference examines the problems

A large number of persons move into and out of the labor force and to and from employment and unemployment each month, but measurement of these flows is difficult; labor force experts and statisticians gathered to discuss the problems and suggest solutions

PAUL O. FLAIM AND CARMA R. HOGUE

Evidence accumulated in recent decades indicates that the American labor market is very dynamic, with millions of persons entering and leaving it each month. In addition, large flows are known to occur strictly within the labor force, as many workers move from employment to unemployment and vice versa. However, the volume of these flows—which are largely offsetting—cannot be determined from the data published monthly on the size of the labor force and its principal components. The statistics published monthly are “stock” measurements, which tell us only what “net” changes, if any, there have been in the levels of employment and unemployment, in the counts of persons outside the labor force, and in the various components of each of these groups.

To determine how many persons are flowing back and forth among these groups each month—regardless of what happens to the size of the groups—one must dig deeper and turn to special data on “gross” flows. Unfortunately, these data have proven difficult to analyze and explain and have been little used. As a result, we know little about the exact size of the *gross* monthly changes which lie behind the ups and downs in our widely used labor force statistics.

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Although little used, statistics on gross labor force flows have been tabulated in considerable detail for decades. They have been derived from the same source—the Current Population Survey (CPS)—which provides the monthly “stock” measurements of the labor force and its principal components. These gross flow (or gross change) tabulations indicate, among other things, how many persons join the ranks of the jobless each month and what their status was the previous month (that is, employed or not in the labor force). Likewise, they also show how many persons leave the ranks of the unemployed each month and what their labor force status is the following month.

To provide a simple illustration of the analytical potential of these data, take a hypothetical month when the published data (stock measurements) may show a net decline of 100,000 in unemployment, say from 5.0 million to 4.9 million. The gross flow tabulations, which indicate how much turbulence lies behind this change, may show it as having taken place in a climate of relative stability, say with 300,000 persons leaving unemployment and 200,000 entering it. On the other hand, the data may show a much higher degree of turnover, with 3.0 million persons leaving unemployment and 2.9 million persons becoming newly unemployed. Especially for policy purposes, it is most useful to know what proportion of the persons who are unemployed in a given month are also jobless the following month, what proportion find

jobs, and what proportion leave the labor force. The actual gross flow statistics generally have been showing very large movements into and out of unemployment—even in periods when regular published data have shown only modest net changes in the level and rate of joblessness. But there are problems with the numbers.

The main problem with the gross flow statistics from the CPS—and the main reason why they have been used so little—is that they generally show movements into and out of the various labor force categories which, when balanced out, do not yield the same net changes as are shown by the published data. What is even more disturbing is the fact that the net changes that one may derive from the gross flow statistics have often differed from the official net changes not only in magnitude, but even direction, or sign.¹

There are two principal reasons for the discrepancies between the published data and gross flow tabulations. The most important reason is that the flow calculations must be limited to only a subset of the CPS—the persons whose labor force status has been determined for at least 2 consecutive months (a proportion that can never exceed three-fourths of the sample). Because there are some small but systematic differences between the labor force behavior reported by these persons and that reported by the entire sample (these differences are discussed later), it is unavoidable that there will also be some systematic differences between the net changes implicit in the gross flow data and those derived from the published stock data. A second reason for the differences is that a variety of problems which will always be present to some extent in a survey as large as the CPS—response variability, nonresponses, mover effects, coding errors, and so forth—have a much greater impact on the gross flow data than they have on the stock measurement. In any case, the consensus is that the gross flow data as computed from the CPS tend to overstate the actual amount of movements, and that they seem to do so particularly in terms of the flows out of the labor force.

Evidence of this inconsistency problem was discovered long ago, and, primarily because of it, publication of the gross flow statistics was actually suspended for three decades beginning in 1953. While the data remained available to researchers, and while their publication has now been resumed on an annual basis,² their use is still handicapped by the problems noted above. To address these problems and to seek some viable solutions, the Bureau of Labor Statistics and the Bureau of the Census convened a special conference of labor force experts and statisticians in 1984. This article summarizes the results of this conference, but first it examines the current status of the flow data, their historical developments, and the various problems encountered with their use.

Size of the flows

The gross flow statistics for 1984 indicate that the movements of persons into and out of the labor force are many

times larger than the measured net changes for any month. To illustrate, take the changes which these statistics show to have occurred between August and September. The published “stock” data showed a labor force decline of 1,233,000 representing principally the seasonal outflow of students from summer jobs and their return to school. It is in terms of this change (in data that have not been seasonally adjusted) that the gross flow data should be examined.³

The key gross flow data for any 2-month period can be condensed into a 3 × 3 table showing the number of persons employed, unemployed, or out of the labor force in the initial month in terms of their status the following month. For the August and September 1984 period, the 3 × 3 table would have looked as follows (numbers in thousands):

Status in August	Status in September		
	Employed	Unemployed	Not in labor force
Employed	100,212	1,787	4,702
Unemployed	2,080	4,092	1,748
Not in labor force	3,266	1,740	57,136

If no one had changed labor force status between these months, all the values in the table would have been entered in the three cells on the (shaded) diagonal line running from the upper left to the lower right. The values off of the diagonal line represent persons whose labor force status, as observed in the CPS, changed between the 2 months. We see, for example, that of the 106.7 million persons who were employed in August, 100.2 million were still employed the following month, 1.8 million had become unemployed, and 4.7 million had left the labor force. Of the 7.9 million who were unemployed in August, 4.1 million were still unemployed in September, while 2.1 million had gotten jobs and 1.7 million had left the labor force. In other words, nearly as many persons were recorded as having left the unemployed universe as remained. And, finally, of the 62.1 million persons who were outside the labor force in August, 57.1 million were still out the following month, while 1.7 million were reported as looking for work and 3.3 million became employed.

The total movements into and out of the labor force between the 2 months can be quickly estimated from the off-diagonal cells in the 3 × 3 table—specifically the column and row on persons not in the labor force. These cells show the following August–September movements:

Persons entering the labor force	5,006,000
Persons leaving the labor force	6,450,000
Net change based on gross flow data	-1,444,000

In this particular case, the net change in the civilian labor force as derived from the gross flow statistics exceeds the net change in the stock data (-1,233,000) by about 200,000. Such a difference, while bothersome, is probably tolerable given (1) the fact that the gross flow data are drawn from only a subset of the CPS sample and (2) the particularly large

magnitude of the movements which the gross flow statistics measured over this period. Note that they showed 5 million persons entering the labor force and nearly 6.5 million leaving it. Thus, the discrepancy between the two sets of data for this particular period amounts to no more than 3 percent of the outflows and may be regarded as of acceptable magnitude. Unfortunately, the discrepancies between the two sets of data for all other months of 1984 were considerably larger.

The average month-to-month gain in the civilian labor force during 1984 was about half a million smaller (or the decline half a million larger) as computed from the gross flow tables, than as shown by the published monthly data. (See table 1.) In fact, had the gross flow data been used to compute the *cumulative* change in the labor force over the December 1983–December 1984 period, they would have yielded a *decline* of 3.7 million—this over a period when the labor force had posted an *increase* of 2.2 million.

On the basis of these numbers, one would have to conclude that in the calculation of the gross flows, there is either a large underestimation of the entries into the labor force or a large overestimation of the exits, or a combination of the two phenomena.

Movements within the labor force

It should be noted that, in addition to measuring the flows into and out of the labor force, the gross flow data are also of much interest because of what they tell us about flows occurring strictly within the labor force, particularly between the employed and unemployed components. Focusing again on the flows between August and September 1984, we find the following:

Persons moving from:

Employment to unemployment	1,787,000
Unemployment to employment	2,080,000

Although these numbers do not exhaust all the possible movements into and out of employment and unemployment—as many of these originate and wind up outside the labor force—they serve nevertheless to highlight the fluidity of the employment situation in the United States. Note that these movements occurred over a period which saw little change in the unemployment situation for the Nation (with the unemployment rate, not seasonally adjusted, edging down .2 percentage point, from 7.3 percent in August to 7.1 percent in September).

A more complete picture of the labor force flows for 1984 is presented in table 2, which also contains data for men and women. Note, for example, the large numbers of persons, both men and women, flowing into the labor force in June, as schools closed, increasing both the employment and unemployment counts. Note also that while men are more likely to move to and from employment and unemployment without leaving the labor force, women are much more likely to enter and exit through the not-in-the-labor-force avenue. Perhaps even more importantly, the table

Table 1. Net changes in the civilian labor force during 1984

(In thousands)

Month	Published data	Gross flow data	Difference
January	-770	-1,298	528
February	343	-34	377
March	460	-95	555
April	324	-91	415
May	1,099	388	711
June	2,142	1,344	798
July	805	153	652
August	-1,122	-1,443	321
September	-1,233	-1,444	211
October	407	-33	440
November	-135	-667	532
December	-87	-500	413
Total	2,233	-3,720	5,953

shows that a very large proportion of the persons who are unemployed in any given month are no longer unemployed the following month. On average, more than one-third of the men and nearly one-half of the women who were unemployed in a given month during 1984 were shown by the gross flow data to have found jobs or to have left the labor force by the following month. This implies a very large turnover among the unemployed, even if we allow, as we must, for the fact that the data overstate the actual magnitudes of flows.

Why publication was suspended

Gross flow statistics were developed very early in the history of the CPS and were published monthly through the early 1950's. However, as already noted, researchers in labor force dynamics soon discovered serious problems of inconsistency between the changes in the published labor force levels and the changes obtained by balancing out the inflows and outflows in the monthly gross flow tables. In particular, it became evident that, for reasons which are discussed later, the flow data tended to overstate the amount of monthly flows out of the labor force.

But there were yet other reasons which led to the suspension of the publication of gross flow statistics in 1953. Above all, the sampling plan used in the Current Population Survey was radically altered that year. Until then, the households selected for the sample were interviewed for only 6 consecutive months. In the sampling pattern adopted in 1953 and still in effect, a household is interviewed for 4 months, leaves the sample for 8 months, and returns for another 4 months, with one-fourth of the sample being replaced each month. (This means that only three-fourths of the households in the sample in any given month have also been in the sample the previous month, and the computation of the gross flow data must be limited to these matched cases.) Other changes introduced in 1953 involved the data processing procedures, the estimation procedure, and the geographic design of the sample. With all of these changes taking place, publication of the gross flow estimates was temporarily suspended. But because the basic problems of

inconsistency with the official stock data seemed to persist, publication of these estimates was not resumed even after all these changes were fully implemented.

Over the ensuing years, two presidential committees examined this issue. In 1962, the President's Committee to Appraise Employment and Unemployment Statistics (known as the Gordon Committee) urged that the problems be thoroughly researched so that publication of the gross flow data could be resumed.⁴ Although some research was subsequently done, the inconsistency problems proved intractable and regular publication was not resumed.⁵ In 1979, the National Commission on Employment and Unemployment Statistics re-examined the gross flow statistics and—after reviewing a paper which referred to them as “The Neglected Data Base”—recommended once more that the Bureau of the Census and the Bureau of Labor Statistics refine the estimation of these data and resume their publication.⁶ Pursuant to this recommendation, publication was resumed on an annual basis, but without any adjustments to the data. Thus, the basic problems of inconsistency with the net changes

and possible overestimation of the flows remained unsolved.

The problems

Several factors, including response variability in the CPS, the effects of conditioning on responses, noninterview and mover effects, and matching and clerical errors, have been identified as possible reasons for the inconsistency between the gross flows and the net changes and for the possible overstatement of flows. These factors were studied in detail by the participants in the July 1984 conference and are reviewed briefly below.

Exclusion of noninterviews and movers. In the CPS, the changes in labor force status from one month to the next can be observed only in households that have been in the sample for at least 2 months. In any given month, one-fourth of the households are either totally new to the CPS sample or are reentering it after an 8-month hiatus. Therefore, labor force movements can, at best, be recorded for only three-fourths of the persons in the sample.

Table 2. Labor force status in reference month by status in previous month, 1984

Reference month	Status of persons who were employed in previous month				Status of persons who were unemployed in previous month				Status of persons who were not in labor force in previous month			
	Total	Still employed	Unemployed	Not in labor force	Total	Employed	Still unemployed	Not in labor force	Total	Employed	Unemployed	Still not in labor force
<i>Total (thousands)</i>												
January	103,679	97,876	2,268	3,535	8,618	1,610	5,183	1,825	63,236	2,314	1,748	59,174
February	101,447	96,920	1,822	2,705	9,486	2,217	5,478	1,791	64,746	2,598	1,864	60,285
March	102,278	98,217	1,535	2,526	9,061	2,009	5,318	1,733	64,485	2,432	1,732	60,322
April	103,003	99,044	1,366	2,593	8,943	2,178	5,054	1,711	64,023	2,372	1,841	59,810
May	104,166	99,926	1,462	2,778	8,228	2,036	4,601	1,592	63,728	2,985	1,773	58,969
June	105,421	99,841	1,857	3,722	7,787	2,250	4,013	1,525	63,076	4,340	2,251	56,485
July	107,237	102,010	1,855	3,372	8,292	2,219	4,407	1,665	60,910	3,230	1,960	55,720
August	107,428	101,163	2,029	4,236	8,423	2,310	4,241	1,872	60,732	2,941	1,724	56,068
September	106,701	100,212	1,787	4,702	7,920	2,080	4,092	1,748	62,142	3,266	1,740	57,136
October	105,835	101,071	1,726	3,037	7,785	2,003	4,093	1,690	63,336	2,844	1,850	58,642
November	106,626	101,525	1,828	3,273	7,803	1,877	4,110	1,817	62,706	2,750	1,673	58,284
December	106,484	102,208	1,549	2,727	7,686	1,435	4,604	1,647	63,136	2,336	1,538	59,262
Men												
January	58,077	55,285	1,443	1,349	5,031	1,030	3,266	736	20,094	917	747	18,430
February	56,995	54,707	1,244	1,044	5,639	1,389	3,474	777	20,637	974	729	18,934
March	57,250	55,302	993	955	5,333	1,269	3,363	702	20,754	1,060	731	18,963
April	57,722	55,837	881	1,005	5,178	1,354	3,079	745	20,504	904	775	18,825
May	58,471	56,566	855	1,049	4,671	1,290	2,732	649	20,337	1,201	721	18,415
June	59,457	57,153	1,127	1,177	4,249	1,356	2,305	589	19,849	2,071	1,007	16,771
July	61,069	58,724	1,143	1,202	4,463	1,258	2,536	668	18,096	1,179	763	16,154
August	61,247	58,335	1,149	1,763	4,472	1,335	2,340	797	17,975	1,057	608	16,310
September	60,994	57,717	1,106	2,171	3,913	1,077	2,179	658	18,873	1,050	626	17,197
October	59,873	57,527	1,057	1,290	4,125	1,116	2,276	732	19,884	1,009	717	18,158
November	59,998	57,480	1,244	1,274	3,917	999	2,210	708	20,056	1,079	718	18,259
December	59,691	57,518	1,081	1,093	4,111	817	2,662	631	20,255	926	694	18,635
Women												
January	45,602	42,591	825	2,186	3,586	580	1,917	1,089	43,142	1,397	1,001	40,744
February	44,452	42,213	577	1,661	3,847	829	2,004	1,014	44,110	1,624	1,135	41,350
March	45,028	42,915	542	1,571	3,727	741	1,955	1,032	43,731	1,372	1,000	41,359
April	45,281	43,207	485	1,589	3,765	823	1,975	966	43,519	1,468	1,066	40,984
May	45,696	43,360	607	1,729	3,557	746	1,869	943	43,390	1,784	1,052	40,554
June	45,964	42,688	730	2,545	3,538	894	1,708	937	43,227	2,269	1,244	39,714
July	46,168	43,287	712	2,169	3,829	961	1,871	997	42,814	2,051	1,198	39,565
August	46,181	42,828	880	2,473	3,951	975	1,901	1,075	42,757	1,883	1,116	39,757
September	45,706	42,494	682	2,531	4,006	1,003	1,913	1,090	43,269	2,216	1,114	39,939
October	45,961	43,545	670	1,747	3,661	887	1,817	957	43,452	1,835	1,134	40,484
November	46,627	44,044	584	1,999	3,886	878	1,900	1,109	42,651	1,670	955	40,026
December	46,793	44,690	468	1,635	3,575	617	1,942	1,016	42,881	1,410	844	40,627

Table 2. Continued—Labor force status in reference month by status in previous month, 1984

Reference month	Status of persons who were employed in previous month				Status of persons who were unemployed in previous month				Status of persons who were not in labor force in previous month			
	Total	Still employed	Unemployed	Not in labor force	Total	Employed	Still unemployed	Not in labor force	Total	Employed	Unemployed	Still not in labor force
Total (percent)												
January	100.0	94.4	2.2	3.4	100.0	18.7	60.1	21.2	100.0	3.7	2.8	93.6
February	100.0	95.5	1.8	2.7	100.0	23.4	57.7	18.9	100.0	4.0	2.9	93.1
March	100.0	96.0	1.5	2.5	100.0	22.2	58.7	19.1	100.0	3.8	2.7	93.5
April	100.0	96.2	1.3	2.5	100.0	24.4	56.5	19.1	100.0	3.7	2.9	93.4
May	100.0	95.9	1.4	2.7	100.0	24.7	55.9	19.3	100.0	4.7	2.8	92.5
June	100.0	94.7	1.8	3.5	100.0	28.9	51.5	19.6	100.0	6.9	3.6	89.6
July	100.0	95.1	1.7	3.1	100.0	26.8	53.1	20.1	100.0	5.3	3.2	91.5
August	100.0	94.2	1.9	3.9	100.0	27.4	50.4	22.2	100.0	4.8	2.8	92.3
September	100.0	93.9	1.7	4.4	100.0	26.3	51.7	22.1	100.0	5.3	2.8	91.9
October	100.0	95.5	1.6	2.9	100.0	25.7	52.6	21.7	100.0	4.5	2.9	92.6
November	100.0	95.2	1.7	3.1	100.0	24.1	52.7	23.3	100.0	4.4	2.7	92.9
December	100.0	96.0	1.5	2.6	100.0	18.7	59.9	21.4	100.0	3.7	2.4	93.9
Men												
January	100.0	95.2	2.5	2.3	100.0	20.5	64.9	14.6	100.0	4.6	3.7	91.7
February	100.0	96.0	2.2	1.8	100.0	24.6	61.6	13.8	100.0	4.7	3.5	91.7
March	100.0	96.6	1.7	1.7	100.0	23.8	63.1	13.2	100.0	5.1	3.5	91.4
April	100.0	96.7	1.5	1.7	100.0	26.1	59.5	14.4	100.0	4.4	3.8	91.8
May	100.0	96.7	1.5	1.8	100.0	27.6	58.5	13.9	100.0	5.9	3.5	90.5
June	100.0	96.1	1.9	2.0	100.0	31.9	54.2	13.9	100.0	10.4	5.1	84.5
July	100.0	96.2	1.9	2.0	100.0	28.2	56.8	15.0	100.0	6.5	4.2	89.3
August	100.0	95.2	1.9	2.9	100.0	29.9	52.3	17.8	100.0	5.9	3.4	90.7
September	100.0	94.6	1.8	3.6	100.0	27.5	55.7	16.8	100.0	5.6	3.3	91.1
October	100.0	96.1	1.8	2.2	100.0	27.1	55.2	17.7	100.0	5.1	3.6	91.3
November	100.0	95.8	2.1	2.1	100.0	25.5	56.4	18.1	100.0	5.4	3.6	91.0
December	100.0	96.4	1.8	1.8	100.0	19.9	64.8	15.3	100.0	4.6	3.4	92.0
Women												
January	100.0	93.4	1.8	4.8	100.0	16.2	53.5	30.4	100.0	3.2	2.3	94.4
February	100.0	95.0	1.3	3.7	100.0	21.5	52.1	26.4	100.0	3.7	2.6	93.7
March	100.0	95.3	1.2	3.5	100.0	19.9	52.5	27.7	100.0	3.1	2.3	94.6
April	100.0	95.4	1.1	3.5	100.0	21.9	52.5	25.7	100.0	3.4	2.4	94.2
May	100.0	94.9	1.3	3.8	100.0	21.0	52.5	26.5	100.0	4.1	2.4	93.5
June	100.0	92.9	1.6	5.5	100.0	25.3	48.3	26.5	100.0	5.2	2.9	91.9
July	100.0	93.8	1.5	4.7	100.0	25.1	48.9	26.0	100.0	4.8	2.8	92.4
August	100.0	92.7	1.9	5.4	100.0	24.7	48.1	27.2	100.0	4.3	2.6	92.0
September	100.0	93.0	1.5	5.5	100.0	25.0	47.8	27.2	100.0	5.1	2.6	92.3
October	100.0	94.7	1.5	3.8	100.0	24.2	49.6	26.1	100.0	4.2	2.6	93.2
November	100.0	94.5	1.3	4.3	100.0	22.6	48.9	28.5	100.0	3.9	2.2	93.8
December	100.0	95.5	1.0	3.5	100.0	17.3	54.3	28.4	100.0	3.3	2.0	94.7

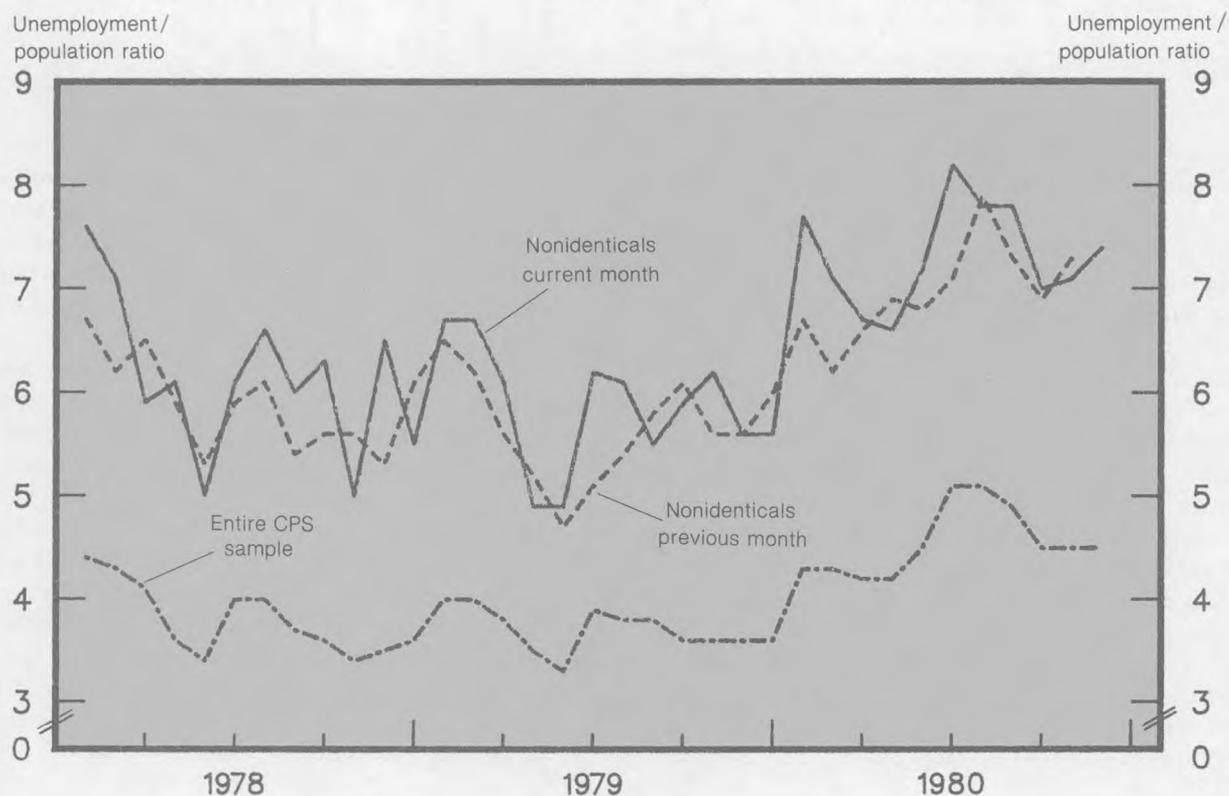
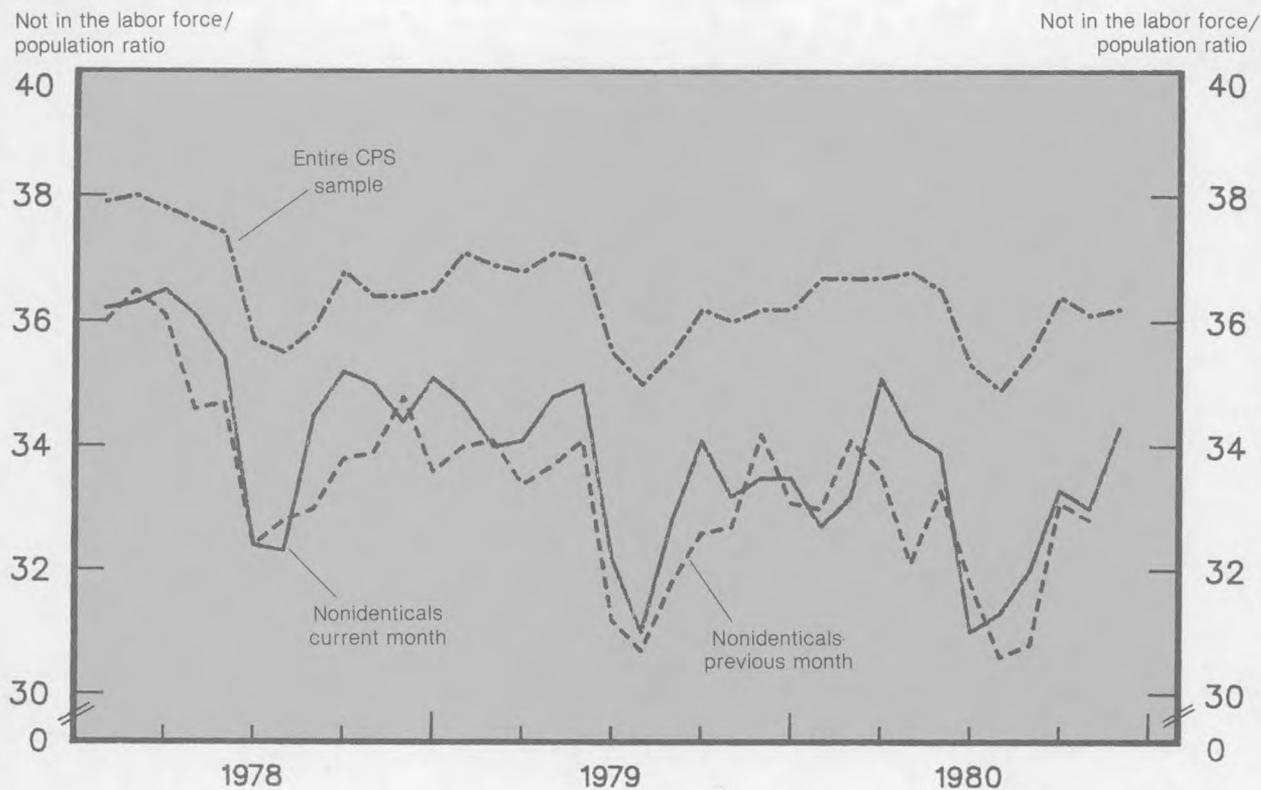
But even within the three-fourths of the sample that are common for any two months, there are many persons for whom the changes in labor force status cannot be recorded. These are primarily persons who move into and out of sample households during the interview cycle. Because the CPS uses a sample of residential addresses rather than a list of persons, the families or persons who move away from sample addresses drop out of the survey. Meanwhile, the families or persons who might take their places in sample households have to be interviewed for 2 consecutive months before they can contribute any data to the gross flow calculations.

While only 2 percent or fewer of the American people move each month, the exclusion of movers from the gross flow calculations not only decreases the sample but also introduces some bias. As Harvey Hilaski showed in 1968, movers are generally younger and have higher unemployment rates.⁷ Because such young workers are also generally very mobile in terms of labor force status, the fact that they are not followed in the Current Population Survey may, by

itself, result in a slight underestimate of the total labor force flows. And, in addition to the persons that move permanently, there are those who are temporarily absent from their households during one or more of the interview weeks, or who refuse to cooperate with the interviewer even if they are home. Little is known about the characteristics of these persons.

Chart 1 compares the labor force status of "nonidenticals" (that is, persons who cannot be matched from one month to the next for reasons other than the fact that their address is new to the sample) with the official labor force data for the 1978–80 period. (Note that the rates in the chart are computed using the population—not the labor force—as the denominator.) As shown, nonidenticals have unemployment/population ratios considerably higher than those for the total CPS sample and not-in-labor force ratios that are considerably lower than the published ones. The exclusion of nonidenticals from the gross flow calculations is thus a contributing cause for the discrepancies with the changes in the published labor force totals.

Chart 1. Comparisons of key ratios for persons who cannot be matched from one month to the next (nonidenticals) with same ratios for entire Current Population Survey (CPS) sample



Response variability. Deliberate or inadvertent errors in the responses to CPS questions also plague the gross change data—and may result in large overestimates of the actual flows. Any responsible person over age 14 can answer Current Population Survey questions for the entire household. Thus, inconsistencies may arise because of faulty knowledge on the part of the respondent. Also, respondents may differ from one month to the next, leading to possibly different interpretations of the labor force questions. Changes in the labor force status of household members may thus be reported even when no change has actually taken place. Indeed, even if the same respondent is interviewed for 2 consecutive months, he or she may provide answers which yield a change in labor force classification for a person whose status has not really changed at all.

Rotation group bias. For reasons that have never been fully understood, the findings from the CPS tend to differ in a systematic way among the various month-in-sample groups, particularly with regard to the reported incidence of unemployment. As documented by Barbara A. Bailar in 1975, the households being interviewed for the first time tend to report considerably more unemployment than those being interviewed for a second or third time.⁸ A study of 3 years of data covering the 1973–75 period showed that, on average, the first-month households reported a 10-percent higher incidence of unemployment than was being reported by the entire sample.⁹ And the unemployment reported by households in the fifth month-in-sample group (those returning to the sample after an 8-month absence) was also significantly higher than that reported by households in the sixth through eighth months-in-sample. In other words, many persons reported as unemployed in the first visit to their household by a CPS interviewer (or the first in many months in the case of the fifth month-in-sample group) are subsequently reported as no longer unemployed. And there is also a slight tendency in the same direction in the reporting of employment. It is principally this decrease in “reported” labor force activity after the first (and fifth) interview that leads to systematic overestimation of the outflows from unemployment—and from the labor force in general—in the gross flow tables.

There are many possible reasons for this pattern in the reporting of labor force activity, including the fact that the initial interview is generally conducted in person, whereas subsequent ones are generally conducted by telephone and may involve different respondents and changing probabilities of nonresponse.¹⁰ Among other possible reasons, it has been speculated that respondents are more ill at ease in the initial interview than in subsequent ones, and thus also more likely to exaggerate the reporting of “socially acceptable” activities—such as working or looking for work. It has also been proposed that the rotation group bias in the reporting of unemployment (and, to a lesser extent, employment) may reflect a phenomenon known as “telescoping”. This relates

to the recall of an event that may have occurred 2 or 3 months previously, but which is reported as having occurred much more recently. For example, an event that is rare or traumatic, such as a period of unemployment, may be reported in the first interview even if it had occurred before the actual reference period for the survey. Yet another possible reason for the reporting pattern is the conditioning of respondents (and perhaps even of interviewers) after the initial interview. They may quickly learn the shortest path through the questionnaire and refrain from reporting (or recording) any labor force activity, particularly of the more marginal type, in order to put an end to the interview.¹¹

Whatever the reason for the phenomenon and their relative impact on the data, there is a definite pattern in the reporting of unemployment among the various month-in-sample groups in the CPS. Carma Hogue in 1984 examined the gross change tables for the 1976–81 period, and compared the entries in the tables for the second and eighth month-in-sample groups combined to those for the third, fourth, sixth, and seventh month-in-sample groups combined. (Groups that are in the sample for the third, fourth, sixth, or seventh time are believed to be more stable.) The comparison of the distributions for these groups revealed, with 95 percent confidence, that month-in-sample groups 2 and 8 were significantly different from the others in 40 of the 72 months studied. In the months of May and August, the two groups were always significantly different, confirming the view that, for some reason, the gross change calculations are definitely affected by how long the CPS respondents have been in the sample.

Problems in matching data. In order to produce the paired responses needed for the gross change tables, the records of persons in the CPS are matched from one month to the next on the basis of six household characteristics and four characteristics that are unique to each person. To evaluate the quality of the matching procedure, a special computer match of records for January 1979 with those of February 1979 was done at the Bureau of the Census. In this test, approximately 8 percent of the cases failed to match. A clerical check of all nonmatched cases revealed that inaccurate coding accounted for most of the matching failures.

While a survey of 1982 data showed that the coding had been improved, it must be recognized that, in a survey as large as the CPS, coding errors can never be eliminated entirely. It is thus inevitable that some records will fail the month-to-month match, even when the labor force status is correctly recorded. This problem, coupled with the errors arising from incorrect interpretation of the questions, the miscoding of answers, conditioning, and so forth, have a much greater effect on the gross change data than they have on monthly levels and net changes. While such errors tend to offset each other in the monthly stock measurement, their effect is cumulative in the gross change data, and, on average, results in an overestimate of the monthly flows.

Proposed solutions

Suggestions for solutions to the problems affecting the estimation of gross flow data could be categorized either as alternative forms of estimation or as changes in CPS procedures. At the 1984 conference, there were some suggestions for changes in the way the CPS is conducted, but most of the participants proposed different methods for estimating the gross change data without altering the survey. These alternative estimation procedures—which generally tend to reduce the volume of the flows—are summarized below. A complete version of the papers appears in a volume of the proceedings of the conference. The volume is available from the Bureau of Labor Statistics or the Bureau of the Census.

The simplest adjustment technique presented is iterative proportional fitting (or raking). In this procedure, each of the nine cell entries in the 3×3 gross change tables is adjusted so that the net changes that can be deduced from them are consistent with the changes in the published CPS data. This procedure was applied by Carma Hogue to the flow data for the 1976–81 period. While the adjustment results in flows that are consistent with the changes in the published monthly data, it does not necessarily improve the accuracy of the specific flows.

Jean Vanski reported on an estimation technique she and Ralph Smith used in 1978. Separate equations for the change in employment from one month to the next, for the change in unemployment, and for the change in nonparticipation in the labor force were generated from the full CPS and from the gross change tables. As an example of one of these three equations, the change in the level of unemployment for 2 consecutive months (which is estimated from the full CPS) should be equal to the total number of persons entering unemployment minus the number of persons leaving unemployment. These inflows and outflows are estimated from the gross change tables and are then adjusted through special correction parameters. Smith and Vanski introduced a technique which would account for month-to-month changes in the variable of interest and would correct each of the four flow variables in the equation. In their estimation method, the three identity equations mentioned above are combined in a constrained multivariate regression. One correction factor per flow is estimated. The application of this procedure to data for the 1967–77 period often resulted in a reduction in the flows for adults. However, the flows for teenagers were often increased.

Wayne Fuller and Tin Chiu Chua presented a model which compensates for response errors in the CPS. The model utilizes data from the unreconciled portion of the Reinterview Survey, which is conducted as a quality control in the CPS.¹² Data from interview-reinterview tables, were used to derive a matrix of probabilities that a person will respond one way in the original survey and another way in the reinterview. These response probabilities—which were found to be rather constant over time—were then used to adjust the gross change data for month-to-month changes resulting from re-

sponse errors. Fuller and Chua found a particularly high probability of response error in the distinction between being unemployed or not in the labor force. They suggest that one first rake the gross change tables in order to make the margins consistent with the published data. However, the adjustments for response errors are much larger than the raking adjustment in the Fuller-Chua procedure.

The Fuller-Chua methodology results in much smaller monthly flows out of unemployment than those shown by the unadjusted data from the CPS. (See chart 2.) While their procedure does not greatly reduce the monthly flows from unemployment to employment—which still approach one-fifth of the jobless universe—it yields a radically smaller monthly flow of persons from unemployment to not in the labor force. Conversely, the Fuller-Chua procedure yields

Papers presented at July 1984 Conference on Gross Flows in the Labor Force

Carma R. Hogue, "History of the Problems Encountered in Estimating Gross Flows."

Jean E. Vanski, "Use of Gross Change Data in Assessing Demographic Labor Market Dynamics."

Wayne A. Fuller and Tin Chiu Chua, "Gross Change Estimation in the Presence of Response Error."

James M. Poterba and Lawrence H. Summers, "Adjusting the Gross Changes Data: Implications for Labor Market Dynamics."

John M. Abowd and Arnold Zellner, "Application of Adjustment Techniques to U.S. Gross Flow Data."

Elizabeth A. Stasny and Steven E. Fienberg, "Some Stochastic Models for Estimating Gross Flows in the Presence of Nonrandom Nonresponse."

Gary Solon, "Effects of Rotation Group Bias on Estimation of Unemployment."

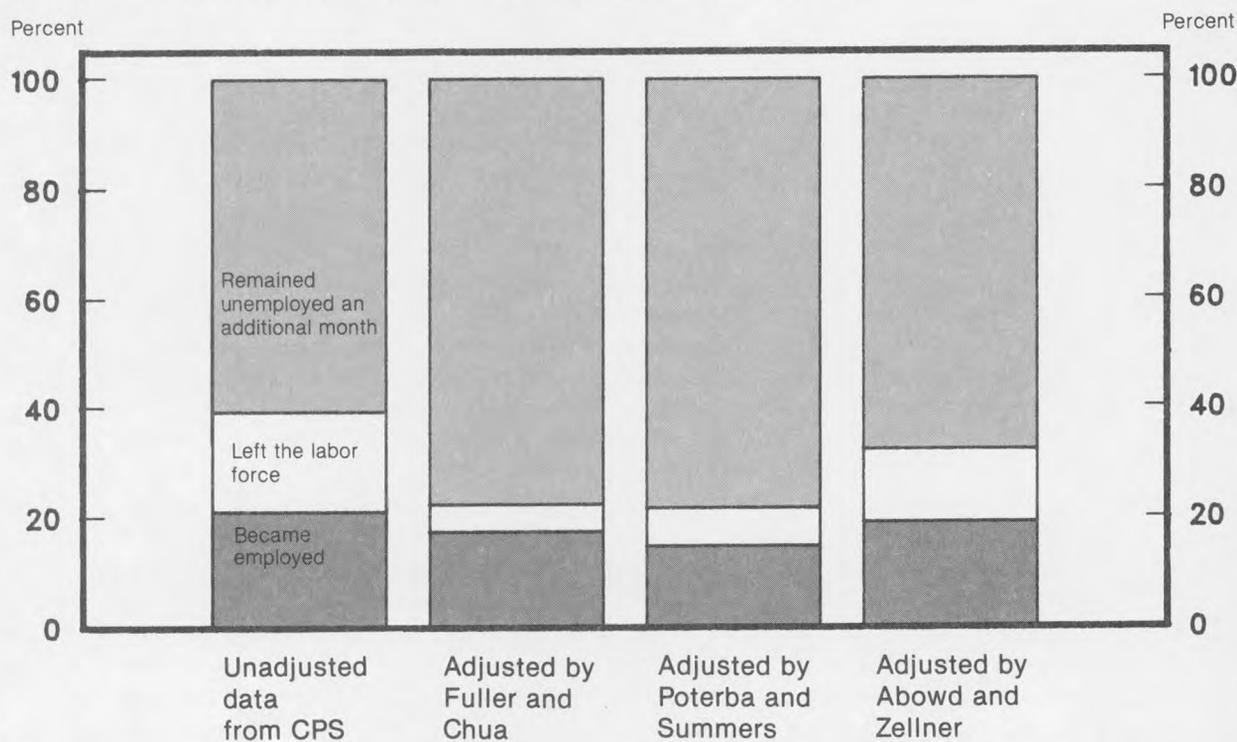
Robert J. McIntire, "Toward More Stable Flows: A Discussion and Initial Investigation of Some Alternatives or Supplements to Monthly Gross Flow Data."

John M. Evans, "Gross Flow Statistics Outside North America: Construction and Use."

Richard Veevers, "Estimating Gross Flows from the Canadian Labour Force Survey."

Carma R. Hogue, "Future Directions in the Estimation of Gross Flows."

Chart 2. Average monthly flows out of unemployment during 1982



a much greater estimate of the average proportion of the unemployed who remained jobless an additional month (77.7 percent) than is shown by the unadjusted data from the CPS (60.6 percent).

Another procedure for correcting the classification errors affecting the gross flows measurements was presented by James Poterba and Lawrence Summers. They estimated the incidence of response errors utilizing data from the CPS Reinterview Survey and recalculated the flow after adjusting for spurious transitions. Poterba and Summers presented separate estimates of response error rates based on the reconciled portion of the CPS Reinterview Survey and for the combined reconciled and unreconciled portions. They found that the reconciled portion of the reinterview program yields overly conservative estimates of the response error. They finally show that when the gross flow data are adjusted on the basis of either of these two rates of response errors, there is a dramatic decrease in the proportion of persons changing labor force status from one month to the next. Their procedure reveals substantial differences across demographic groups in the rates of response errors and in the subsequent adjustment to the flow data. One result is a reduction in the probability of exit from the labor force of about 90 percent for adult men and one-third for teenagers. As with the Fuller-Chua procedure, the Poterba and Summers adjustments would result in much smaller monthly flows out of unemployment. (See chart 2.)

John Abowd and Arnold Zellner presented a procedure which compensates for missing data without assuming that the data are missing at random and which also adjusts for classification error. They first use a "margin adjustment" procedure which is a multiplicative method of allocating missing data to the cells of the gross change table. Their model for adjusting for classification error is based on applying error classification probabilities estimated from the reconciled portion of the CPS Reinterview Survey to the margin adjusted gross flows. This adjustment increases the entries in the diagonal cells of the 3×3 flow table and decreases the entries in the off-diagonal cells, thus reducing the flows. The average adjustment due to missing data varied between -12 percent and 15 percent. The average adjustment for classification error reduced estimates of flows by nearly 50 percent in some cases.

The flows out of unemployment as adjusted on the basis of the proposed Abowd-Zellner procedure are shown in chart 2. While the Abowd-Zellner procedure also reduces the flows out of unemployment relative to those based on the unadjusted CPS data, the reduction is not nearly as large—particularly with regard to the proportion of the unemployed leaving the labor force—as that resulting from the Fuller-Chua or Poterba-Summers adjustments.

Elizabeth Stasny and Stephen Fienberg examined some stochastic models for adjusting the gross flow data for non-response in the CPS. In these models, nonresponse is as-

sumed to be dependent on either the person's month in sample or employment classification. Three models based on different combinations of these two assumptions were presented along with examples of the fitting of these models to 1982 data. Stasny and Fienberg gave the methods for obtaining maximum likelihood estimates for the parameters. Some continuous-time Markov chain models were also introduced, given that changes in labor force status are deemed to occur at any time during the month, rather than the fixed time points of the interview.

Gary Solon discussed the effects of rotation group bias on estimating unemployment. He examined a model of multiplicative biases—which are assumed to vary proportionately in line with the changes in the unemployment level—and estimated their effect on ratio and composite estimators of month-to-month changes in unemployment. The empirical evidence presented in his paper suggests that there is indeed a multiplicative aspect to rotation group bias. Solon also experimented with a mixed multiplicative and additive model and found that, both in this model and in the purely multiplicative model, the ratio and the composite estimators give biased estimates of level and of change.

Robert McIntire discussed some alternative approaches to using the existing gross flow data. He indicated that the measurements of month-to-month flows, in addition to being affected by sampling and response errors, are also a reflection of transitory or insignificant movements, the inclusion of which limits the value of the flow data for analyzing labor force dynamics. He suggested developing flow data spanning longer time periods, focusing on changes in "usual" or "primary" labor force status. He also suggested using approaches that would work at the microdata (or individual respondent) level. To focus on one's status over a longer period, McIntire used data from the March supplement of the CPS, which relate to the usual status over an entire year. He also examined the possibility of comparing one's status in a given month with one's "usual" status over the previous 3 months, as well as a variant using 2-month spans.

John Evans of the Organization for Economic Cooperation and Development discussed the gross flow data available in other countries. He noted that very few countries outside the United States and Canada have published flow data from household surveys. Only Australia publishes such data on a regular basis. The Nordic countries are beginning a joint research project in this area. Italy has also carried out experiments in constructing flow statistics from matched samples. Evans added that most European countries have unemployment registration systems which yield fairly reliable gross flow data, but which lack demographic detail.

Richard Veevers of Statistics Canada reported on research designed to increase the quality of the gross flow data from the Canadian Labour Force Survey. He noted that Statistics Canada produces a 4×4 table in which the data for a given month on the employed, unemployed, persons not in the labor force, and nonmatched persons are cross-classified

with similar characteristics for the subsequent month. He explained that iterative proportional scaling is used to rake the data in the flow tables so as to make them consistent with the changes in the stock data, but added that the data are still subject to errors arising from sampling variability, misclassification, and rotation group bias.

Recommendations for procedural changes

In addition to proposing new ways for computing the flows, several participants at the conference suggested various changes in the way the CPS is conducted. For example, it was proposed that, in the reinterview program, a sample of persons be reinterviewed for 2 consecutive months. It was also suggested that fewer of these interview results be reconciled with the original interviews and that questions emphasizing change in status from one month to the next be used to check the effect of changing coders, respondents, and so forth.

Other suggestions were aimed at gathering information on persons for whom data are missing for some of the survey months. These included (1) calling movers after receiving a change of address card from them, (2) asking retrospective questions of persons moving into sample households after the first of the four interviews in each of the two 4-month stints of the CPS interview cycle, and (3) supplying CPS interviewers with the names and ages of all persons who were interviewed at the household the previous month with instructions to obtain labor force data for the same persons, thus minimizing the possibility of nonmatches or erroneous matching in the gross flow calculations.

Other participants suggested assigning unique identification numbers to each person in the sample in order to facilitate the matching procedure. This would reduce the number of nonmatches and incorrect matches. The use of computer assisted telephone interviewing, which is structured so as to maximize consistency in the interviewing process, was also mentioned as a possible way to both ease the burden of recordkeeping and provide better quality data.

FURTHER RESEARCH IN THE MEASUREMENT of labor force flows is planned by the Bureau of the Census and the Bureau of Labor Statistics. This will include testing the various adjustment methods proposed by the conference participants. Some research on flows will also be conducted with data from the Survey of Income and Program Participation, in which changes in labor force status are tracked over a 2½-year period. Out of this research and the further work being carried on by some of the participants in the 1984 conference, a way should be found over the next few years to finally exploit the great potential of the gross flow statistics—"the neglected data base." □

—FOOTNOTES—

¹ See Harvey J. Hilaski, "The Status of Research on Gross Changes in the Labor Force," *Employment and Earnings*, October 1968.

²Publication of gross flow data was resumed in 1982 by means of a report entitled "Gross Flow Data from the Current Population Survey, 1970-1980," available from the National Technical Information Service.

³Because the data on gross flows have never been seasonally adjusted, they cannot be compared with the changes in the seasonally adjusted labor force levels, which increased by about 200,000 between August and September 1984.

⁴President's Committee to Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment* (Government Printing Office, 1962.)

⁵See Hilaski, "The Status of Research." See also Robert B. Pearl, "Gross Change in the Labor Force: A Problem in Statistical Measurement," *Employment and Earnings*, April 1963; Thomas F. Bradshaw, *Employment in Perspective: A Cyclical Analysis of Gross Flows in the Labor Force*, Report 508 (Bureau of Labor Statistics, 1977); and Ralph E. Smith and Jean I. Vanski, "The Volatility of the Teenage Labor Market: Labor Force Entry, Exit, and Unemployment Flows," in *Conference Report on Youth Unemployment: Its Measurement and Meaning* (Government Printing Office, 1978).

⁶National Commission on Employment and Unemployment Statistics, *Counting the Labor Force* (Government Printing Office, 1979.)

⁷Hilaski, "The Status of Research."

⁸Barbara A. Bailar, "The Effect of Rotation Group Bias on Estimates from Panel Surveys," *Journal of the American Statistical Association*, March 1975, pp. 23-30.

⁹See discussion of rotation group bias in *The Current Population Survey: Design and Methodology*, Technical Paper 40 (Department of Commerce, Bureau of the Census, January 1978), pp. 83-85.

¹⁰W.H. Williams and C.L. Mallows, "Systematic Biases in Panel Surveys due to Differential Nonresponse," *Journal of the American Statistical Association*, September 1970, pp. 1338-49.

¹¹See Herbert S. Parnes, "Longitudinal Surveys: Prospects and Problems," *Monthly Labor Review*, February 1972, pp. 11-15. Parnes examined a different type of conditioning, the Heisenberg Principle, according to which a person may actually be influenced to modify his or her labor force behavior because of the very questions asked in the survey. For example, a nonworker who is merely contemplating the possibility of looking for a job may decide to actually seek work after being questioned about any employment or jobseeking activity.

¹²Each month, about 1 in 18 of the households in the CPS sample are reinterviewed as part of a quality control program. The reinterviews are conducted by senior interviewers or supervisors. When differences arise between the information provided in the original interview and that from the reinterview, a reconciliation is performed. However, in 20 percent of the cases, the reinterviewer is not provided any information from the original interview and no reconciliation is performed. This yields a more unbiased view of the differences in the information gathered in the two surveys than can be obtained when the reinterviewer has the information from the previous interview. In the latter case, there appears to be a tendency to minimize the differences, even before any reconciliation is attempted.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Foreign born in the U.S. labor market: the results of a special survey

New data from the Current Population Survey confirm that recent arrivals encounter labor market hardship, but as time passes their employment and earnings approach the levels of native-born workers

ELLEN SEHGAL

The labor market experiences of the foreign born are part of the "success story" of America. Studies of the foreign born show patterns of economic difficulties in the first years after arrival, but substantial upward mobility thereafter. For example, analyzing 1970 Census data, Barry Chiswick found that foreign-born men tend to reach earnings equality with their U.S.-born counterparts in a little over a decade, and after that, they actually have higher earnings.¹ Recent data from the Current Population Survey (CPS) on foreign-born U.S. residents provide further confirmation of these earlier findings.

The CPS data show striking similarities between the native-born population and the foreign born who entered the country from 1960 to 1979 with regard to their work experience during 1982. For example, among both groups, about 65 percent had worked at least some time during that recession year, of whom more than half managed to work full time the whole year. Another similarity was that for both groups the proportion experiencing some unemployment was about 20 percent. There also was a close resemblance among both groups in terms of their earnings in 1982. The median annual earnings for the foreign-born workers were \$10,405, about 6 percent lower than for the native-born workers (\$11,125).

However, the employment and earnings patterns of re-

cently arrived foreign born are very different from those of U.S.-born workers and reflect in part the obvious difficulties which such workers encounter during their first years in the country. Of the foreign born who entered the United States in 1980 and 1981, about one-half (470,000) worked at some time during 1982, and one-third experienced some unemployment. The median annual earnings of the recent arrivals amounted to only \$6,726. There also are some differences in labor market experiences between the U.S. born and the foreign born who came here before 1960: In large part because the latter are an older population, these people were much less likely to have either worked or looked for work in 1982.

Data on persons' country of birth (not shown) were obtained through special questions in an April 1983 CPS supplement sponsored by the U.S. Department of Health and Human Services.² To obtain much of the labor force information discussed in this article, the April data on country of birth were matched with "work experience" data—that is, data on employment, unemployment, and earnings during 1982 which had been gathered for the same persons a month earlier through the annual supplement to the March CPS. Given the design of the CPS, only about 75 percent of the sampled households interviewed in April also had been interviewed in March.

It should be noted that the foreign born, as identified in the CPS, were persons whose "usual residence" was in the United States, such as immigrants and refugees. Foreign-

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born visitors were not included in the survey. Note, too, that CPS coverage of the foreign born is understated: Although the respondents are not asked whether they are in the United States "legally," it is quite likely that "illegal" aliens were underrepresented. (However, the extent of this incomplete coverage, and consequent bias, could not be quantified.) Finally, it is important to recognize that the totals based on the matched March–April 1983 sample (such as those related to persons who had worked during the year and those who had encountered unemployment) are different from the previously published estimates from the March 1983 supplement.³ This is primarily because no special adjustment was made to take account of the approximately 6 percent of missing cases attributable to the failure to match data between the March and April supplements. Nevertheless, the findings from the March–April match are still relevant, as they shed considerable light on the labor force characteristics of a large universe of foreign born.

Work experience

Of the 11.4 million foreign born aged 16 years and over who came to the United States prior to 1982 and who were identified in the April 1983 CPS, more than half (6.3 million) reported that they had entered the country between 1960 and 1979. Of the rest, 3.8 million arrived before 1960 and

more than 900,000 in the 1980–81 period.⁴ (See table 1.) Of the recent arrivals, 53 percent were women, about the same proportion as among the 1960–79 entrants at the time of the survey.

About three-fifths of both the U.S. born and the 1960–79 arrivals were working in April 1983. There also was not much difference in the two groups' unemployment rates (10.1 and 11.7 percent). By contrast, one-half of the 1980–81 arrivals were employed in April 1983, and 16.3 percent were looking for work:

	Employment status (percent)	
	Employment-population ratio	Unemployment rate
Native born	57.6	10.1
Foreign born:		
Arrived, 1960–79	60.7	11.7
Arrived, 1980–81	49.6	16.3

As noted previously, similar patterns of employment and unemployment among the foreign and U.S. born are seen in the CPS data for the year 1982. The foreign born who came to the United States in the 1960–79 period closely resembled the native born in terms of their work experience over the course of the year. About 65 percent of both the 1960–79 arrivals and the native born had either worked or

Table 1. Extent of employment and unemployment of native born, and of foreign born by selected years of entry into the United States and citizenship status, 1982

[Numbers in thousands]

Employment and unemployment	Total ¹	Native born ²	Foreign born, entered U.S. prior to 1982				U.S. citizen
			Total ³	Year of entry			
				Before 1960	1960–79	1980–81	
Civilian noninstitutional population	173,794	157,460	11,388	3,758	6,336	913	5,935
Total who worked or looked for work ⁴	112,694	103,736	6,492	1,567	4,249	494	3,203
Percent of the population	64.8	65.9	57.0	41.7	67.1	54.1	54.0
Total who worked during the year ⁴	109,064	100,370	6,313	1,545	4,124	468	3,128
Percent of the population	62.8	63.7	55.4	41.1	65.1	51.2	52.7
Worked full time ⁵	83,695	76,780	5,073	1,182	3,373	383	2,519
Worked full time, full year ⁶	60,071	55,243	3,608	922	2,379	216	1,923
Worked part time ⁷	25,369	23,590	1,239	364	751	85	609
Worked part time, full year	9,387	8,695	516	173	311	24	263
Worked full year	69,458	63,938	4,124	1,095	2,689	240	2,186
Worked part year	39,605	36,432	2,189	450	1,434	228	942
Total with unemployment ⁴	24,365	22,435	1,375	217	962	159	537
Percent with unemployment	21.6	21.6	21.2	13.8	22.6	32.2	16.8
Median weeks of unemployment	14	14	16	17	15	23	15
Percent who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Worked full time ⁵	76.7	76.5	80.4	76.5	81.8	81.9	80.5
Worked full time, full year ⁶	55.1	55.0	57.2	59.7	57.7	46.3	61.5
Worked part time ⁷	23.3	23.5	19.6	23.5	18.2	18.1	19.5
Worked part time, full year	8.6	8.7	8.2	11.2	7.5	5.1	8.4
Percent who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Worked full year	63.7	63.7	65.3	70.9	65.2	51.3	69.9
Worked part year	36.3	36.3	34.7	29.1	34.8	48.7	30.1

¹Population counts relate to April 1983 for persons 16 years and older. Total includes respondents who did not report country of birth or citizenship status, as well as foreign-born respondents who entered the United States in 1982 or 1983.

²Includes respondents who were born abroad of parents who were United States citizens.

³Includes respondents who did not report year of entry into the United States. Excludes respondents who did not report country of birth or citizenship status.

⁴The population estimates are not identical to the population estimates for 1982 derived

from the March 1983 supplement to the Current Population Survey, because this is a matched sample of the March 1983 and April 1983 CPS supplements, and no special adjustment has been made to take account of the missing cases due to any failure to match between supplements.

⁵Usually worked 35 hours or more per week.

⁶Full year is 50–52 weeks.

⁷Usually worked 1–34 hours per week.

looked for work during 1982; and of those who had worked at some time during the year, about 65 percent worked year round and about 55 percent did so on a full-time basis. About one-fifth of both groups experienced some unemployment. Of those who had been unemployed, the 1960-79 arrivals on average had 15 weeks of unemployment, and the native born, 14 weeks.

The CPS data show similarities in the distribution of both of these groups among industries. For example, about one-third of both were working in service industries in April 1983, one-fifth were in wholesale and retail trade, and about 5 percent were in construction. (See table 2.) However, larger proportions of the foreign than the U.S. born were in manufacturing, particularly durable goods manufacturing.

As indicated in table 2, about the same proportions of the 1960-79 entrants and the U.S. born were in professional occupations at the time of the survey and in technician and craft jobs. There were some differences between the two groups in their distribution among the other major occupations.

The tabulation below shows that a far smaller percentage of the 1960-79 entrants than of U.S.-born workers were working in government jobs at the time of the survey. One reason for this is that most Federal jobs bar aliens from employment. The following also shows only about a one-percentage-point difference between foreign- and native-born

workers reporting self-employment. Here is the employment breakdown as of April 1983 (in percent):

	Native born	Foreign born	
		Total	1960-79 entrants
Total employed	100.0	100.0	100.0
Private wage and salary	73.7	81.7	84.4
Government	16.5	9.2	7.2
Self-employed	9.2	8.5	7.9
Unpaid family worker . . . . .	.6	.6	.4

As mentioned previously, the employment experiences of the recent arrivals were very different from the other foreign born. Only about 50 percent of the foreign born who came to the United States in 1980 and 1981 were working in April 1983 or had worked at some time during 1982. A large proportion had been unemployed for long periods—23 (median) weeks during 1982.

Other studies have found this pattern among the foreign born in earlier years. One, by Chiswick, showed that newly arrived male immigrants had lower levels of employment and higher levels of unemployment than their native-born counterparts, but after about 5 years the experiences of the two groups were found to be about the same.⁵

As expected, the foreign born who entered the United States in 1980-81 were somewhat more likely than the other foreign born or the native born to report that they were working in low paying industries, such as private household

Table 2. Industry and occupation of employed native born, and of foreign born by selected years of entry into the United States and citizenship status, April 1983

[In percent]

Industry and occupation	Total ¹	Native born ²	Foreign born, entered U.S. prior to 1982				U.S. citizen
			Total ³	Year of entry			
				Before 1960	1960-79	1980-81	
All industry groups	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	3.4	3.4	3.6	2.4	3.9	3.7	1.7
Mining . . . . .	.9	1.0	.7	.2	.8	.7	.6
Construction	5.9	6.0	4.7	5.0	4.5	4.5	4.8
Manufacturing	19.6	19.2	25.3	23.1	26.4	23.4	23.0
Durable goods	11.5	11.2	15.5	14.4	16.2	13.7	14.9
Nondurable goods	8.1	8.0	9.8	8.6	10.2	9.8	8.2
Transportation and public utilities	7.0	7.2	4.2	5.5	3.8	3.0	5.1
Wholesale trade	4.3	4.4	3.9	4.6	3.7	3.3	4.2
Retail trade	16.3	16.3	16.5	14.3	17.0	18.5	15.4
Finance, insurance, and real estate	6.2	6.2	6.6	5.1	7.4	4.6	6.8
Private household	1.3	1.2	1.8	1.6	1.5	4.9	1.2
Other service industries	30.3	30.3	30.5	33.0	29.4	33.1	33.4
Public administration	4.7	4.9	2.4	5.3	1.6	.3	3.7
All occupation groups	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	11.1	11.2	9.7	14.1	8.6	5.9	12.5
Professional specialty	13.2	13.1	14.1	15.6	13.7	13.5	17.4
Technicians and related support	2.9	2.9	3.4	3.4	3.3	4.2	3.4
Sales occupations	11.5	11.7	8.8	9.3	8.7	8.2	9.5
Administrative support, including clerical	16.4	16.6	12.7	13.4	12.7	9.8	13.3
Private household	1.0	1.0	1.4	1.2	1.2	3.3	1.0
Protective service	1.6	1.6	.9	1.0	.9	.7	1.2
Service, except private household and protective	11.0	10.8	14.2	11.0	15.0	18.2	12.9
Precision production, craft, and repair	12.0	12.0	12.7	15.4	12.2	10.2	12.7
Operators, fabricators, and laborers	15.7	15.6	18.1	12.9	19.3	21.3	14.0
Farming, forestry, and fishing	3.6	3.5	4.0	2.7	4.3	4.7	2.0

¹Total includes respondents who did not report country of birth or citizenship status, as well as foreign-born respondents who entered the United States in 1982 or 1983.

²Includes respondents who were born abroad of parents who were United States citizens.

³Includes respondents who did not report year of entry. Excludes respondents who did not report country of birth or citizenship status.

services. They also generally were more likely to report they were working in low-paying occupations.

A study by David North of a cohort of 1970 immigrants⁶ indicated that, for a few years after arrival in the United States, many were in jobs of lower skill than those they had held in their native country. North found, for example, that there had been a sharp drop in managerial and professional employment among the immigrants. After several years, however, there was an increase in the net number of professionals (that is, those who formerly were in professional jobs and those new to such occupations). By 1977, the proportion of immigrants who were managers, proprietors, and owners exceeded the average for native-born workers.

Some observers of immigration mention that recent entrants to the United States are less well educated and have fewer marketable skills than those arriving some years earlier, and therefore are less likely to succeed in the U.S. labor market. They compare, for example, the educational background of Southeast Asian refugees entering the United States in the early 1980's with those entering in the mid-1970's.⁷ However, among persons aged 25 and over, the CPS data show somewhat higher levels of college education for the most recent arrivals than for those who came between 1960 and 1979. (See table 3.)

Earnings and family income

As noted, it takes time for the foreign born to learn about, and adjust to, the U.S. labor market. Thus, it is not surprising that there was a sharp difference in median annual earnings between the foreign born who had been long-time residents and those who had arrived in the recent past—

Table 3. Years of schooling of native-born persons, and foreign born by selected years of entry into the United States and citizenship status, April 1983

Educational attainment	Total ¹	Native born ²	Foreign born, entered U.S. prior to 1982				U.S. citizen
			Total ³	Year of entry			
				Before 1960	1960-79	1980-81	
Total, 25 years of age and over (in thousands)	137,584	123,940	9,809	3,717	5,080	693	5,500
Total, 25 years of age and over (percent)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 12 years schooling	27.8	26.6	41.5	45.4	38.2	38.7	38.7
12 years schooling	37.8	38.8	26.7	29.3	26.0	18.5	29.1
13-15 years schooling	15.7	16.1	12.0	10.9	12.9	12.6	11.7
16 years schooling	10.6	10.6	10.0	7.3	11.4	15.1	10.3
17 or more years schooling	8.1	7.9	9.9	7.2	11.5	15.0	10.2

¹Total includes respondents who did not report country of birth or citizenship status as well as foreign born respondents who entered the U.S. in 1982 or 1983.

²Includes respondents who were born abroad of parents who were U.S. citizens.

³Includes respondents who did not report year of entry. Excludes respondents who did not report country of birth or citizenship status.

although all of the difference cannot be assumed to reflect recency of arrival. In 1982, the median earnings of the foreign born who had entered the United States before 1960 were \$13,697, about twice the earnings of those who had arrived in 1980-81. (See table 4.) (Because the pre-1960 entrants also were older, on average, than the recent arrivals, some of the difference in earnings may be accounted for by the difference in age.)

For the foreign born who reported they were naturalized citizens, median annual earnings were \$13,052 in 1982.

Table 4. Annual earnings of native born, and of foreign born by selected years of entry into the United States and citizenship status, 1982

[Numbers in thousands]

Annual earnings	Total ¹	Native born ²	Foreign born, entered U.S. prior to 1982				U.S. citizen
			Total ³	Year of entry			
				Before 1960	1960-79	1980-81	
All persons:							
Total with annual earnings	108,640	99,981	6,285	1,537	4,109	463	3,110
Under \$5,000	29,267	27,067	1,486	321	954	172	641
\$5,000 to \$6,699	7,434	6,764	499	89	325	60	191
\$6,700 to \$9,999	12,031	10,873	887	169	607	87	351
\$10,000 to \$14,999	18,221	16,745	1,152	226	844	57	559
\$15,000 to \$24,999	23,714	22,002	1,249	353	797	53	733
\$25,000 and over	17,972	16,529	1,013	379	584	34	635
Median earnings	\$11,101	\$11,125	\$10,789	\$13,697	\$10,405	\$6,726	\$13,052
Year round, full-time workers:							
Total with annual earnings	59,909	55,094	3,595	919	2,371	214	1,913
Under \$5,000	1,965	1,806	117	34	73	10	66
\$5,000 to \$6,699	1,894	1,711	151	23	101	23	60
\$6,700 to \$9,999	6,285	5,633	488	63	346	61	182
\$10,000 to \$14,999	13,379	12,301	860	162	640	45	400
\$15,000 to \$24,999	19,937	18,523	1,036	279	669	47	611
\$25,000 and over	16,448	15,119	945	359	542	29	594
Median earnings	\$17,434	\$17,492	\$16,009	\$20,208	\$15,067	\$11,386	\$18,161

¹Population counts relate to April 1983 for persons 16 years and older. Total includes respondents who did not report country of birth or citizenship status, as well as foreign-born respondents who entered the United States in 1982 or 1983.

²Includes respondents who were born abroad of parents who were United States citizens.

³Includes respondents who did not report year of entry. Excludes respondents who did not report country of birth or citizenship status.

The large difference between their earnings and those of the recent U.S. arrivals can be explained in part by work experience during the 5-year waiting period required of the foreign born, specifically, permanent resident aliens,⁸ before they can become naturalized citizens. (And some permanent resident aliens wait more than the required period.) However, to some extent, the earnings of naturalized citizens also may reflect the characteristics associated with persons who choose to become citizens as well as some economic benefits which may accrue from citizenship status.

For the foreign-born population as a whole, median annual earnings in 1982 were close to those of the U.S. born (\$10,789 and \$11,125). Similarly, when comparing annual incomes of the families of the foreign born and the native born,⁹ one finds roughly the same proportions of both groups among the various income categories. (See table 5.)

The data on family income also show substantial differences between the foreign born who came to the United States in 1980 and 1981 and those who came in prior years. For example, about 40 percent of those persons who arrived in 1980-81 and who had at least one family member in the civilian labor force in April 1983 had family incomes under \$10,000, in contrast to 20 percent of those who entered the United States between 1960 and 1979, and about 15 percent of those who arrived prior to 1960. As noted, such differences conform with findings from other studies.

There are also substantial differences in the distribution of family incomes among various racial and ethnic groups—consistent with differences in their median annual earnings. The tabulation below shows that the Asian born had the highest median annual earnings of any of the foreign-born groups in 1982—\$12,200. Asian origin workers also had the highest earnings among the native born (\$13,281).

Median annual earnings—1982

	Native born	Foreign born
White	\$11,512	\$10,221
Black	9,141	11,146
Hispanic.....	9,248	9,062
Asian	13,281	12,200

Similarly, relatively high proportions of Americans of Asian origin and the Asian born reported family incomes of \$35,000 and over, as seen below. (The tabulation refers only to families with at least one member in the civilian labor force.)

Family income of \$35,000 and over—April 1983

	Native born (Percent)	Foreign born (Percent)
White	20.5	16.8
Black	17.0	29.9
Hispanic.....	10.9	7.0
Asian	26.1	30.3

Differences in earnings and family income among the various racial and ethnic groups may be explained in part by differences in their levels of schooling. As indicated below, 43 percent of the Asian born and 29 percent of their U.S.-born counterparts reported 16 or more years of schooling as of April 1983. In contrast, for the Hispanics,¹⁰ the proportions were 8 percent for both groups:

	Native born	Foreign born
White	20	15
Black	10	17
Hispanic.....	8	8
Asian	29	43

Differences in distribution of family income by racial and ethnic group may to some extent also be accounted for by

Table 5. Annual family income of native-born families¹ with at least one member in the civilian labor force, and of foreign-born families¹ by selected years of entry into the U.S. and citizenship status, April 1983²

[Percent distribution]

Annual family income	Total ³	Native born ⁴	Foreign born, entered U.S. prior to 1982				U.S. citizen
			Total ⁵	Year of entry			
				Before 1960	1960-79	1980-81	
Total families with at least one member in the civilian labor force	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under \$5,000	6.2	6.2	6.3	4.2	5.8	19.0	4.0
\$5,000 to \$7,499	5.3	5.3	6.8	5.3	7.1	10.6	4.7
\$7,500 to \$9,999	5.6	5.6	7.2	4.2	8.1	12.5	5.3
\$10,000 to \$14,999	13.9	13.9	15.8	12.9	17.7	14.2	13.3
\$15,000 to \$24,999	25.5	25.9	22.8	23.5	23.2	16.1	23.1
\$25,000 to \$29,999	9.9	10.0	9.8	9.6	10.3	6.8	11.1
\$30,000 to \$34,999	8.2	8.4	7.3	9.1	6.6	5.5	8.5
\$35,000 and over	20.3	20.5	19.1	23.1	18.2	10.3	24.8

¹Family is defined as native born or foreign born based on whether householder is native born or foreign born.

²Because of the structure of the survey schedule for asking annual family income and for updating the information on annual family income, family income refers to January 1982 to December 1982 for 25 percent of the sample, February 1982 to January 1983 for 25 percent of the sample, March 1982 to February 1983 for another 25 percent, and April 1982 to March 1983 for the remaining 25 percent of the sample.

³Total includes respondents who did not report country of birth or citizenship status, as well as foreign-born respondents who entered the United States in 1982 or 1983.

⁴Includes respondents who were born abroad of parents who were United States citizens.

⁵Includes respondents who did not report year of entry. Excludes respondents who did not report country of birth or citizenship status.

Table 6. Selected government benefits received by native-born persons, and by the foreign born by selected years of entry into the United States and citizenship status, 1982

[Numbers in thousands]

Government benefit	Total ¹		Native born ²		Foreign born, entered U.S. prior to 1982									
					Total ³		Year of entry						U.S. citizen	
	Before 1960		1960-79				1980-81							
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total population	173,794	100.0	157,460	100.0	11,388	100.0	3,758	100.0	6,336	100.0	913	100.0	5,935	100.0
Total recipients of selected government benefits	23,961	13.8	21,935	13.9	1,457	12.8	329	8.7	920	14.5	160	17.5	558	9.4
State unemployment compensation	10,301	5.9	9,469	6.0	603	5.3	151	4.0	404	6.4	31	3.4	285	4.8
Food stamps	12,619	7.3	11,616	7.4	707	6.2	103	2.7	457	7.2	128	14.1	220	3.7
Supplemental security income	2,952	1.7	2,634	1.7	215	1.9	94	2.5	100	1.6	4	.5	87	1.5
Aid to families with dependent children	3,102	1.8	2,876	1.8	169	1.5	12	.3	121	1.9	33	3.6	37	.6
Other public assistance	1,116	.6	1,003	.6	84	.7	9	.2	44	.7	31	3.4	21	.4

¹Population counts relate to April 1983. Total includes respondents who did not report country of birth or citizenship status, as well as foreign born respondents who entered the United States in 1982 or 1983.

³Includes respondents who did not report year of entry. Excludes respondents who did not report country of birth or citizenship status.

²Includes respondents who were born abroad of parents who were U.S. citizens.

differences in numbers of family members in the labor force. For example, the black foreign-born families were considerably more likely than the black native born to have two or more family members in the civilian labor force. (The black foreign born also were more likely to report at least 16 years of schooling and family incomes of \$35,000 or more.) While one-half of the black foreign born and Asian born had at least two family members in the labor force, this was the case for fewer than 40 percent of the Hispanics and only one-third of the whites.

Government benefits

The foreign born do not seem more likely than the U.S. born to be recipients of government benefits. (Although there are special government programs to aid refugees, they are of limited duration.) About 13 percent of the foreign born and 14 percent of the native born reported they had been recipients of one or more of the following government benefits in 1982: State unemployment compensation, food stamps, supplemental security income, aid to families with dependent children, and other public assistance. And similar proportions of the foreign and U.S. born reported receipt of each of these benefits. (See table 6.)

For the foreign born who entered the United States be-

tween 1960 and 1979, 15 percent reported receiving one or more of the benefits. However, for those who came in 1980-81, the proportion was somewhat larger (18 percent)—perhaps because of the large number of refugees who arrived during this period who were eligible for government assistance. (Note that there are restrictions on permanent resident aliens receiving supplemental security income during their first 3 years in the United States.) For the naturalized citizens, and the foreign born who entered the country before 1960, the proportion reporting receipt of government benefits was 9 percent.

DATA FROM A MATCHED SAMPLE of the March 1983 and April 1983 CPS supplements—covering about 70 percent of the sampled households—confirm earlier findings that, after some years in the United States, the labor market profile of the foreign born resembles that of their U.S.-born counterparts. Consistent with other foreign born who had been in the United States for only a relatively short time, those who arrived in 1980 and 1981 experienced considerable labor market difficulties. The CPS data also show that essentially the same proportions of the foreign and U.S. born report receiving selected government benefits. □

—FOOTNOTES—

¹Barry R. Chiswick, "The Economic Progress of Immigrants: Some Apparently Universal Patterns," in Barry R. Chiswick, ed., *The Gateway: U.S. Immigration Issues and Policies*, Washington, D.C., American Enterprise Institute, 1982. For more detailed analysis, see Barry R. Chiswick, *An Analysis of the Economic Progress and Impact of Immigrants*, Employment and Training Administration, U.S. Department of Labor (NTIS No. PB 80200454), June 1980.

²The CPS is a monthly survey of the civilian noninstitutional population based on a sample of about 60,000 households. The April 1983 CPS supplement, in addition to questions on country of birth, included follow-up

questions on year of entry into the United States, on current citizenship status, and on fertility among foreign-born women.

³For estimates of employment and unemployment during 1982 based on the March 1983 supplement to the CPS, see Paul O. Flaim, "Unemployment in 1982: the cost to workers and their families," *Monthly Labor Review*, February 1984, pp. 30-37, reprinted as Special Labor Force Report Bulletin 2199.

⁴Although firm conclusions cannot always be drawn from the data because of the small sample size for some groups of the foreign born, the data still provide useful insights.

⁵Barry R. Chiswick, *The Employment of Immigrants in the United States* (Washington, D.C., American Enterprise Institute, 1982).

⁶David S. North, *Seven Years Later: The Experiences of the 1970 Cohort of Immigrants in the United States*, R&D Monograph 71 (U.S. Department of Labor, Employment and Training Administration, 1979).

⁷See, for example, Vernon M. Briggs, Jr., *Immigration Policy and the American Labor Force* (Baltimore, MD, The Johns Hopkins University Press, 1984).

⁸Permanent resident aliens are persons who have been admitted to the United States who may stay in the country indefinitely. In recent years, more than 400,000 have been admitted annually. In addition, large numbers of refugees have been admitted (about 100,000 in 1982); refugees may adjust their status to permanent resident alien after 1 year. (Permanent resident aliens married to U.S. citizens have a 3-year waiting period for citizenship.)

⁹When they are first interviewed in the CPS, the sampled households are asked their family income during the 12 preceding months. (Households are included in the CPS for 4 consecutive months, dropped for 8 months, and then interviewed for another 4 months.) The family income data are updated in the fifth interview month. Thus, for 25 percent of the sample interviewed in April 1983, annual family income refers to the period January to December 1982; for 25 percent of the April sample, it refers to February 1982 to January 1983; for another 25 percent the relevant period is March 1982 to February 1983; and for the remaining 25 percent it is April 1982 to March 1983.

Family income data—recorded in broad intervals when households enter the sample—are not as precise as family income data collected annually in March, with a series of probing questions. Nevertheless, the statistics are still very useful in comparing one population with another.

¹⁰The Hispanic category is not a racial classification. Persons in this group may appear in the white or black or other racial categories.

Coping with youth unemployment

Can anything be done? Over the last several decades, billions of dollars have been spent trying to mitigate or prevent youth employment problems. The problems persist because each new cohort of youth needs help, and because resources have been marginal relative to the need, but also because many mistakes have been made in designing and implementing youth programs. Yet no social problem has been more carefully studied, and this extensive research and experimentation yields some important lessons which can increase the effectiveness of our Nation's youth policies for the remainder of the 1980's. Combined with favorable demographic trends, well-designed and adequately funded programs can substantially redress this longstanding issue.

—NATIONAL COUNCIL ON EMPLOYMENT POLICY
Investing in America's Future: A Policy Statement
by the National Council on Employment Policy
(Washington, National Council on Employment
Policy, 1984), p. 9.

Should works councils be used as industrial relations policy?

The European works council concept has generally been opposed by labor and management, however, Canada's successful experience with mandatory committees indicates that such a concept might also be effective in the United States

ROY J. ADAMS

The traditional model of adversarial labor-management relations used in the United States and Canada has been the subject of much reflection during the past decade. The high number of industrial conflicts coupled with sagging productivity growth have given rise to a search for new models of labor-management interaction. That search has led to discussions on the appropriateness and desirability of the use of Japanese managerial techniques.¹ However, little attention has been given to the European institution of statutory works councils in which workers participate in the decisionmaking process at both the plant and enterprise levels.²

Because of the decentralized nature of collective bargaining in Canada and the United States, experts in these two countries have generally considered works councils to have little relevance. They argue that there is no need for councils because workers are represented by unions at the enterprise level.³ Moreover, the unions generally have regarded works councils as inferior to unions and contrary to free collective bargaining. Also, management generally has viewed statutory works councils as potentially disruptive and an infringement on management rights.⁴

Despite these formidable impediments, there are several reasons why the works councils concept deserves to be looked at once more. This article explores these reasons. It reviews the various collective bargaining schemes, reports Canada's experience with mandatory committees, and dis-

cusses the advantages and disadvantages of works councils and mandatory committees to unions, collective bargaining, management, and the wider public.

Collective bargaining and other schemes

The fundamental premise of Canadian and U.S. labor policy is that working people should be able to participate in decisions which critically affect their working lives.⁵ The primary mechanism designed to accomplish this is the Wagner Model, enacted in the United States as the National Labor Relations Act of 1935. Canada later adopted similar legislation, which gives employees the right to bargain collectively. The original supporters of the NLRA believed that because of the many advantages of collective bargaining over individual employment contracting, the great majority of employees would opt for collective bargaining. The Wagner Model, in effect now for half a century, may very well have encouraged the great expansion of collective bargaining which occurred between the 1930's and the 1950's. However, it appears that the model is unlikely ever to produce universal or nearly universal collective bargaining. After five decades of experience, only a minority of employees in the United States and Canada participate in collective bargaining and U.S. participation is shrinking instead of expanding.⁶

To some analysts, the fact that a majority of employees have not availed themselves of their right to bargain collectively is an indication that those employees prefer to negotiate their terms and conditions of employment indi-

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vidually with their employer.⁷ However, in the contemporary world of complex organizations, individual bargaining is not a viable alternative to collective bargaining. Each individual cannot negotiate in regard to broad enterprise-wide policy issues such as occupational health and safety, training, and technological change. If employees are to be involved in the initiation and administration of policies concerning such issues, a collective mechanism is needed. Otherwise, the only choices available are acquiescence in unilateral management actions or exit from the enterprise.⁸

A currently popular substitute for collective bargaining is the quality-of-worklife schemes introduced voluntarily and unilaterally by employers.⁹ However, the voluntary approach to employment relations has two major drawbacks. First, experience to date indicates that voluntarism will result in only a minority of employees being involved. For example, subsequent to World War I, when Germany introduced statutory councils, a number of American employers emulated the European experience by voluntarily introducing employee representation schemes.¹⁰ Although these schemes became widespread, the majority of employers did not incorporate them.¹¹ Despite a great deal of publicity and government encouragement, participative management schemes, voluntarily introduced by employers, are still the exception instead of the norm.

Second, voluntarism depends largely on the good will of the employer. Workers do not acquire the right to participate but merely are granted the privilege to participate by an enlightened and benevolent employer. If the employer changes his or her mind about the efficacy of participation, the scheme may be terminated regardless of employees' wishes.

Canada's mandatory committees

Industrial relations developments in Canada suggest that the statutory works council option may be viable in the United States. Although not called works councils, recent initiatives have characteristics very similar to European works councils. Several Canadian provinces introduced mandatory occupational health and safety committees during the 1970's.¹² Typically, committees are required in all establishments with a certain number of employees. For example, in Ontario, committees must be set up in establishments with 20 or more employees and in Saskatchewan, the figure is 10 employees or more.¹³ In unionized firms, the union appoints committee representatives and in nonunion firms, employee members are usually elected. The committees have a mandate to oversee safety regulations and jointly to develop and monitor safety and health policy at the enterprise level. They must meet regularly and keep records of their meetings. The intent of the legislation is that decisionmaking within the committees be cooperative rather than adversarial. The available research suggests that the intention has, by and large, been met. Pran Manga and his colleagues reviewed the minutes of 17,682 Saskatchewan committee meetings from 1973 to 1977 and found that 82 percent of the meetings

"considered specific health and safety concerns," and that "most concerns have been acted upon."¹⁴

Several dispute resolution devices are available to these committees. Typically, if labor and management representatives disagree about their interpretation of a government regulation, they may ask a government safety officer to resolve the issue. If the parties disagree about the wisdom of initiating a requirement over and above government regulations, then the employer decides. However, in Saskatchewan during the 1970's, employers had to consider the fact that the administration was publicly committed to ensuring the joint development and application of enterprise-level safety and health policy. According to Manga and others, the government insisted that "all business be conducted through the committee," and that "all agreements between management and the labour department occur subject to committee approval."¹⁵ Largely because of this policy, the committees achieved "increased legitimacy and enlarged authority."¹⁶

Canadian legislation also permits individual employees to refuse to engage in unsafe work, but they may be subjected to disciplinary penalties if they use that right in a frivolous or irresponsible manner. According to Morley Gunderson and Katherine Swinton, that law "automatically gave workers a legislated right to participate in management of the workplace. . . ."¹⁷ Such legislation gave rise to fears of widespread abuse of the right to refuse unsafe work. However, after reviewing the experience in Ontario from 1976 to 1980, Gunderson and Swinton concluded that the data "do not support employer fears about widespread abuse by either individuals or unions."¹⁸

Another Canadian example of a statutory works council deals with plant shutdowns and layoffs of groups of workers under the jurisdiction of the Federal Government. When an employer plans to lay off 50 or more employees in a 4-week period, a joint committee must be set up. (As in the case of health and safety committees, if the employees involved are unionized, the union appoints members to the joint committee. Nonunion employees elect representatives from among their ranks.) The function of the committee is to "develop an adjustment program to eliminate the necessity for the termination of employment or to minimize the impact of such termination on the redundant employees and to assist those employees in obtaining other employment."¹⁹ The committee is only required to deal with "matters as are normally the subject matter of collective bargaining in relation to termination of employment."²⁰ The most radically innovative aspect of this legislation is that it provides for binding arbitration to resolve disputes which reach impasse. When a mass layoff is planned, the employer must take the initiative to set up a committee 16 weeks prior to the event. If the committee has not reached agreement in 6 weeks, outstanding issues may be submitted to a neutral person who is appointed by the Minister of Labour. The job of the neutral is to "assist the joint planning committee in the development

of an adjustment program” and to “render a decision” on outstanding issues if no mutual agreement is reached.²¹

Of about 15 to 20 cases of mass layoffs through May 1984, only two required an arbitrator, according to interviews with Labour Canada officials. Few complaints about the operation of the scheme have been reported to the Department of Labour. In short, the available evidence suggests that the procedure is working. The compulsory dispute resolution procedure does not appear to have exacerbated adversarialism as some research might lead one to expect.²²

Now that mandatory health and safety committees and redundancy committees have paved the way, it is likely that Canada will use the statutory joint decisionmaking approach more extensively. Noting the use of statutory joint committees with regard to layoffs, a 1982 Federal government task force recommended similar committees to oversee the introduction of technological change.²³ Like the layoff committees, the technological change committees would submit impasses to binding arbitration.

In February 1984, the Federal government announced its intention to encourage firms to establish profit-sharing schemes. For the government to participate financially in these schemes, joint committees would be set up to define profits, negotiate a distribution formula, and to oversee the implementation of the plan.²⁴ During the same period, the Federal government announced its intention of requiring employee participation in pension management if the majority of employees affected wanted to be so represented.²⁵ Subsequently, however, a new government was elected and its intentions in regard to joint committees are, at present, unclear. Finally, a 1982 report from a commission on adult education, appointed by the Quebec government, recommended the establishment of joint committees to develop and oversee an enterprise-level training policy.²⁶ One very innovative aspect of the Quebec committees is that they would control a budget funded by a levy equivalent to 1.5 percent of payroll.

These developments indicate that, despite being dismissed by U.S. and Canadian industrial relations experts and practitioners, statutory works councils are a viable policy option. In fact, special purpose works councils are already functioning satisfactorily in Canada.

Advantages and disadvantages

American and Canadian unions have traditionally been opposed to employer initiated representation plans (which they call company unions) as well as to proposals that the European practice of statutory works councils be emulated.²⁷

Mainstream union policy holds that works councils are unlikely to be effective while at the same time precluding the practice of genuine joint decisionmaking via unions and collective bargaining. These fears are not unreasonable. Nevertheless, a careful consideration of the European works council model along with Canada's successful experience

with mandatory committees suggests that the works council approach may not be inimical to union interests.

For unions, the works council model emerging in Canada is different from European practice in that Canadian unions designate representatives to the statutorily required occupational health and safety committees and to the plant shut-down committees. In Europe, the committees have identities and authority separate from the unions.²⁸ One advantage to the Canadian approach is that the union does not have an independent body with which it must compete. The presence of such competition is often said to be a major source of union shop floor weakness in West Germany.²⁹ Another advantage of the Canadian scheme is that it provides unions with added capacity to be effective in their members' interest. It has been very difficult for unions to negotiate issues such as safety, training, technological change, and pension management. These are issues which a bystander may consider important, but which usually have a lower priority to union members than money and immediate job security. Although union members are often willing to strike or at least to pose a credible strike threat in pursuit of financial and job security issues, they are much less prone to do so over issues such as safety and training. As a result, these issues are frequently either traded off or never put on the bargaining table. In both Canada and the United States, the majority of collective agreements are silent regarding such issues.³⁰ Through the device of management's rights clauses which are found in most collective agreements, employers retain the unilateral right to develop and implement policy regarding all issues not in the collective agreement. In short, under collective bargaining, employees are able to participate in many critical decisions only to the extent that they are willing to accept the risk of lost income as a result of a strike. The emerging Canadian model sets in motion a different dynamic by making designated issues individually subject to arbitration. For example, if no agreement can be reached on severance provisions in the event of group layoffs then, in the federal jurisdiction, that dispute may be submitted to arbitration. The trade-off dynamic which is prevalent under collective bargaining is made inoperative because the issue is addressed in isolation from other issues. Under the developing Canadian model, unions could continue to negotiate comprehensive collective agreements. However, if disputes occurred over technological change, training, or other issues subject to joint decisionmaking, the union, in its capacity as employee agent on the joint committee, could have an arbitrator resolve that particular issue. The new scheme probably would result in a substantial increase in collective agreement clauses (or in separate agreements) regarding designated issues.

A major disadvantage to unions of the Canadian mandatory committee is that government imposition of statutory duties on trade unions threatens free collective bargaining. In effect, the health and safety and redundancy initiatives in Canada have made unions the agents of government pol-

icy. Canadian unions have been more than willing to take on these roles and would, most likely, gladly accept an expanded mandate. Nevertheless, the procedure does diminish the independence of the industrial relations system. This aspect of the Canadian model must be viewed with some concern given that free collective bargaining is considered to be a keystone of democracy. One solution would be to give unions the option to act as agent or, alternatively, to permit employees to elect committee members separately. That option, however, sets up competitive dynamics which have caused problems in Europe.

Another potential disadvantage to unions would surface if the belief became prevalent that statutory committees made unions and collective bargaining redundant. Clearly, the motivation of many employers to implement representation plans during the 1920's and 1930's was to deaden employee enthusiasm for free collective bargaining by independent unions.³¹

However, there are reasons to believe that a works council policy in the United States and Canada might encourage rather than discourage the expansion of collective bargaining. First, once unorganized employees experience the benefits of representation on a limited range of issues, they will probably want to be represented on the full range of conditions of employment. There is practically no likelihood that the mandatory committees in Canada will assume the union function of negotiating over wages. Thus, unorganized employees who want to participate in decisionmaking over remuneration will still have to use their collective bargaining rights. The transition of employee associations into genuine trade unions in the public sector is suggestive of what may happen if the works council strategy is embraced. Public sector labor-management relations in much of the United States and Canada has moved from joint consultation on a limited range of issues to collective bargaining on a broader range of issues.³²

Second, it is unlikely that works councils in nonunion firms will represent their members' interest as effectively as councils in unionized firms. The latter will be able to draw on the staff and expertise of the national or international unions. Unions also will be able to provide council members with necessary training. For these reasons, one may expect that the works councils will seek unions, just as independent local unions sought internationals in the 19th century, and as company unions did during the 1930's. Today in West Germany, a major function of unions is to provide training and assistance to the works councils. The most effective councils are those which maintain close union ties.³³

Impact on management and enterprise

For management. Employers may resist the imposition of councils to ensure that they maintain their unilateral right

to manage.³⁴ They are likely to believe that additional regulation will restrict their ability to respond quickly and effectively to new conditions thereby hampering productivity and competitiveness.³⁵ However, available evidence provides little support for that proposition. A review of the West German co-determination system (of which works councils are a prominent element) in the 1970's found that the system was working effectively. Very few examples were found where worker intransigence resulted in productivity setbacks.³⁶ Moreover, there was substantial evidence of positive effects. For example, in the coal and metal-working industries, worker representatives were consulted from the outset about massive technological changes which were carried out without substantial social disruption.³⁷

In Canada, research on the functioning of the Saskatchewan health and safety committees indicates, as noted earlier, that the committees generally reach mutually satisfactory solutions to the issues that are raised.

Management officials often argue that joint decisionmaking should not be compelled, but instead should be voluntary. Several recent analyses of U.S. and Canadian labor problems vigorously support joint employment decisionmaking at the enterprise level, but gingerly refrain from recommending that participative decisionmaking be compelled.³⁸ The analyses conclude that imposed systems will generate low trust and hostility instead of the cooperative attitudes and behavior essential to productive joint decisionmaking. However, experience with statutory works councils in West Germany and Canada do not support that proposition. The data indicate that such councils and committees generally operate in a cooperative, nonadversarial manner. The experience with group layoff committees in Canada is limited, but in most cases, the parties reached agreement without involving arbitration. A study of West German works council decisionmaking during the 1970's indicated that the parties rarely resorted to arbitration: of 6,240 works council agreements negotiated between 1972 and 1979, only 70 required mediation or arbitration.³⁹

FIFTY YEARS OF COLLECTIVE BARGAINING under the National Labor Relations Act has not yielded universal participation. If the proposition that workers should be able to participate in decisions which critically affect their working lives is to be taken seriously, new options must be considered. Works councils are a viable option. Works councils, which require joint decisionmaking for specific issues with binding arbitration as a last resort, can work successfully alongside collective bargaining conducted under the Wagner Model. Indeed, works councils may very well result in a resurgence of union growth. Experience suggests that statutory works councils are likely to assist the quest for productivity and competitiveness. □

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²Works councils do not imply participation on governing boards; councils are separate from board participation.

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⁸A. Goldman, "Settlement of Disputes Over Interests," R. Blanpain and F. Millard, eds., *Comparative Labor Law and Industrial Relations* (Deventer, Netherlands, Kluwer, 1982).

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³⁰R. J. Adams, "Two Policy Approaches to Labour-Management Decision-Making at the Level of the Enterprise: A Comparison of the Wagner Model and Statutory Works Councils," (Hamilton, Ontario, McMaster University, Faculty of Business Research, June 1984), Paper No. 227; T. Kochan, *Collective Bargaining and Industrial Relations* (Homewood, Irwin-Dorsey, 1980); D. Lewin, "The Impact of Unions on American Business: Evidence for an Assessment," *Columbia Journal of World Business*, 1978, pp. 83-103; J. B. Rose, "The Non-Wage Impact of Unions," in G. Dlugos and K. Weiermair, eds., *Management Under Differing Value Systems* (Berlin, de Gruyter, 1981).

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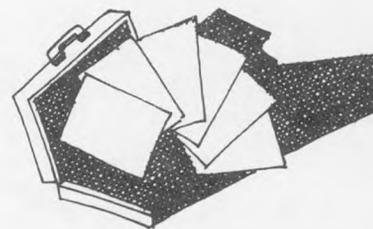
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Conference Papers



The following excerpts, closely related to the work of BLS, are adapted from papers presented at the Thirty-Seventh Annual Meeting of the Industrial Relations Research Association, December 1984, in Dallas.

The full text of the papers appears in the copyrighted IRRA publication, *Proceedings of the Thirty-Seventh Annual Meetings*, available from IRRA, University of Wisconsin, Social Science Building, Madison, WI 53706.

Needed: an interdisciplinary approach to labor markets and wage determination

JOHN T. DUNLOP

An understanding of the reality of wage determination and labor markets—apart from collective bargaining—requires, in my view, a conceptual blend of industrial relations and economics. Policy prescriptions to be listened to and to be effective likewise need to proceed from an integration of the two disciplines.

Economics must appreciate that wage rates are but one rule of the workplace among a vast array of rules. There are no fixed terms or rates of substitution with other rules, or even with other compensation rules. All terms of employment are not reducible to money. Industrial relations specialists likewise need to recognize, as should economists, how the complex of rules of the workplace is influenced, both in static and dynamic terms, by the contexts of technology, labor and product markets, and political power in the larger society—not by conventional labor markets alone.

John T. Dunlop is Lamont University Professor, Harvard University. His full IRRA paper is entitled, "Industrial Relations and Economics: The Common Frontier of Wage Determination."

The fact is that the mainstream of economics has always qualified and tempered its analysis of wage determination and labor markets by recognizing that special and peculiar features are at work that do not permit the unrestrained application of competitive theory, as applied to other markets. However, the readily observable facts of unemployment and differentials in compensation in the same markets have encouraged, in the past 10 or 15 years particularly, an extensive intellectual effort and considerable ingenuity among microeconomists to find explanations within the framework of economic rationality. These various attempts are not likely to impress industrial relations specialists. The judgment is likely to be that the models are far too esoteric. They apply to few situations, and they will not take us very far toward a general view of labor market and wage behavior. The amendments to microeconomics are not adequate to the magnitude of the gap between the competitive model and reality.

The 'real world'

I consider three concepts that have their roots in industrial relations and practical experience as essential to an understanding of wage determination and the operation of labor markets. They are not congenial to microeconomic theory.

1. Internal labor markets. An essential tool is the internal labor market, as distinguished from the conventional or "external" labor market. The BLS monthly household survey reports persons as outside the labor force, as employed, or as unemployed and seeking work during the survey period. Movement among these categories defines gross changes in employment and unemployment. All these changes constitute movement among enterprises or labor force states. These movements arise in the external labor market, a minute fraction of the complex of movements that take place each day.

The internal labor market is an administrative unit in which movements within the unit or with the outside are

patterned by formal rules or customs. The unit may involve only some job classifications of an establishment or may include a number of enterprises as in multi-employer hiring halls or multi-plants of a single company. The internal market may be narrow, involving a single enterprise, or be very broad as in the civil service system of governments.

Internal labor markets are concerned with such topics as seniority, seniority districts, retirement policies, hiring and recruitment standards, promotion rules, layoff criteria, absentee policy, health care regulations, equal employment opportunity, and age or handicap discrimination, as well as procedures for dispute resolution over these rules and their consequences for management, employees, and labor organizations.

The internal labor market is the unit within which relative wage rates are also determined among job classifications, not among individuals, with the aid of job evaluation or incentive systems or by decisions exercised by management or through collective bargaining. These relative compensation rates are peculiarly the social concerns that are so important in the mainstream of economic thought, as evident in the work of John R. Hicks and others. The internal alignment of rates likewise needs to be related to some external rates, particularly for some job classifications.

Internal labor markets and their rules that govern the movement of workers are also the fundamental determinants of the quality of the work force and the training that is acquired over a period of time on the job. Thus, the flexibility of the work force, its adaptability to technical change, to shifts in work processes, to new quality and work standards, and to new products is likely to be mightily influenced by its previous work experience dictated by the rules of the internal market. Clearly also, the adaptability and employability of those exited to the exterior labor market is materially influenced by these internal experiences and training.

Microeconomics has recently turned its formal analysis to pensions, to incentives for the work force, to productivity, and other features of internal labor markets. But efficiency is not the only test that a society applies to its labor markets, and particularly to internal markets, which are asked to meet tests of equity, security, equal employment opportunity, and other goals. In brief, I do not believe that microeconomic theory is adequate to provide a useful understanding of internal labor markets and their effects on internal and external movements of labor, on internal wage structures for job classifications in enterprises of size, and for on-the-job training. These are vast areas of labor market experience and wage determination that need to be incorporated in a consolidated industrial relations and economic perspective.

2. Persistent differentials from product market and establishment size. It is a well established fact that wage rates or average hourly earnings for a defined job classification, such as maintenance electrician or keypunch operator, show very wide variations in a locality, particularly in a com-

munity with a variety of industries. The top wage rates for a job classification are often two or three times the low ones. Differences in fringe benefit programs normally expand on these differences.

Neoclassical economics has sought to live with these large differences by proposing that they are related to the quality of the labor force in the different enterprises; compensating differences in working conditions, safety, distances, and the like; differences in information; and by the fact that there are longer run competitive forces in labor markets tending to eliminate these differences. Experience teaches that this view of wage rate differentials is simply grossly inadequate to the reality. Granted that some persistent differentials arise from the sources stressed by microeconomics, these are virtually impossible to measure satisfactorily. I regard it necessary to explain, in other than conventional microeconomic terms, the large wage rate and fringe benefit differentials that persist for a given job classification in a locality.

There are at least two sets of persistent and pervasive differentials, somewhat interrelated, that need to be recognized and explained. These differentials are not uniquely the result of collective bargaining, although the differentials may be more formally maintained under collective bargaining. The differentials are related to product market groupings of firms and, within a given product grouping, to the size of the establishment, or in some circumstances to the size of the enterprise. Different competitive conditions in product markets are related to different compensation levels for the job classification in the local labor market.

Economists have deep trouble with the concept of product market differences affecting wages because it appears that enterprises that are assumed to maximize profits are paying unnecessarily high wage rates for the amount and grade of labor required. The analytical soul is redeemed for some economists by explaining that the enterprise is sharing its rents with its employees. The view, derived particularly from business schools and public policy programs, that managers in larger enterprises are concerned basically with balancing conflicting constituency interests, rather than simply with maximizing profits, leads to a similar relaxed view as to persistent wage and benefit differentials. Thus, the model of the enterprise is also at stake in the concern with persistent wage differentials.

Forty years ago, I argued that "labor markets do not resemble bourses, auctions, nor closed-bid arrangements."¹ The institutional form of any market influences its performance. It is strange, indeed, that so many contemporary economists have come so late to the simple truth that a labor market is not well depicted as a bourse. In 1980, Robert E. Hall concluded that, "There is no point any longer in pretending that the labor market is an auction market cleared by the observed average hourly wage."² Indeed, there never was any point in so pretending, and industrial relations and its practitioners never did.

3. *Bargaining theory.* It is imperative, in my view, to approach wage rate determination equipped with the tools of negotiation and dispute resolution. Bargaining has always been a problem in microeconomics because of the fewness of buyers and sellers, or because of an indeterminacy of results of negotiations, or because of the discipline's abhorrence of strikes, lockouts, and serious conflict, or because of the consequences of public intervention on market performance.

A number of efforts have been made to reconcile market wage and price determination with bargaining theory. But I do not believe these efforts are regarded as generally useful or satisfactory. There are several assumptions requisite to economic rigor which seem to me to render the theoretical frameworks rather unacceptable in wage rate determination; in my experience, there are typically scores of rules under discussion which are not readily transmuted into money on a fixed basis, and none of the parties to the negotiations is a monolith.

The essence of negotiations and mediation is the shifting alignments within each party. Between two parties, it takes three agreements, one within each side, to reach the third agreement across the bargaining table. This essential view of negotiations is repugnant to microeconomics. Outcomes in negotiations are variable, not prescribed by markets, and the institutional features of the markets do make a difference. Indeed, these institutional features are themselves subject to negotiated change.

IN SUM, an understanding and an adequate explanation of the behavior of labor markets and of wage determination inherently needs to integrate the contributions of economic analysis—and its dedication to competitive markets—and those of industrial relations with its acceptance of internal markets, persistent differentials in compensation generated by product market differences, and the negotiation process. Serious error and bias are derived from trying to get along with one without the other. Such integration is in keeping with the long-run mainstream of economics. To facilitate this integration, and thus the discourse on labor markets and wage determination, is one of the major intellectual responsibilities of the Industrial Relations Research Association.

I fully recognize that the integration of industrial relations and microeconomics is likely to involve for economics a loss of formal rigor and intellectual beauty. But abstraction and relevance were never so far apart in economics. A sensitivity to industrial relations remains essential to an understanding of and sensible policy prescriptions for labor markets and wage determination. □

—FOOTNOTES—

¹ John T. Dunlop, *Wage Determination Under Trade Unions* (New York, The Macmillan Company, 1944), pp. 11, 118.

² Robert E. Hall, "Employment Fluctuations and Wage Rigidity," *Brookings Papers on Economic Activity*, vol. 1, 1980, p. 120.

The new Federal-State program to train dislocated workers

ROBERT F. COOK AND WAYNE M. TURNAGE

The passage of Title III of the Job Training Partnership Act, authorizing the Dislocated Worker Program, represented an acknowledgment by Congress of a relatively new labor market problem faced by thousands of American workers. Although the Job Training Partnership Act is basically concerned with training the economically disadvantaged, the Dislocated Worker Program is designed to assist workers who have lost or are at risk of losing their jobs because of plant closings and massive layoffs caused by world competition and technological change.

Although retraining technologically unemployed workers was done on a small scale under the Manpower Development and Training Act of 1962, over the last two decades, the basic thrust of employment and training policy has been to improve the employability of economically disadvantaged youths and adults.¹ Title III represents a renewed interest in structurally displaced workers.

While Manpower Development and Training Act programs were contracted for directly by the Federal Government, perhaps the greatest significance of the Job Training Partnership Act is the role it gives the States in designing and implementing the Title III program. Many management, coordinating, program planning, and oversight responsibilities have been shifted from the Federal to State level. States have almost complete authority over how the program is targeted, how resources are distributed, and what services will be provided.²

Emphasis on training

Legislation requires that 70 percent of all Title III funds be allocated to a training activity. While retraining efforts will be an important service strategy, findings indicate that the special problems of dislocated workers require multiple training strategies. For example, many Title III eligibles have substantial experience in high-paying jobs although the skills learned in those occupations were industry specific and not readily transferable to other high-wage occupations. This may require counseling aimed at reducing the participant's post-program wage expectations. Other dislocated workers are long-term unemployed and in need of financial assistance as well as personal counseling. Still others choose on-the-job training or job search assistance that provides an immediate source of income rather than a training program.

Organization of Title III

Because the States have almost complete jurisdiction³ over the use of Title III funds, there is interest in how the States target and allocate resources. In January 1984, the

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WESTAT findings revealed that the majority of the States in the sample established centralized procedures for organizing their Title III program.⁴ Although four States have altered their allocation strategies since that observation, the trend toward a centralized program has not changed.

By the end of the transition year, 10 of the 20 sample States were organizing Title III on a request for proposal project basis; seven conducted Statewide Title III programs; one State earmarked its allocations for service delivery area funding and then distributed the funds on a request for proposal basis; one distributed predetermined allocations to county governments on a project basis; and one formula-funded 75 percent of its total allocation and distributed the remaining 25 percent on a request for proposal basis.

In almost all of these States, decisionmaking was generally concentrated in one or two State agencies with little or no input from local private industry councils. In the two States where program resources were earmarked on a formula basis to the service delivery areas, the State agency responsible for the dislocated worker program retained the prerogative to choose among all projects proposed. It was reported that some State officials favor this allocation procedure because from a State perspective, "the process provides greater flexibility in project application and is the superior method for responding to project-specific requests."

The request for proposal process was popular among the States for the following reasons: (1) It enhances State control of program resources by allowing them to select only those projects consistent with the overall State plan for economic development; (2) It ensures the meritorious selection of projects—a particular concern when resources are limited; (3) It ensures maximum impact by targeting resources on projects in areas where the dislocated worker problem is particularly severe; and (4) It requires a minimum level of local input in program planning and operation.

Continued use of the request for proposal process for distributing Title III funds may cause problems, according to several officials. In one State, the procedure has been marked by an increase in technical requirements and detailed guidelines in the proposal request, resulting in a systematic bias against smaller programs in rural service delivery areas. State officials acknowledge that some type of formula-funding arrangement would be more equitable, although this might spread resources to the point that smaller areas might not be able to support an effective program. This strategy would reduce the overall impact of Title III. The major complaint with the proposal request process is the lengthy procedural requirements which, some officials feel, prevent an effective response in urgent situations. To overcome this, some States have retained a contingency fund in order to respond, for example, to unexpected plant closings.

Three of the seven States operating statewide programs made changes in their programs during fiscal year 1984. In two States, the program was organized through the regional and local Job Service offices. In the third, a consortium of

State agencies was selected to operate the program. While all three States adjusted their statewide programs to overcome previous implementation difficulties, the problems seem to be endemic to operating statewide Title III programs. The benefits of such a strategy—effective coordination, centralized communication, and the capacity to operate large-scale programs—are often negated by the lack of interest and problems of coordination these programs create at the local level.

SDA operated Title III projects

Because there are no specific provisions in the Job Training Partnership Act to require direct funding of Title III to the service delivery areas, there is widespread funding of projects outside of the service delivery area system. As of January 1984, only 16 percent of the Title III funds were allocated to service delivery area administrative entities in the sample of States. By the end of the transition year, the figure had increased to 36 percent. However, only 2 percent of the Title III resources were passed to the service delivery areas through a formula-funding arrangement. In Phase 1 of our study, only 7 of the 21 service delivery areas received funding to operate 9 Title III projects. For Phase 2 of the study, the number of sample areas was increased from 22 to 40. Only 7 of the additional 18 service delivery areas received grants from the State to operate Title III projects. This brought to 14 the total number of the 40 sample service delivery areas with dislocated worker programs.

Coordination problems between service delivery area operated programs and the State Title III programs continued during the remainder of the transition year. As the States continued to allocate Title III resources outside of the service delivery area system, criticism of this strategy increased, and coordination of services across programs remained low. In the 21 service delivery areas where both Title II and Title III programs were operating, 14 acknowledged a complete absence of coordination between service delivery area administered programs and the Title III projects administered by various private, State, and local agencies. Eight of these attribute this lack of cooperation to the existence of the State-administered Title III programs which, they feel, have been organized without any coordination objectives. The level of communication between the State and these service delivery areas usually does not extend beyond a letter of notification that "a project" will be funded in the area.

State targeting for Title III

The targeting provisions in Section 302 of the act clearly focus on unemployed persons with a recent labor force attachment. The specific reference to individuals affected by plant closures or layoffs is a direct attempt to concentrate resources on those thought to be adversely affected by a changing labor market. In addition, the law provides a mechanism for identifying program eligibles by allowing for a priority focus on individuals who are eligible for, or have exhausted, their unemployment insurance benefits.

Under the legislation, the States have specific responsibility for identifying dislocated workers, and they have been granted significant latitude to determine who will be served and how to identify the desired target population.

The earlier observation indicated that State targeting decisions evolved slowly, lagging behind other Title III activities. It was concluded that targeting goals would become more explicit as the transition year progressed. Phase 2 findings reveal a marked increase in State-level targeting activity. One-fourth of the sample of States ensured the development of more focused Title III projects by narrowing the eligibility criteria in the legislation. These States organized the Dislocated Worker Program on a request for proposal/project basis.

Targeting decisions were generally made by officials in the State agency administering the program. The basic objective of State targeting strategies was to develop criteria that distinguished between a narrow group of workers legitimately displaced from the labor market and workers suffering from periodic spells of unemployment.

Seven sample States added no provisions to the targeting legislation but chose projects which met unwritten State "threshold" requirements. This approach shifted many project-level targeting responsibilities to local operators. In addition, the strategy granted operators the needed flexibility to identify dislocated workers in their labor market areas, while reserving final approval of the targeting decisions to the States.

In 8 of the 20 States sampled there is still no apparent focus or strategy for serving particular groups of dislocated workers. Targeting decisions are often left to the discretion of program operators with limited guidance from the States. Four of these States have chosen to operate statewide Title III programs; the operators are usually State agencies. In such States, the policy of providing services on an "individual basis" does not create concern that an inappropriate population might be served. Rather, locating the program in State agencies is thought to ensure that program operators will identify and serve truly dislocated workers.

Title III matching requirement

Each State is required to provide a match equal to the formula-funded allocation for fiscal 1983 and 1984. This amount was subject to the reduction in the match based on the prior year State unemployment rate relative to the national rate. Nineteen of the 20 sampled States were subject to the Federal match requirements.⁵ Eleven States passed the responsibility on to the program operators. An additional five passed it to the subgrantee level without designating a source for a match. Only three States provided a cash match through appropriations by the State legislature. The most common sources for generating the match continue to be the employers' contribution to wages paid under on-the-job training contracts (10 States) and unemployment insurance benefits received by enrollees (8 States). Eight States also

used in-kind contributions from either the nontuition share of the budget for State institutions providing Title III services, or State staff services. Five States designated in-kind contributions from the private sector as a source of match.

Title III buildup

There was a slow buildup of Title III fund obligations through mid-January 1984. Over 39 percent of the funds had not been obligated by the States and an additional 19 percent was committed to projects which had not begun to enroll participants. Phase 2 findings reveal that this problem has been corrected. By the end of transition year 1984, over \$94 million had been made available in the 20 sampled States of which all but 8 percent had been obligated.

Several strategies were used to successfully obligate Title III resources. Generally, the effort to commit these resources involved distributing program funds to an existing operating network of employment and training service providers (that is, local employment service offices or community colleges), or refunding projects that received fiscal year 1983 funding. A number of State officials indicated that early buildup problems were merely temporary pains associated with starting a new program.

Title III expenditure rate

Most sample States had problems organizing the Dislocated Worker Program and starting specific projects in the first year of the Job Training Partnership Act. Beyond those early implementation troubles, however, are other obstacles that have effectively slowed one-half of the sample States in spending their Title III allocation.

The central reason for this inability to spend Title III resources relates to the newness of the program. In some States, new service providers were selected who require extensive up-front training for intake procedures and eligibility determination. Other States complain about the inability to attract those workers to the program who have become victims of plant closures. Many of these workers "persist in the thinking that the plant will reopen and are, therefore, slow to take advantage of the training offered through Title III." They often rely on unemployment insurance and supplementary unemployment benefits to cushion the wait for the plant to call them back to work. This has caused problems for Title III projects relying on unemployment insurance benefits for their required match.

Associates from four States experiencing slow expenditure rates point to State decisions to operate the program outside of the service delivery area system as a major factor slowing the enrollment process. Often the administrative entities for the service delivery areas have a capable staff in place with established relations with local industries, unions, and government officials. Funding projects outside of this system necessitates early implementation efforts to develop these relationships instead of building up enrollments.

Title III service mix

The service strategies employed during the first fiscal year for Title III reflected the considerable flexibility granted the States to select eligible activities and the significant input of many local operators in determining what those activities were to be.

This flexibility remains the key reason for the continuing variety in service mix. Several States continue to fund projects designed to establish a network of services to locate immediate employment for Title III participants (for example, job clubs). The premise is that the displaced worker can be effectively reemployed through intervention strategies that sharpen or improve job search skills.

Some States are funding projects designed to impart new job skills to dislocated workers with obsolete skills. Typically, these projects target workers affected by specific plant closures. The service elements combine on-the-job training contracts with small businesses and classroom and/or vocational training for specific occupations.

Future implementation of Title III

With few exceptions, the sample States used centralized decisionmaking to maintain control of the Title III program. A more centralized approach to program organization enhances coordination among State-level agencies and provides the mechanisms for incorporating Title III into the Governor's policy agenda. Planned arrangements for the first full program year indicates that this will continue.

Future service delivery area involvement in the program will be mostly limited to those areas that are able to propose and win specific projects. The fact that nine States plan to distribute resources on a request for proposal/project basis does assure a minimal review and recommendation role for service delivery area officials. In addition, the fiscal year 1984 shift to direct formula funding to the service delivery areas in one State and the planned strategy of another State to select projects recommended by service delivery areas, is a recognized attempt at decentralization. State officials continue to complain, however, about the inefficiency of the request for proposal procedure and are searching for ways to speed up (centralize) future decisionmaking for Title III. □

—FOOTNOTES—

¹For a discussion of the evolution and effect of federally funded training programs, see Charles R. Perry and others, *The Impact of Government Manpower Programs* (Philadelphia, PA, University of Pennsylvania, Industrial Research Unit, 1975).

²Although 75 percent of the funds are formula funded to the States, 25 percent is allocated on a discretionary basis by the Secretary of Labor to projects proposed by the States.

³All Title III programs, other than those operating on a statewide or industry basis, must be submitted for review and recommendations to the private industry council and the elected officials of any service delivery area in which they operate. Further, full consultation must take place with a labor organization before a Title III program provides services to a substantial number of its members. Also, the statewide coordination plan must address Title III activities.

⁴For a description of the study, see Robert F. Cook and others, *State Level Implementation of the Job Training Partnership Act* (U.S. Department of Labor, Employment and Training Administration, Office of Research and Evaluation, 1984), ch. 1.

⁵One of the sample States was not required to match the Federal allocation because of its high unemployment rate.

Four nations' policies toward displaced steel workers

EVERETT M. KASSALOW

The steel industry in the Western World entered a period of crisis beginning in 1974 from which it has not recovered. Crude steel output in Western countries peaked at 494 million metric tons in 1974, and then fell off almost steadily to 398 million tons in 1982. A modest recovery began in 1983, but production is still well below 1974 levels.

Employment declines in the industry have also been heavy, especially in the United States and the United Kingdom. Not only has the cutback in production cut into employment, but the shutting down of older, less efficient capacity has further reduced employment requirements.

The following explains the benefits granted to laid-off or displaced workers in France, the Federal Republic of Germany, United Kingdom, and the United States.

France

Generally speaking, to deal with the displacement problem in the French steel industry, the companies and unions relied on attrition and early retirement.

Under the 1977 and 1979 agreements, when layoffs had to be made, early retirement of employees over 55 years was resorted to. Then at age 60, these people moved into regular retirement status. (Government helps meet the costs of their early retirement, and in some circumstances aid is also forthcoming from the European Economic Community.) Beyond this, if further layoffs are necessary, employees between 50 and 55 years of age are put into a status of "suspended activity," and then they go into early retirement at age 55. Employees in "suspended activity" receive approximately 75 percent of gross monthly salary (plus certain other compensation); in early retirement status, employees receive approximately 70 percent of their previous gross pay. (In each case, cost of living adjustments are also made every 6 months.) The employees usually continue to be eligible for sickness and accident insurance, company housing, company vacation colony rights, and so forth.¹ Regular, social security retirement pay after age 60 usually replaces close to 80 percent of previous earnings.

In almost all cases, the companies have the option of

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offering employees transfers to other steel plants when displacement cannot be avoided. Separations are made by seniority, with the oldest workers going first unless they have indispensable skills, although priority in departure is also given to disabled employees, or those who have worked under unusually difficult physical conditions or been assigned to protracted, continuous shift work. (In most of Europe this usually involves regular shift rotations.) Transferred employees in the same company retain their previous wage classification at least for 24 months, as well as their seniority. After 24 months, employees transferred to lower classifications are indemnified up to 80 percent of their loss, and anyone over 50 who is transferred must suffer no loss. Special grants and loans are provided to help meet any moving expenses.²

In actual practice relatively few transfers have been made, as steel employment has steadily weakened.

In a further effort to preserve employment, unions and employers reached an agreement in 1982 to use a "fifth shift" for continuous operations workers in the steel industry. Under the agreement, the 39-hour week was reduced to 33 hours, 36 minutes. Lower salary employees were fully protected from wage losses under this agreement, while higher paid workers received slight pay reductions, in some cases. Continuous operations workers in steel still work 8-hour days, but they are given enough free shifts in the course of a year to average out to a workweek of 33 hours, 36 minutes (multiplying the latter by 5 yields 168 hours, the full 7-day workweek, 24 hours per day).

These sweeping measures of social protection eased the burden on displaced steelworkers and their communities; however, the communities, and the unions within them, continued to protest as leading steel regions in the North and East declined, and young workers tended to migrate in the absence of decent job opportunities. Government programs to locate new plants and jobs in the areas had only limited success.

When, therefore, the socialist government of President Mitterand announced new long-term plans for additional restructuring of the steel industry, including the projected elimination of 20,000 jobs or so by 1987, a storm of protest broke out. Large demonstrations were organized, especially in the East of France where the bulk of the cuts were planned, as well as brief union strikes. Included in the plan were new investments of \$2 billion in steel facilities which, it was hoped, would finally return the trimmed-down industry to profitability by 1987.

As the storms subsided, most of the unions finally reached agreement with the industry and, in effect, with the government whose continued financial support lies behind the benefits provided in July 1984.³ Early retirement and "suspension of activity" benefits for workers from 50 to 60 years old provided under the 1977 and 1979 (which had been extended till 1984) agreements, to relieve employment pressures, were continued under the 1984 accord. However,

in recognition that new job cuts could not be absorbed by merely retiring workers over 50, management provided new retraining benefits for workers who are not eligible for "suspension of activity" or early retirement benefits. (Those facing "suspension of activity" were also eligible for retraining benefits. This reflected growing social discontent with taking relatively young workers out of useful activity at such an early age.)

Under these "reconversion" clauses, employees who are displaced are entitled to 2 years of training and benefits (70 percent of previous earnings—in line with those provided for "suspension of earnings" status). If these "trainees" have not found jobs by that time, their employers must, in the course of their training or at its expiration, make them two job offers (of a permanent type). At least one of these job offers must be within the steel basin in which they have been employed.⁴ The job offered is supposed to be one corresponding to earlier employment.

These far-reaching benefits have been largely confined to displaced steel and shipbuilding workers, although employees in a few other large companies have also been similarly protected, with government approval and assistance. So long as steel unemployment was seen as something special, this proved no great problem. But as unemployment has risen to new general heights in France in recent years, it has begun to provoke protest among employees facing displacement in some other industries. The weakness of the unions in small companies makes such protest less of a threat than in industries like steel where strong unionization and regional pressures combine to support what, to an outsider, at least, look like a formidable and costly array of benefits.⁵ It is difficult to believe similar benefits could be extended to the bulk of the French work force—the cost to government could be enormous. It should be added that this range of benefits was first begun under a conservative French government and then extended, and enlarged somewhat by the present Socialist one.

Federal Republic of Germany

To explain the benefits of displaced and laid-off workers in Germany, we will use, as an example, the Thyssen Co., a major steel producer.

Prior to 1979, Thyssen and the works council (representatives who perform basic negotiating functions within the plants, by law) had agreed upon an extensive work sharing plan under which the regular 40-hour week was reduced to as low as 30 hours in some plants, to avoid layoffs. Under this arrangement, workers received 30 hours of full pay. In addition, they would also receive unemployment compensation (approximately 68 percent of regular net pay) for the additional lost 10 hours, plus some small supplement from the company to close another part of the wage loss gap.

In 1979, the company was confronted with the necessity to make some absolute employment reductions. With the works council, it negotiated a Sozial Plan under which a

number of workers were moved into early retirement at age 59. During their 59–60 year, employees would receive unemployment compensation, plus a supplement from the company which would leave them at about their previous net pay. During that year, too, they were eligible for the regular 13-month salary bonus, and they could continue in company housing (if they were in it) during retirement. Technically, employees might be offered new jobs (outside of steel), which could jeopardize their unemployment compensation; however, several policies warded off this possibility. The labor market made new employment for a 59-year-old a dubious possibility. Moreover, government officials informally cooperate with these social plans so that serious job offers are not likely. At age 60, under German law, the employees would be eligible for early retirement benefits (the latter usually begin at age 63, but where restructuring is involved, the age drops to 60). In addition, employees would be eligible for modest company pensions on retirement.⁶

Employees who were transferred to other jobs under the 1979 social plan, were guaranteed their old salaries for 1 year. Fuller compensation for longer periods was guaranteed to older and longer service employees.⁷

These plans run for set fiscal periods and then expire. Presumably when and if a new “crisis” arises, a new plan must be negotiated.

Similar plans have been negotiated in other German steel plants, as employment cuts had to be made. In some cases, provisions for early retirement has been made for employees at ages as low as 56 and 55.⁸

United Kingdom

Layoff benefits. In 1979, the British Steel Corp. resolved to move forward with a policy of drastic closings of what it judged to be obsolete works, or parts of works. In the face of strong opposition to such closings by the Iron and Steel Trade Confederation, the corporations proceeded to negotiate special termination agreements on a *works by works* basis.

While some efforts were made to transfer displaced employees to continuing operations, several factors led to few such transfers. In the first place, the shutdowns were far reaching, and few opportunities were available. Secondly, union and management both stress the traditional resistance of British workers to moving even short distances. There have, however, been a number of cases in which young and old workers have changed places, permitting the former to retain his steel employment while the latter chooses layoff (with its benefits) or early retirement (not too many cases).

The agreements negotiated with the various unions (jointly, works by works) provide significant *ex gratia* (severance) benefits, beyond those provided under national legislation and by the European Economic Community (through its Coal and Steel Community).

Under national legislation (Redundancy Payments Act of

1965, amended in 1979), terminated workers's benefits are scaled to their previous service and age. Thus, for each year of service a worker has completed between ages 18 and 21, he could be entitled to ½ week of pay; for service between ages 22 and 41, 1 week per year; and for each service year between 42 and 64, 1½ weeks of pay. Under the Act, for example, a worker who started his employment with British Steel Corp. at age 36, and terminated at 51, would be entitled to 19½ weeks of pay (13½ weeks for service years from 42 to 51, and 6 weeks for his service from ages 36–41).

As part of the various works' termination collective agreements, British Steel Corp. also agreed to increase the redundancy payments by an additional 50 percent.

A combination of regular unemployment benefits and special benefits for steel workers, under the European Economic Community is available for a displaced worker who takes a new job that pays less than his old (British Steel Corp.) job. He would be eligible for a make up benefit to bring his total compensation up to 90 percent of his previous earnings. This would be available for a maximum period ranging from 104 to 130 weeks, depending on the worker's age at termination. Those enrolled in “approved” retraining courses are eligible for benefits up to 52 weeks. Workers transferred to other steel works jobs are guaranteed pay equal to their last jobs, for a period ranging from 20 to 26 weeks (depending on their age) and thereafter from 70 to 122 weeks at 90 percent of their previous pay (again depending on their age).⁹ (Similar types of European Economic Community unemployment assistance are available to other member countries' displaced steel workers, including France and Germany.)

There is an additional tier of large *ex gratia* or severance payments for terminated workers, which was negotiated in the 1979 closure agreements. These payments vary moderately from works to works, as the company has sought to gear them to local labor market conditions in its negotiations with the unions. Under these provisions, employees have generally received payments usually varying from 16 to 26 weeks,¹⁰ but in individual cases, payments range as high as 48 or 50 weeks.

In addition to these recently negotiated *ex gratia* payments, there are some *ex gratia* payments carried over from earlier agreements in the industry, usually for 300 pounds (about \$375).

Aside from formal *ex gratia* payments, the collective agreements also provide payments in lieu of notice benefits (which vary with years of service), and accumulated vacation pay benefits (usually 9 weeks) for terminated employees.

Job creation programs. All of the European countries under study here have made special endeavors to assist regions where steel shutdowns have created serious unemployment problems. These efforts have been particularly notable in

France, and especially in the Lorraine (Eastern) region, where the historic concentration of the industry has made the region particularly vulnerable.

The British Steel Corp. went beyond governmental efforts, however, and established its "own job creation agency, British Steel Corp. (Industry) Limited—a wholly owned subsidiary" whose purpose was "not simply to bring new job opportunities to closure areas," but to help "create a climate conducive to job creation." The board of directors of this new company included 6 trade unionists as well as the British Steel Corp. chairman. British Steel Corp. reports that although aid from several sources (the European Economic Community as well as the British government) was already available for such stricken steel areas, the new company helped give "more executive muscle, considerably more power and access to substantial resources" to businessmen and depressed communities.¹¹

These efforts have had some useful results, but they have been made in a difficult economic environment, as unemployment has reached depression-like levels in Great Britain.

By 1982, the British Steel Corp. was indicating that it was planning to phase this program out, as it could "no longer . . . afford" its cost.¹² The corporation recently reported as of April 1984 British Steel Corp. (Industry) Limited had "become self-supporting" and would no longer need funding from British Steel Corp. It reported having assisted 1,400 companies, and "forecast the creation of 30,000 new jobs by March 1986, well over half of which already exist."¹³

United States

Interplant transfers. Under collective agreements negotiated between major basic steel companies and the United Steelworkers of America, typically, employees (with 2 or more years of service) who are on layoff, and who are not eligible for pensions are to "be given priority over other applicants" for hiring "at other steel plants of the company located within a limited agreed upon geographical region." On application, an employee and his family are eligible for relocation allowances ranging from \$600 to \$1,450 (single employees less), depending on the distance of the move. At the new plant, the employee is "subject to all the rules and conditions of employment" including the wage rates in effect there. Except for vacation pay computation, his seniority record begins anew. (Presumably his old seniority would also continue to apply to his pension status.)

Severance pay. Where a facility or department is permanently closed down, employees who are terminated (and are not entitled to other employment, by reason of their seniority), receive severance benefits ranging from 4 to 8 weeks pay, depending upon the length of company service, for example, 8 weeks for 10 years or more service. (There-

fore, benefits are an alternative, not in addition to Supplemental Unemployment Benefits.)

Supplemental Unemployment Benefits. Under collective agreements in the major basic steel companies, typically employees who are laid off and have met eligibility requirements are entitled to special supplemental compensation benefits—these are in addition to State unemployment compensation benefits.¹⁴ While an employee's benefits are calculated in accordance with his previous earnings, in any week in which he receives a government unemployment benefit, the supplemental weekly maximum is \$170 (\$185 in August 1, 1985), plus \$1.50 for each dependent up to four. For weeks when he is not eligible for government benefits (presumably after he has exhausted government benefits, usually from 26 to 39 weeks in duration, varying by States), the employee can draw supplemental unemployment benefits up to a maximum of \$220 (\$235 as of August 1, 1985), plus \$1.50 for each dependent up to four. These benefits are available for most employees for a period of up to 52 weeks. Employees who have 20 years of continuous service are eligible for an additional 52 weeks of benefits.

Retirement benefits. Special early retirement benefits are provided for employees whose service is interrupted by a plant, department, or subdivision shutdown.¹⁵ Under the basic steel collective agreements, some six different combinations of company pension, regular unemployment compensation, and SUB options are available to employees whose jobs are terminated. One survey concludes that as a result of these options only workers "who are under age 41 and have less than 20 years of service" lack some kind of lifetime income protection. The others, by the combinations just referred to, with the addition of social security after age 62, "are afforded income security from the time of layoff through death."¹⁶ These benefits vary according to the option for which the employee is eligible. □

FOOTNOTES

ACKNOWLEDGMENT: Grants from the German Marshall Fund of the United States helped make possible travel in Western Europe, which provided much of the information in this paper. My thanks are to the many unions, employer, and government officials whom I met with in the course of the study.

¹ These benefits are spelled out, in detail, in the *Convention de Protection Sociale de la Siderurgie de l'Est et de Nord*, dated June 3, 1977, and a similarly titled document dated July 24, 1979. The latter document was renewed, with amendments until July 1984. In that month it was supplemented by new retraining provisions.

² *Ibid.* These details are spelled out and summarized in greater detail in an unpublished manuscript of mine.

³ *Convention Générale de Protection Sociale Pour le Personnel des Entreprises Siderurgique Concernées par les Restructurations*, Protocole d'accord de 24 Juillet 1984. (Mimeographed). The Communist metal union denounced the agreement on the grounds that it accepted "restructuring" that would bring "the elimination of a massive number of jobs." The engineers and supervisors' union—CGC, felt the agreement gave a "blank

check' for massive layoffs, and also refused to sign. *Le Monde*, July 16, and August 1, 1984. Our description of the terms of the new agreement is taken from the text, French newspapers, and from conversations with union and employer association officials.

⁴*Protocole de 24 Juillet 1984*, Title VII, pp. 3-4.

⁵See *The Wall Street Journal*, Oct. 12, 1983, for a report on complaints of employees in small French companies.

⁶All of this is provided in *Sozial Plan*, Thyssen Aktiengesellschaft, Duisburg, 1979.

⁷*Ibid.*

⁸The benefits available to employees under the reorganization plan adopted in the Saar in 1977, are described in my earlier manuscript referred to in footnote 2.

⁹Description taken from the following British Steel Corp. leaflets: *Benefits for Redundant Workers*, 5th ed., January 1980, and *Benefits [for] Redeployed Industrial Grades*, 5th ed., January 1980.

¹⁰D. Grieves, British Steel Corp. director of personnel, "La Siderurgie et les ressources humaines-leur influence sur le productivité," address to the International Institute of Iron and Steel Congress, Tokyo, October 1982, reproduced in *Union des Industries Metallurgiques et Minières (UIMM), Social International*, February 1983, Annexe, pp. 3 and 13. *SI* is the monthly international news journal of the French Metal manufacturing Employers' Association-UIMM.

¹¹Sir Charles Villiers (past chairman of British Steel Corp.), "Job Creation by the British Steel Corporation in Major Steel Closure Areas," Document No. 8, in Organization for Economic Cooperation and Development, *Steel in the 80s* (Paris, 1980). pp. 200-03.

¹²*The Wall Street Journal*, Apr. 6, 1982.

¹³British Steel Corp., *Report and Accounts, 1983-84*, p. 18.

¹⁴This description of SUB benefits is taken from *SUB Supplemental Unemployment Benefit Plan*, effective March 1, 1983, for Employees of United States Steel Corp., pursuant to agreement with United Steelworkers of America. We have simplified some of the complex features of this plan, to keep our description brief.

¹⁵This section is taken from *Pension Agreement Between United States Steel Corporation and United Steelworkers of America*, July 31, 1980.

¹⁶Survey by Carnegie-Mellon University researchers, as reported in *Daily Labor Report*, August 30, 1983.

Comparable worth in the job market: estimating its effects

MARK R. KILLINGSWORTH

From a purely practical standpoint, comparable worth is likely to prove a mixed blessing. Reduced to its essentials, comparable worth amounts to a policy of raising the cost of employing low-wage, predominantly female labor.¹ Hence, other things being equal, it will reduce employment of such labor. To the extent that it raises overall labor costs, it may also reduce employment in other categories, for example, predominantly male or integrated jobs.² Thus, comparable worth "solves" the problem of women's low wages only to aggravate others. The key problem is to determine the likely magnitudes of both the wage and employment effects of comparable worth.

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Wage effects

George Johnson and Gary Solon investigated wage effects.³ Their results imply that comparable worth would raise the pay of women by only about 6.4 percent, on average, and would reduce the female-male wage gap of approximately 40 percentage points by no more than about 4 percentage points.

However, their estimation procedure probably understates substantially the likely impact of comparable worth on wage rates. That procedure in effect assumes that comparable worth would correct only that portion of the aggregate male-female wage differential among individuals that is associated with the proportion female in one's occupation, other things being equal—where the "other things" include not only such factors as education and job evaluation points (for factors such as skill requirements and physical demands), but also gender.⁴

Ronald Ehrenberg and Robert S. Smith do not attempt to estimate the effect of comparable worth on the aggregate female-male pay gap, but do consider its likely impact on women's wages, using data taken from comparable worth job evaluations of State government employment in Connecticut, Minnesota, and Washington.⁵ Their estimates imply that full implementation of comparable worth could be expected to raise pay in predominantly female jobs in these three States by about 15 to 20 percent.⁶

Employment effects

On the assumption that comparable worth might therefore raise women's wages by 20 percent, Ehrenberg and Smith then attempt to estimate the resulting effect on women's employment. Their results imply that, if State and local government budgets remained fixed in the face of such wage increases, female employment would fall by no more than 6 percent. However, they add that it is likely that State and local government personnel budgets would increase somewhat in response to such cost increases. If so, they estimate, the decline in female employment would probably be halved, to about 3 percent.

Ehrenberg and Smith note that these estimates are "surprisingly small," but several caveats are in order. First, the Ehrenberg-Smith estimates are based on econometric results of somewhat doubtful solidity (for example, of 16 own-wage employment demand elasticities, seven are positive and only two are statistically significant at conventional levels). Second, they refer to broad aggregates (for example, all professionals and managers in local government non-educational employment) and do not allow for differential effects within those aggregates (for example, for a greater employment effect on nurses than on computer programmers). Third, they refer to State and local government, where labor demand elasticities are typically low, rather than to the private sector, where such elasticities—particularly in the long run—seem to be higher.⁷

Australia's experience

The main difficulty in estimating the effects of comparable worth in the United States, however, is simply that comparable worth has been implemented here to any considerable extent. In contrast, Australia has had a nationwide comparable worth-like policy since the early 1970's. Although Australia's experience is not directly applicable to the United States, it is nevertheless instructive.

Under Australia's policy of "equal pay for work of equal value," which began in 1972, federal and state wage tribunals set the same pay for all jobs judged to be comparable in terms of skill, effort, responsibility, and working conditions. Between 1971 and 1977, the female-male earnings ratio for full-time nonmanagerial adults in the private sector rose from 0.607 to 0.766.⁸ Given the gradual pace at which most social change occurs, a reduction of the pay gap by this much in so short a time is remarkable.

However, the policy also had several adverse side effects. First, women's employment suffered. Results derived by R.G. Gregory and R.C. Duncan imply that, as of 1977, the cumulative impact of comparable worth was to reduce women's employment growth relative to that of men by about 1.3 percentage points. Because the actual annual relative employment growth rate of women between 1972 and 1977 was about 3.0 percentage points, the reduction attributable to the policy was about $1.3/(3.0 + 1.3) = 0.30$. In other words, Australia's comparable worth policy reduced the rate of growth of women's employment, relative to that of men's employment, by almost one-third. In view of the Ehrenberg-Smith results just noted, it is interesting that Gregory and Duncan found no substantial disemployment effect only in the public authority and community services sector.⁹

Gregory and Duncan also analyzed the impact of the policy on female joblessness. Their estimates imply that the policy's cumulative impact as of 1977 was an increase in the female unemployment rate of about 0.5 of a percentage point. (The actual female unemployment rate in August 1976 was 6.2 percent.)

IN SUM, the possible adverse side effects of comparable worth should not be overlooked. Its shortrun employment effect on the public sector may not be substantial—though it should be noted that maintaining comparable worth there in the long run will necessarily require either higher taxes, or a larger deficit, or reductions in other expenditure categories. Moreover, Australia's experience suggests that employment effects of comparable worth on the private sector may be much greater. □

FOOTNOTES

¹In theory, comparable worth need not require increases in pay for predominantly female jobs found to be comparable to, but lower paid than, other predominantly male jobs. For example, pay in the male jobs could

be reduced until it equals the pay in comparable predominantly female jobs. However, comparable worth advocates appear to equate "fair" with "more," and—not unmindful of the need to enlist as much support as they can get—often specify that under comparable worth no job's pay would ever be reduced.

²Reductions in employment in predominantly male jobs would be certain to occur if the substitution towards them, induced by the increase in the cost of predominantly female jobs due to comparable worth, were smaller than the reduction in scale induced by the rise in labor costs and, hence, prices. In the nature of the case, substitution between male and female jobs is probably small, so adverse effects on predominantly male jobs seem quite likely.

³George Johnson and Gary Solon, *Pay Differences Between Men's and Women's Jobs: The Empirical Foundations of Comparable Worth Legislation* (Cambridge, MA, National Bureau of Economic Research, Inc., September 1984, NBER Working Paper No. 1472).

⁴Johnson and Solon fit least squares regressions of the form $Y = Pa + Xb + e$ separately for microdata on male and female workers, where Y is the natural logarithm of salary, P is the proportion female in the worker's occupation, X is a vector of other characteristics of the worker (schooling, potential experience, and so forth) and of his or her job (physical demands, skill requirements, and so forth), e is an error term, and a and b are parameters. Johnson and Solon then interpret comparable worth as requiring only that a be set at zero (or that its effect be completely offset) in both the men's and women's equations. However, the estimates of a in their regressions measure the extent to which an increase in the proportion female in the job one holds is associated with lower pay, other things—including gender—being equal. Thus, they assume that comparable worth would leave undisturbed all of the male-female pay gap resulting from either (1) uniformly lower wages for all women relative to comparable men (that is, a difference in regression intercepts) or (2) differential pay for specific characteristics, such as education, depending on whether they are possessed by men or women (that is, a difference in regression slopes). However, when the regression approach has been suggested by comparable worth proponents it has differed from the Johnson-Solon procedure in one subtle but crucial respect: under the proponents' methodology, the regression would be fitted for men and women combined. This kind of regression, unlike the Johnson-Solon approach, treats all of the male-female wage differential between men and women with the same characteristics (X) as subject to comparable worth pay adjustments to the extent that it is associated with P. Depending on what other characteristics (X) are considered, the proponents' procedure is therefore likely to lead to a considerably larger comparable worth pay adjustment than is the Johnson-Solon procedure.

⁵Ronald Ehrenberg and Robert S. Smith, *Comparable Worth in the Public Sector* (Cambridge, MA, National Bureau of Economic Research Inc., September 1984, NBER Working Paper No. 1471).

⁶Like Johnson and Solon, Ehrenberg and Smith estimate the wage effects of comparable worth by fitting two regression equations, but their methodology differs from that of Johnson and Solon in two important respects. First, Ehrenberg and Smith use jobs (rather than individuals) as the unit of observation, and compute separate regressions for predominantly male and predominantly female jobs. Second, Ehrenberg and Smith calculate the wage effect of comparable worth on the assumption that comparable worth would eradicate or offset all differences in coefficients as between men's and women's jobs (rather than just the "proportion female" coefficients a considered by Johnson and Solon). The latter aspect of the Ehrenberg-Smith approach probably explains why their estimate of the comparable worth wage effect is much larger than the one derived by Johnson and Solon.

⁷Daniel S. Hamermesh, "The Demand for Labor in the Long Run," Orley Ashenfelter and Richard Layard, eds., *Handbook of Labor Economics* (New York, North-Holland Publishing Co., forthcoming 1985).

⁸R.G. Gregory and R.C. Duncan, "Segmented Labor Market Theories and the Australian Experience of Equal Pay for Women," *Journal of Post Keynesian Economics*, 1981, pp. 403-28.

⁹For several reasons, the Gregory-Duncan results may understate the effect of the policy on women's employment. First, Gregory and Duncan analyzed the effect of the policy on numbers of women employed, without reference to hours worked; as a number of observers have suggested, the policy may also have adversely affected women's hours of work. Second,

Gregory and Duncan analyzed the rate of growth of women's employment relative to that of men's; to the extent that the policy raised overall labor costs and thereby reduced the rate of growth of men's employment, policy-induced declines in the rate of women's relative employment growth will therefore understate the decline in the absolute rate of women's employment growth. (For example, if the policy reduces the rates of women's and men's employment growth by 3 percent and 1 percent, respectively, then the women's relative employment growth rate falls by only 2 percent.) Finally, among the things Gregory and Duncan controlled for in the regression study that generated their results was the male unemployment rate, which, as just implied, may also have been affected by comparable worth.

Technological changes in printing: union response in three countries

MICHAEL WALLACE

Recent developments in union organization in the newspaper printing industry in three countries—the United States, Great Britain, and the Federal Republic of Germany—demonstrate considerable variety in the degree to which workers have been able to retain control over the immediate labor process in the face of unprecedented technological change. Much of the variability is a function of adapting older organizational styles to new circumstances. Whereas the interests of workers in the industry formerly were well-served by a “craft unionism” model, the urgency of moving toward an “industrial unionism” model is becoming apparent.

The classic *craft* model of industrial organization is best exemplified by the situation in the United States and Great Britain *prior* to the onset of the major technological changes of the past two decades. Under this model, each of the major crafts in the industry—compositors, stereotypers, platemakers, and press operators—maintains its own union organization and apprenticeship program. I will argue that there are two intermediate phases in the transition to industrial unionism: a *quasi-craft* model, best exemplified by the current position of U.S. printing unions, and a *quasi-industrial* model, which is approximated by the situation in Great Britain today. The *industrial* model of union organization, historically rare in printing and similar industries, is best demonstrated by the Federal Republic of Germany throughout the entire post-World War II era.

The United States

Traditionally, one could expect to encounter as many as 10 unions at a single major U.S. newspaper. While this situation still exists at a few papers, the trend has been toward either industry-level mergers of major craft unions or decertification of one or more bargaining units in a given

plant. Today there are three major unions in the industry: The Newspaper Guild, composed of reporters, editors, and a few other white-collar workers; the International Typographical Union (ITU), consisting mainly of composing room and mailroom workers; and the recently created Graphic Communications International Union (GCIU), representing pressroom and ancillary workers.

A survey of the ITU's *Typographic Journal* over the past 10 years reveals the reasons for the spate of mergers and for the current disarray among workers in the U.S. printing trades. New technology has radically altered traditional roles among the various functions of the newspaper, eroding craft jurisdiction over many jobs and creating the need for a more united front against employers. Nowhere has this been more true than among composing room workers, as technological advances threaten to eliminate all composing room functions within the next generation. ITU leaders have called for the formation of “one big union” for the industry, but old cleavages have proved difficult to overcome.

After a merger with the Mailers Union in 1979, the ITU twice was unsuccessful in completing merger negotiations with the Guild. The second failed attempt in 1983 set the tone for a turbulent year during which the national leadership of the union as well as the rank and file became deeply divided over the future course of the union. The incumbent president sought a merger with the International Brotherhood of Teamsters, a noncraft union that spans many industries. Other ITU members, fearing that their union's identity would be lost in the Teamsters organization, sought a merger with the only other major craft union in the industry, the newly formed GCIU. In the regular election for the ITU executive board in 1983, the incumbent president and his plan for merger with the Teamsters were voted down. But the president, seeking to close the impending deal with the Teamsters, asked the union's canvassing board to overturn the results of the election on a technicality, which it did.

The National Labor Relations Board, however, stepped in and declared that a new election would have to be held. In a separate action, six dissatisfied ITU members were granted an injunction to block the merger vote with the Teamsters pending the outcome of the new election. In the rerun of the election, held in July 1984, the anti-Teamster challenger and many of his supporters were voted into the union leadership. The new president immediately recanted all past negotiations with the Teamsters and vowed to pursue negotiations with the GCIU. Shortly thereafter, there were claims that the Teamsters were “raiding” ITU locals. In December 1984, in a decertification election in the *Cleveland Plain Dealer*, the Teamsters gained representational rights from the ITU in the composing room and mailroom.¹ The ITU's leadership cautioned members that this was part of a national campaign by the Teamsters to gain a toehold in the printing industry at the expense of their own organization.²

Prospects for the transition to an industrial union in the U.S. newspaper industry are not good. A large segment of

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the labor force remains unorganized. Longstanding rivalries among composing room workers and pressroom workers do not bode well for the merger negotiations between the ITU and the GCIU. Differences among journalists and composing room workers over jurisdiction of cold-type technology remain a point of friction between the Guild and the ITU. The current configuration of union organization in this country can best be labeled a quasi-craft model: Instead of many craft unions in the industry, there are now only three, but the contentiousness inherent in the classic craft system is still evident. Each of the three unions continues to be organized along occupational lines and (in the case of the ITU and GCIU) there are continuing sources of internal friction based on earlier organizational structures (as between mailroom workers and composing room workers in the ITU).

While there are perhaps many reasons for the failure of U.S. printing unions to retain their traditional control over the allocation of work, an important factor has been the belated and defensive nature of the merger pattern. The printing unions, particularly the ITU, were slow to react to the changes wrought by the new technology and, as a result, turned to mergers out of desperation after questions of jurisdiction over the new technology had already been decided by publishers on a plant-by-plant basis. Lacking a coordinated bargaining strategy at either the national or local level, the unions thus were vulnerable to the actions of the publishers, who demonstrated much more solidarity.

Great Britain

On the surface, the structure of union organization in Britain appears very similar to that of the United States. Whereas there were 12 major unions in the newspaper industry in 1948, there are currently three.³ The union accounting for most of the skilled craft occupations is the National Graphical Association (NGA). Most of the 10 major unions that ultimately affiliated with the NGA had done so by 1967, prior to large-scale implementation of the new technology in British newspapers. The single union to hold out past 1969, the Society of Litho Artists, Designers, Engravers, and Process Workers (SLADE), ultimately affiliated with the NGA in 1982.

The second major union, the Society for Graphical and Allied Trades (SOGAT), resulted from the merger, dissolution, and remerger of two major unions. If one traces back far enough, one can see that SOGAT is the culmination of 35 earlier mergers including workers from all parts of the industry—distributors, warehouse workers, maintenance workers, and so forth. SOGAT is more industrial in orientation than the craft-oriented NGA, but is currently the largest printing union in any European country.⁴ The third union in the British newspaper industry, the National Union of Journalists (NUJ), organizes reporters and editors. But more than its U.S. counterpart, the Guild, the NUJ seeks a broad-based membership of all white-collar workers in the industry.

In contrast to the situation in the United States, the British trade unions have exhibited considerably more unity in their stance on new technology. The NGA and NUJ have established joint committees dealing with technology issues. In general, the journalists have supported the NGA's contention that composing room workers should maintain jurisdiction over direct input of newspaper material into video display terminals (VDT's). This is an important departure from situations in the United States where this issue has remained a divisive factor between the two worker groups.

A critical feature of the British experience has been the ability to maintain a *de facto* industrywide solidarity at critical times, in contrast to the relative disorganization of employers. This was clearly evident in the case of an 11-month strike at the *London Times* in 1979, during which workers joined ranks to support the NGA's contention that its members should control direct inputting.⁵ During the strike, while the *Times* was unable to continue publication, a committee was formed within the Trade Union Congress (TUC—the British equivalent of the AFL-CIO) to coordinate labor strategy among the different unions and in other parts of the country. The victory that was ultimately achieved by the unions at the *Times* solidified ties between the NGA and NUJ, and set the pattern for the resolution of other conflicts in Britain. Essentially, composing room workers have retained the right to control the input of all material into VDT's, which is critical in the leverage they have with publishers.

The industrywide solidarity demonstrated in the British case suggests that the union configuration in that country is a quasi-industrial one. While the resemblance to a quasi-craft structure is apparent, British unions are much closer to the ultimate goal of achieving an industrial union structure. In 1977, the NGA and SOGAT agreed to a pact concerning jurisdictional rights that has permitted them to coordinate their efforts to organize the nonunion portion of the industry. The NUJ and the NGA have been holding merger negotiations since 1981. All three unions endorse the notion of eventually achieving one union for the industry. Going even further, the NGA has advocated the creation of one union for all print and nonprint media. Pursuant to this goal, it has begun cultivating linkages with the Association of Broadcasting Staffs (ABS) and the Association of Cinematograph, Television, and Allied Technicians (ACTT).⁶ In contrast to their U.S. counterparts, the British trade unions have displayed considerable farsightedness in anticipating the impact of technological changes in their industry and responding accordingly.

Germany

The industrial relations system in the Federal Republic of Germany is unique in several respects. First, the entire West German economy is organized on the "one industry-one union" principle. The largest labor organization—the German Trade Union Federation (DGB)—consists of 17 industry-based trade unions, one of them being the Printing

and Paper Workers Union (IGDP). This union bargains collectively for all workers in the printing industry except journalists, encompassing composing room workers, pressroom workers, clerical workers, and even security and maintenance personnel. Journalists are represented by a second union, the DJV, but they work in close association with the IGDP because their interests are melded together at the plant level by codetermination. Second, individual workers are not required to join the unions (there is no "closed shop"), but all workers abide by the collective bargaining agreement made on their behalf. Third, through the German model of codetermination, workers and employers are represented on the boards of all sizable firms. Workers are also represented at the plant level by "works councils," which are worker advocate units elected by workers. All workers (including those not belonging to the union) have a vote in electing worker representatives to the board and to the works councils. Most plant-level decisions are processed through the codetermination model, which ensures a broad degree of worker participation at all levels of decisionmaking. Fourth, employers are generally represented in collective bargaining by one or more employers' associations, which are also industry-specific. Employers' associations frequently operate at both the state and national levels. Fifth, total breakdown of collective bargaining is rare because of complex mediation processes. A byproduct of this institutional arrangement is that strike activity is comparatively rare, and the workers' right to strike is countervailed by the employers' right to lockout.⁷

Effectively, then, the German newspaper industry is represented by two unions—the IGDP and the DJV. But because of the coordination they exhibit—in collective bargaining and other matters—the German trade union movement approximates the industrial model. The two unions must bargain in tandem in an effort to balance the interests of the various occupational groups under their jurisdiction, a task that sometimes proves unwieldy in an industry in which craft lines are still visible. However, as technological advances began to erode traditional craft distinctions during the 1970's, the industrial model proved a fortuitous instrument for maintaining worker solidarity and preventing the loss of union control over the allocation of work.

In 1975, when the threat of optical character recognition (OCR) and VDT equipment became apparent to the IGDP, the union requested negotiations with the employer association in the printing industry (BD). The BD and the state-level associations stalled for nearly a year, but eventually talks began. Nearly a year after the IGDP's original request, the BD entered negotiations over the implementation of new technology. At this point, the IGDP and the DJV made a joint proposal for rules governing utilization of the new equipment, basically centering on the restriction of the number of hours journalists could work on VDT's and upon the maintenance of wage scales for composing room workers who moved to VDT's.

After several months of unfruitful negotiations and employer counteroffers, the union requested mediation of the dispute. In November 1977, the IGDP rejected the proposals of the mediators. After a brief renewal of the negotiations, talks were broken off by the BD. Having exhausted every alternative, the IGDP voted overwhelmingly to conduct a selective strike against five of the largest newspapers on February 28, 1978. In retaliation, the BD ordered 25 of its remaining plants to begin a lockout, hoping to divide the workers who were striking from those who were locked out. But because of the disunity among employers, only 7 of the 25 firms followed the lockout order. On March 2, the IGDP and the BD simultaneously ordered a strike and lockout of all printing firms, which remained in force for most of the month. Finally, on March 28, 1978, the employers capitulated and signed a 5-year contract implementing most of the union demands. Among the key features of the agreement were job security measures, health/safety measures for working with VDT's, and a "social plan" for retraining and reassigning displaced workers to jobs agreeable to those workers. Composing room workers were "upgraded" to salaried status with no loss of income.⁸

The industrial model ultimately worked to the advantage of the German newspaper workers because it created the basis for achieving a uniform nationwide agreement on printing technology. In contrast to the U.S. and British situations, craft demarcations did not inhibit the process of adjustment as technology was introduced. Also, contrary to the U.S. situation but somewhat akin to the British, publishers displayed confusion and disunity that ultimately led to an agreement favorable to the workers. Because of the industrial level of the negotiations, the German agreement was more comprehensive and holds better prospects for a permanent solution than either the U.S. or British examples. For all these reasons, the industrial model seems a more desirable approach for unions which must adapt to rapid technological changes in the newspaper industry. □

—FOOTNOTES—

¹ See Donald Sabath, "PD Printers, Mailers Vote Switch to Teamsters," *The Cleveland Plain Dealer*, Dec. 5, 1984, pp. 1-E, 2-E.

² See Billy J. Austin, "With 'Friends' Like This . . .," *Typographical Journal*, November 1984, p. 6.

³ See Alan Marshall, *Changing the Word* (London, Comedia, 1983); John Gennard and Steve Dunn, "The Impact of New Technology on the Structure and Organisation of Craft Unions in the Printing Industry," *British Journal of Industrial Relations*, March 1983, pp. 17-32; and Tony Griffin, "Technological Change and Craft Control in the Newspaper Industry: An International Comparison," *Cambridge Journal of Economics*, vol. 8, 1984, pp. 41-61.

⁴ See Marshall, *Changing the Word*.

⁵ See Griffin, "Technological Change."

⁶ See Gennard and Dunn, "The Impact of New Technology."

⁷ See Hans-Helmut Ehm, "The Impact of Technology on the Roles and Responsibilities of Labor and Management in the German Newspaper Industry" (unpublished, 1982); and Karl Romer, ed., *Facts About Germany* (Butersloh, Berterlsmann Lexikon-Verlag, 1979).

⁸ See Ehm, "The Impact of Technology."

Estimating the effects of changing Social Security benefit formulas

GARY S. FIELDS AND OLIVIA S. MITCHELL

The U.S. Social Security system faces serious financial difficulties in both the short and the long run. The short-run problem is that the system has very meager financial reserves. In the long run—after the year 2010, when the post-World-War-II baby-boom generation reaches retirement age—the financial problems of Social Security will intensify because of population aging and the consequent decline in the ratio of workers to retirees.

These problems have led to proposed reforms aimed at assuring the financial stability of the system. The question addressed here is: what effects would these reforms have on three variables—retirement ages, retirement incomes, and the Social Security system? This paper highlights the estimated effects of four actual or proposed policy changes. The basic model and some of the effects are drawn from previous work.¹ However, the estimates of the effects of Social Security reforms on the Social Security system itself are new.

The life cycle framework

The analytical framework is the economist's model of life cycle decisionmaking. This model maintains that intertemporal choices are made with reference to intertemporal preferences and an intertemporal budget set. Perhaps the most familiar application is to educational decisionmaking, wherein the individual is thought to decide how much schooling to acquire on the basis of his or her preferences and the income and job opportunities associated with alternate educational attainments. The retirement decision is also regarded in life cycle terms.² That is, the individual is viewed as deciding how long to work and when to retire on the basis of the income from various sources that would be realized at alternate retirement ages and the associated amounts of leisure.³

The four reforms, similar to ones actually legislated in 1983 or proposed for legislation, can be described as follows:

Experiment A, which increases the normal retirement age. This means that a worker who retires at age 65 no longer receives a benefit equal to his PIA. Experiment A simulates the effect of raising this age to age 68, as was widely proposed. (What in fact was legislated was a change

to age 66 by the year 2009 and to age 67 by the year 2027.) Under the simulated reform, the PIA multiple is 1.00 at age 68 and the early retirement reduction factor remains at 6⅔ percent per year. Thus, the multiples under this experiment are .60 for retirement age 62 and .80 for retirement age 65, with corresponding reductions at other ages. (The 1983 legislation set a minimum multiple of 70 percent.)

Experiment B, which delays the cost-of-living adjustment. Rules in effect in 1982 specified that a cost-of-living adjustment would take place each July, reflecting increases in the Consumer Price Index during the preceding calendar year. The 1983 legislative amendments delayed these increases by an additional 6 months. This delay reduces real benefits by half the rate of inflation, or 2.3 percent, and has a relatively small effect.

Experiment C, which raises the late retirement credit. This means that benefits are increased faster than 3 percent if retirement is postponed beyond age 65. We simulated a 6⅔ percent per year late retirement credit, the same as the early retirement reduction factor. The multiple for retirement at age 68 would have risen from 1.09 to 1.20. (As it turned out, in 1983, Congress mandated a gradual increase in the late retirement credit, eventually reaching 8 percent per year as of the year 2009.)

Experiment D, which changes the early retirement reduction factor. This proposal reduces early benefits by 15 percent per year, rather than by the existing 6⅔ percent. The multiple for retirement at age 62 would therefore be .55, rather than .80 as at present. (A similar proposal was rejected in Congress in 1981.)

Effects on the intertemporal budget set

Increasing the normal retirement age to 68 (Experiment A) lowers retirement benefits by more than \$1,000 per year, or about \$17,000 for men retiring in their early sixties; the reduction is almost as large for those deferring retirement until age 65. Another effect of Experiment A is to tilt the Social Security benefit structure toward actuarial neutrality, in stark contrast to the pre-reform situation, which contained a penalty for continuing to work. Thus, increasing the normal retirement age lowers benefits at all early retirement ages and provides new financial incentives to remain on the job longer.

Experiment B, in which the cost-of-living adjustment is postponed 6 months, reduces annual benefits by \$100 to \$200, which translates into diminished present discounted values of at most \$1,600. Because the income amounts involved are small, this reform does not appreciably alter the pattern of discounted benefit gains obtained by deferring retirement.

Experiment C raises the late retirement credit to match the early retirement reduction factor. Benefits are increased after age 65, raising annual benefits by as much as \$800 at

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age 68. Present value at age 68 increases by \$6,000—still not enough to achieve actuarial neutrality, but substantially reducing the penalty (in present discounted value terms) for continuing to work beyond age 65.

Experiment *D* lowers early Social Security benefits, holding benefits beyond age 65 the same. For a worker retiring at age 62 or before, the annual benefit would have fallen by \$1,700 and present discounted value by some \$21,000. The gain in present discounted value of Social Security benefits for an extra year of work before age 65 would be \$6,000 to \$9,000. This reform would create a powerful penalty for retiring early and a powerful incentive for continued work. Yet, as we shall see, even those forces would not change retirement ages very much.

Effects on retirement ages

In predicting the changes in retirement ages for each of the four reforms, we find the largest effect under Experiment *D*, which cuts benefits at the earliest retirement age while offering a larger reward for continued work after age 62. Workers would retire about 3 months later on average, as a result of this reform. Intermediate retirement responses are found under Experiment *A*, which changes the normal retirement age. Benefits are lowered by approximately the same dollar amount at every age but the gain from working an additional year is unchanged. We predict that Experiment *A* would delay retirement by about 1½ months, on average. The smallest responses occur when early retirement benefits are altered the least. Both Experiment *B* (delaying cost-of-living adjustments) and Experiment *C* (raising the late retirement credit) are of this type. These reforms are estimated to delay retirement by an average of less than 1 week each.

All in all, the results suggest that workers will work longer if Social Security benefits are cut, but not much longer. This generic conclusion is consistent with estimates obtained by others using different models and simulating different reforms.

Effects on retirement incomes

Some may have thought that in response to a lower benefit schedule, workers would postpone retirement by enough to keep their retirement incomes unchanged. However, small changes in retirement ages suggest otherwise. Indeed, the reforms would cut the Social Security benefits received, even after taking account of this lengthened worklife and consequent increase in annual Social Security benefits. These cuts are as large as 22 percent under Experiment *A*, which increases the normal retirement age. The effects are largest under this experiment than under the others, because it reduces early retirement benefits a great deal while retaining a small incentive for prolonged work. Even though retire-

ment is deferred somewhat, increased employer-provided pensions and earnings do not make up the difference.

Effects on the Social Security system

The Social Security system's financial problems are alleviated under the various reforms to the extent that workers work longer or retirees receive less, or both. The increased contribution effect is found by multiplying the average deferral of retirement by the average gross earnings in each year, and then applying the combined employer/employee contribution rate to the result (6.7 percent for each in 1982, the year for which calculations were made). The savings to the Social Security system from lower benefit payouts is simply the mirror image of the loss to workers in present discounted value of Social Security benefits.

In each case, the Social Security system comes out ahead: by more than \$15,000 in the case of Experiment *A* (increasing the normal retirement age) and by more than \$8,000 for Experiment *D* (changing the early retirement reduction factor). Given that there are millions of Social Security recipients, the system would gain billions of dollars if these reforms were implemented. For example, if 20 million workers (the number now receiving Social Security benefits) were each to receive \$15,000 less on balance in the course of their lifetime, the system would gain some \$300 billion. This surpasses by more than \$100 billion the Social Security deficit that was viewed as unacceptable and which prompted the Social Security amendments of 1983. Yet, even this huge sum would go only a small part of the way toward meeting the multi-trillion dollar long-term deficit of the system. □

—FOOTNOTES—

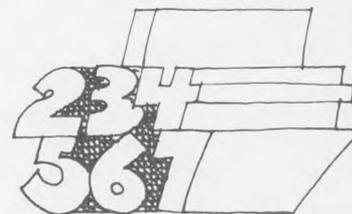
¹See Gary S. Fields and Olivia S. Mitchell, *Retirement, Pensions, and Social Security* (Cambridge, MA, MIT Press, 1984).

²Says Robert P. Quinn (forthcoming), who formulated one of the earlier models: "Until relatively recently, analysts tended to describe the magnitude of retirement income rights by the size of the annual benefit, or by its close relative, the replacement rate. Though useful summary statistics, these annual flow concepts ignore key aspects of the retirement incentives, in particular, how annual benefits change with continued work or with inflation after retirement."

³Some might question whether retirement is a choice at all or whether it is compelled by poor health or mandatory retirement. The U.S. evidence shows that the great majority of workers could go on working (that is, their health is sound and they have not yet reached the age of mandatory retirement in their firms) but elect to retire earlier, presumably to enjoy more leisure. See Fields and Mitchell, *Retirement, Pensions, and Social Security*, for a summary of this literature.

To estimate how Social Security and other income sources affect workers' choices of retirement ages, information is required on the actual retirement age chosen and the intertemporal budget set facing each worker. We constructed the necessary data for a sample of 1,024 white males covered by the Longitudinal Retirement History Survey for the years 1969 through 1977. To these data, we fit an ordered logit model.

The Anatomy of Price Change



Trip expenditure comparisons from 1972-73 to 1980-81

ALICE A. LIPPERT

Annual travel expenditures by Americans have increased dramatically since 1972-73, according to the 1980-81 Consumer Expenditure Survey. Overall, urban families have increased their vacation and pleasure trip expenses by 145 percent, from \$272 to \$667. The largest increase was for transportation—186 percent, followed by: entertainment and other expenses—144 percent, lodging—132 percent, and food and beverages—99 percent. During this same period, *prices* for the transportation component of trips increased about 165 percent, entertainment services—57 percent, and lodging out of town—120 percent, while food prices about doubled.¹

As a percentage of total trip expenses, families spent the most on transportation, followed by food and beverages, lodging, and all other expenses. Within respective expenditure categories, gas and oil increased the most for all consumer units—205 percent. During this same period, the Consumer Price Index for gasoline and motor oil increased 246 percent.

A comparison of income and age groups shows that the largest percentage increase for trips occurred in the lowest 20 percent quintile income group (296 percent) and in the under 25 age group (216 percent). (Ages given refer to the reference person.) However, the level of expenditures for these groups was only 40 percent and 60 percent of the all consumer unit average. Families in the 45 to 54 age group and families in the highest 20 percent quintile group continued to have higher-than-average dollar expenditures on vacation and pleasure trips. Overall, trip expenditures increased by income class. Similarly, trip expenses rose by age group until the 65 and over category where expenditures declined. The over 65 age group spent less on trips than most age groups in both 1972-73 and 1980-81. Whereas trip expenditures tripled for most other age groups, expenditures for families 65 and over only doubled.²

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Scope and results

Expenditures on trips are collected in the Quarterly Interview Survey—a major component of the Consumer Expenditure Survey. It includes expenditures for transportation, food and beverages, lodging, and all other trip expenses. The last available source of such information was from the 1972-73 survey. In 1972-73, travel data were published as separate items under "Recreation, Total." In the current publications, trip data are part of each appropriate expenditure category. Thus, trip information is not identifiable nor is it published as a separate component. For example, in 1972-73, gas and oil expenditures on trips appeared under the heading of "Transportation on Trips." To obtain total gas and oil expenditures, the two parts—gas and oil on trips plus regular oil and gas expenses—had to be added. Because most users examine total amounts for particular expenditure items, such as food and gasoline, it is considered more useful in the current survey to present the data by these total components. However, requests are still made for the total cost of trip expenditures.

The purpose of this study, therefore, is to provide a comparison of trip expenditures from 1972-73 to 1980-81 and to analyze how such expenses have changed. This is done by identifying and converting 1980-81 data to the 1972-73 published format. Interview data for 1980-81 were published for the urban population in BLS Bulletin 2225. The 1972-73 data were recalculated to reflect urban population only. In addition, because students were not sampled separately in 1972-73, these households were removed from the 1980-81 data for the comparisons.³

Table 1 displays trip expenditures by quintiles of income class. For each time period represented in the tables, complete income reporters are ranked in ascending order according to the level of total before-tax income reported by the consumer unit. The ranking is then divided into five equal groups. Incomplete income reporters are not ranked and are shown separately. It should be noted that the lowest 20 percent income class contains negative income values because some respondents reported income losses. Table 2 shows trip expenditures for consumer units by the age of the reference person, who is the first member mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home."

Table 1. Annual travel expenditures of urban consumer units classified by outlines of income before taxes, Interview Survey, 1972-73 and 1980-81¹

Item	All consumer units		Complete reporting of income										Highest 20 percent		Incomplete reporting of income	
			Total complete reporting		Lowest 20 percent		Second 20 percent		Third 20 percent		Fourth 20 percent					
	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81
Number of consumer units in universe (in thousands)	58,948	67,327	55,461	56,558	11,087	11,276	11,097	11,320	11,089	11,318	11,092	11,290	11,095	11,353	3,488	10,769
Consumer unit characteristics:																
Income before taxes ²	\$12,388	\$20,225	\$12,388	\$20,225	\$2,448	\$3,720	\$6,336	\$10,085	\$10,553	\$17,075	\$15,335	\$25,325	\$27,260	\$44,798	—	—
Size of consumer unit	2.8	2.7	2.8	2.7	1.5	1.8	2.3	2.3	2.9	2.7	3.4	3.2	3.8	3.4	3.0	2.6
Age of householder	47.1	46.6	47.0	45.7	54.4	53.8	48.2	46.1	42.9	42.4	43.1	41.3	46.3	44.7	49.7	51.6
Number in consumer unit:																
Earners	1.3	1.4	1.4	1.4	.5	.6	1.0	1.1	1.4	1.5	1.8	1.8	2.2	2.2	.4	1.3
Vehicles	1.8	1.9	1.8	1.9	.6	.8	1.2	1.4	1.8	2.0	2.4	2.5	2.9	2.9	2.0	1.8
Children under 18	1.0	.8	1.0	.8	.4	.4	.8	.7	1.1	.8	1.4	1.0	1.3	1.0	.9	.6
Persons 65 and over . . . . .	.3	.3	.3	.3	.5	.5	.4	.4	.2	.2	.1	.1	.1	.1	.3	.4
Percent homeowner	56	62	55	61	32	39	41	47	53	58	70	75	81	88	61	68
Vacation and pleasure trips, total	\$272	\$667	\$266	\$657	\$67	\$265	\$132	\$381	\$206	\$531	\$308	\$669	\$619	\$1,437	\$360	\$718
Transportation, total	111	317	108	314	33	143	61	206	85	270	122	311	236	637	148	332
Gas and oil for owned vehicles	39	119	39	121	8	49	23	73	36	117	49	155	74	211	40	106
Plane fares	53	139	51	135	17	56	28	78	36	112	54	108	120	320	84	160
Other ³	20	59	18	58	8	38	11	54	13	41	19	47	42	107	24	66
Food and beverages, total	81	161	80	160	19	60	36	84	62	127	96	175	187	352	97	169
Lodging	53	123	52	119	9	42	22	60	37	85	57	117	132	293	80	143
Other expenses	27	66	27	64	7	21	12	31	22	48	32	66	63	155	35	74

¹Urban population refers to all persons living in Standard Metropolitan Statistical Areas (SMSA's) and in urbanized areas and urban places of 2,500 persons or more outside of SMSA's.

²Income values are derived from "complete income reporters" only. The distinction between complete and incomplete income reporters is based in general on whether the

respondent provided values for major sources of income, such as wages and salaries, self-employment income, and social security income.

³Other includes trip expenditures for train, bus, and boat fares; taxis; tolls; rented vehicles; and other vehicle expenses.

Table 2. Annual travel expenditures of urban consumer units classified by age of householder, Interview Survey, 1972-73 and 1980-81¹

Item	All consumer units		Under 25		25 to 34		35 to 44		45 to 54		55 to 64		65 and over	
	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81	1972-73	1980-81
Number of consumer units in universe (in thousands)	58,948	67,327	5,564	6,467	12,043	16,058	9,983	11,422	10,807	9,683	9,343	10,410	11,208	13,287
Consumer unit characteristics:														
Income before taxes ²	\$12,388	\$20,225	\$6,804	\$12,495	\$12,267	\$20,972	\$15,517	\$25,727	\$17,350	\$28,112	\$13,832	\$22,312	\$6,778	\$10,898
Size of consumer unit	2.8	2.7	1.8	1.9	3.1	2.8	4.2	3.8	3.4	3.4	2.3	2.4	1.6	1.7
Age of householder	47.1	46.6	21.9	22.0	29.1	29.5	39.5	39.2	49.5	49.5	59.4	59.3	73.4	73.6
Number in consumer unit:														
Earners	1.3	1.4	1.3	1.3	1.3	1.5	1.7	1.9	1.9	2.2	1.3	1.4	.4	.4
Vehicles	1.8	1.9	1.4	1.3	1.8	1.9	2.4	2.3	2.4	2.7	1.9	2.1	.9	1.1
Children under 18	1.0	.8	.5	.4	1.4	1.1	2.3	1.7	1.1	.9	.3	.2	.1	.0
Persons 65 and over . . . . .	.3	.3	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	1.3	1.4
Percent homeowner	56	62	7	13	37	50	66	70	72	78	71	80	62	70
Vacation and pleasure trips, total	\$272	\$667	\$124	\$392	\$230	\$589	\$311	\$838	\$359	\$871	\$332	\$831	\$221	\$470
Transportation, total	111	317	56	210	98	288	117	376	142	394	136	398	92	233
Gas and oil for owned vehicles	39	119	27	95	40	123	45	143	48	142	45	138	23	71
Plane fares	53	139	20	71	43	118	53	163	70	186	69	190	50	103
Other ³	20	59	8	45	15	47	19	68	25	65	22	70	20	58
Food and beverages, total	81	161	36	84	70	145	99	210	111	216	98	195	58	111
Lodging	53	123	18	42	37	93	59	164	70	170	66	166	56	98
Other expenses	27	66	15	56	24	64	37	89	36	92	31	73	16	29

¹Urban population refers to all persons living in Standard Metropolitan Statistical Areas (SMSA's) and in urbanized areas and urban places of 2,500 persons or more outside of SMSA's.

²Income values are derived from "complete income reporters" only. The distinction between complete and incomplete income reporters is based in general on whether the

respondent provided values for major sources of income, such as wages and salaries, self-employment income, and social security income.

³Other includes trip expenditures for train, bus, and boat fares; taxis; tolls; rented vehicles; and other vehicle expenses.

It is with respect to this person that the relationship of other consumer unit members is determined.

The Consumer Expenditure Survey

The Consumer Expenditure Survey is the most comprehensive source of detailed information on household expenditures and income related to the socioeconomic and demographic characteristics of the U.S. population. Since 1980, the survey has been conducted on an ongoing basis. Prior to that, the survey had been conducted about every 10 years.⁴

The survey consists of two major components: the Diary and the Quarterly Interview. The Diary Survey collects information on frequently purchased items, such as detailed food, food away from home, and household products. The Interview Survey is designed to collect information on relatively large purchase items such as housing, education, vehicles, and major appliances. In addition, data are collected for expenditures which occur at regular intervals, such as rent and utility bills.

The Bureau of the Census collects the data for the Bureau of Labor Statistics. Each survey contains its own independent sample of approximately 5,000 consumer units. The Diary Survey is completed by participating households over a 2-week period (14 days). The Interview Survey is conducted with rotating panels of consumers on a quarterly basis. Consumer units in this survey are interviewed for five consecutive quarters; one-fifth of the sample is new to the survey each quarter. □

—FOOTNOTES—

¹ Implicit trips weights and relevant Consumer Price Indexes were used to estimate the transportation price change.

² Public use tapes are available from the 1980–81 Interview Survey. The tapes contain separate trip expenditures as well as other expenditure items. Users can perform similar analyses for any of the characteristics on the tape: region, race, family size, dollar income levels, and so forth.

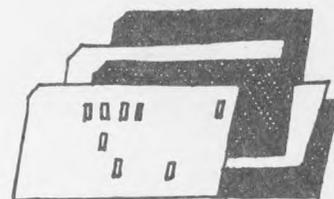
³ See BLS Bulletin 2225 for a description of all differences between the surveys in the two periods.

⁴ For a complete discussion of the history and methodology of the Consumer Expenditure Survey see *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), Ch. 6, p. 38.

What wage level for the young?

Wage levels were an issue in the 1970s' youth initiatives, as they were in the New Deal youth programs, and as they continue to be in the debate over a youth minimum wage differential. Should 14-, 15- or 16-year-olds with no skills or work experience receive the full minimum wage for summer or in-school jobs when the majority of young teenagers in unsubsidized employment earns less than the minimum, when the unemployed parents of participants might be more than willing to accept minimum wage jobs, and when unrealistic wages reduce public support as well as the number who can be served in public programs?

—NATIONAL COUNCIL ON EMPLOYMENT POLICY,
Investing in America's Future: A Policy Statement
by the National Council on Employment Policy
(Washington National Council on Employment Policy,
1984), pp. 17 and 18.



New monthly data series on school age youth

ANNE MCDUGALL YOUNG

A new monthly data series on the employment situation among youth 16 to 24 years old by their school enrollment status has recently been established. Publication began with data for January 1985 in the February 1985 issue of the Bureau of Labor Statistics' *Employment and Earnings*.

The monthly collection and publication of data from the Current Population Survey (CPS) on the school enrollment status of youth was recommended by the National Commission on Employment and Unemployment Statistics.¹ The Commission determined that current information on school age youth was needed "to understand work and education choices, to design appropriate employment policies and training programs, and to help appraise the labor market attachment of students."²

Prior to 1985, the Bureau of Labor Statistics published two types of information on the school activity of youth. One series was based on the school enrollment status of 16- to 24-year-olds that was collected annually in the October supplement to the CPS.³ The other series was based on a "major activity" concept of "school" or "other" for 16- to 21-year-olds and was collected in the CPS each month. A major drawback of this latter series was that the school total excluded part-time students who reported work as their major activity. In October 1983, for example, the CPS supplement recorded 1.2 million *more* persons 16 to 21 in both school and the labor force than the total derived from the regular, monthly major activity question.

The new monthly series replaces both the major activity series, which was published in *Employment and Earnings*, and the annual series on school enrollment, published from the October CPS supplement. The new data have been collected on a trial basis since November 1983. For youth enrolled in school, employment is iterated by age, sex, race, level of school attended, full- or part-time college status, and full- or part-time employment status. For those not

enrolled, the data are iterated by age, sex, race, years of school completed, and full- or part-time employment status.

Table 1 shows the extent to which school and work are combined and how participation in these activities varies between a typical school month and the summer. In January 1984, 46 percent of the 16- to 24-year-old population was enrolled in school. About a third of the high school students and half of the full-time college students were in the labor force. Most students were employed only part time or were looking for part-time jobs; most youth not enrolled in school, as well as those enrolled only part time, were in the labor force on a full-time basis, with their labor force participation rates rising with the level of their educational attainment.

At the peak of the summer (July 1984), only 15 percent of the youth were enrolled in school, mostly at the college level. Therefore, the effect of school vacation was to increase sharply, and, of course, temporarily, the number of out-of-school youth in the labor force. It should be pointed out in this context that these statistics do not measure "students" *per se* but rather those currently enrolled in school. This is a very important distinction, because, clearly, there are many continuing students who do not attend school in the summer months and thus cause marked changes in enrollment between April and October of each year. Ideally, it would be appropriate to develop a "students" measure," one that would determine that a person was enrolled in the past school year and intended to return to school in the fall. There are certain pitfalls with this approach, however—including the fact that intentions do not always come to fruition—but the BLS is currently studying the possibility of expanding the measure in this way if it can be shown to have merit.

The data for January 1985 show patterns similar to those of a year earlier. But despite the fact that the population had decreased as the baby-bust generation continued to replace the baby-boom generation in the 16-24 age group, the size of the student labor force was relatively unchanged, as higher participation rates offset this population decline. Among those not enrolled in school, relatively more were employed and fewer unemployed than a year earlier, reflecting the continued economic recovery.

The new monthly school enrollment data are also a source of information on several other issues related to youth. One is the size of the pool of out-of-school youth available for

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Table 1. Employment status of persons 16 to 24 years old by school enrollment status, January 1984, July 1984, and January 1985

[Numbers in thousands]

School and employment status	January 1984	July 1984	January 1985
Population, 16 to 24 years	35,772	35,385	34,936
Enrolled in school	16,614	5,431	16,246
Proportion enrolled	46.4	15.3	46.5
In high school	8,374	1,506	8,200
Labor force	2,991	690	3,133
Employed full time	211	272	239
Employed part time	2,185	218	2,294
Unemployed	595	200	599
Looking for full-time work	51	91	65
Looking for part-time work	544	109	534
In college	8,239	3,925	8,046
Full-time students	6,773	2,381	6,857
Labor force	3,264	1,464	3,375
Employed full time	825	760	935
Employed part time	2,075	533	2,107
Unemployed	361	171	333
Looking for full-time work	90	109	94
Looking for part-time work	271	62	240
Part-time students	1,466	1,544	1,189
Labor force	1,279	1,240	1,067
Employed full time	856	831	724
Employed part time	285	301	268
Unemployed	137	108	75
Looking for full-time work	101	83	49
Looking for part-time work	37	25	26
Not enrolled in school	19,158	29,954	18,690
Labor force	15,447	23,611	15,264
Employed	12,876	20,478	12,944
Full time	11,886	17,505	12,006
Part time	990	2,973	938
Unemployed	2,571	3,133	2,320
Labor force participation rates			
School years completed:			
Less than 4 years high school	64.6	62.8	65.8
High school, 4 years only	83.0	84.2	84.1
College, 1 to 3 years	89.4	88.7	89.8
College, 4 years or more	94.8	91.8	95.1

civilian work or for the Armed Forces. Rather than once a year in October, these data are now available simultaneously with the release of the monthly report on the Nation's employment situation.

Another area of interest is the effect of students on the overall unemployment rate. The new series can help to measure that impact more precisely, using the data on full- and part-time enrollment status. In April 1985, for example, the overall civilian unemployment rate, *not* seasonally adjusted, would have been 6.8 instead of 7.1 percent if teenagers (16- to 19-year-olds) in high school and college full time had been excluded from the employed and unemployed counts.

These data on youth according to their school enrollment status are published in table A-7 of *Employment and Earnings*, the BLS' monthly statistical compendium of labor force, employment, and unemployment statistics. Other information on these youth, such as the occupation of those employed, are available upon request. □

FOOTNOTES

¹National Commission on Employment and Unemployment Statistics, *Counting the Labor Force* (Washington, Government Printing Of-

ice, 1979). See also Harvey R. Hamel and John T. Tucker, "Implementing the Levitan Commission's recommendations to improve labor data," *Monthly Labor Review*, February 1985, pp. 16-24.

²*Counting the Labor Force*, p. 90.

³School enrollment data from the October CPS were published in the Special Labor Force Report series for the years 1959 through 1979 and in Special Labor Force Bulletin 2192 for 1980-1982. Recent data have appeared in press releases and in Anne McDougall Young, "Fewer students in work force as school age population declines," *Monthly Labor Review*, July 1984, pp.34-37; unpublished data are available upon request.

Tips: the mainstay of many hotel workers' pay

DONALD G. SCHMITT

Reported customer tips averaged about half the cash earnings of waiters and waitresses in hotels and motels studied by the Bureau of Labor Statistics during July through September 1983. The survey, covering 23 metropolitan areas,¹ found employer-paid wages making up the balance. In most areas, these wages averaged between \$2 and \$3 an hour, largely reflecting the tip allowance employers can apply toward meeting the Federal minimum wage of \$3.35 an hour.²

Customer tips also contributed substantially to the earnings of several other occupational groups. For waiter and waitress assistants, tips commonly averaged 16 to 22 percent of their earnings, 44 to 57 percent for bellpersons, 25 to 40 percent for public bartenders, and less than 20 percent for service bartenders. Among these occupations, service bartenders usually had the highest employer-paid wages, ranging from \$3.99 an hour in Dallas-Fort Worth to \$10.16 in Las Vegas.³ (See table 1.) Public bartenders, receiving tips to a greater extent than service bartenders, had wages averaging from \$3.55 an hour in Miami to \$9.83 in San Francisco-Oakland.

Although service bartenders, who prepare drinks for waiters and waitresses to serve, usually averaged more in wages than public bartenders, this pattern was reversed when tips were included in the comparisons. Similar patterns occurred between other occupations, including waiters and waitresses and their assistants. For example, table waiters and waitresses in full-course restaurants averaged less in wages than their assistants in each area surveyed—usually by 30 to 60 percent. When tips were included in the comparisons, waiters and waitresses averaged more—usually by 40 to 70 percent.

Paid holidays, most commonly 6 to 8 days annually, were provided to at least three-fourths of the nonsupervisory, nonoffice workers in each area studied. At least nine-tenths of the workers in each area were also covered by paid

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Table 1. Average hourly wages for selected occupations in hotels and motels, 23 metropolitan areas, July–September, 1983

Occupation	Employer-paid wages					
	Lowest area average		Highest area average		Midrange of area averages ¹	
Nontipped occupations						
House porter	\$3.71	Memphis	\$8.16	New York	\$3.95	— \$4.85
Lodging quarters cleaner	3.67	Miami	7.77	New York	3.80	— 4.75
Cashier, checkout	4.00	Memphis	8.18	New York	4.40	— 5.52
Room clerk	4.47	Kansas City	9.07	Las Vegas	5.01	— 6.30
Dishwasher	3.62	Buffalo	7.79	New York	3.78	— 4.84
Pantry worker	4.01	Memphis	9.49	Las Vegas	4.40	— 5.30
Second cook	5.46	St. Louis	12.31	Atlantic City	6.75	— 10.12
General maintenance mechanic	5.04	Buffalo	10.25	Atlantic City	5.62	— 7.00
Stationary engineer	6.98	Miami	15.97	San Francisco–Oakland	8.35	— 12.45
Tipped occupations²						
Bartender, public bar	3.55	Miami	9.83	San Francisco–Oakland	4.23	— 5.76
Bartender, service bar	3.99	Dallas–Fort Worth	10.16	Las Vegas	4.60	— 7.50
Bellperson	2.53	Miami	6.03	Las Vegas	2.88	— 3.52
Waiter and waitress assistant:						
Full-course restaurant	2.77	Buffalo	5.26	Las Vegas	3.23	— 4.24
Other than full-course restaurant	2.60	Miami	5.30	New York	3.41	— 4.23
Waiter and waitress:						
Cocktail lounges	2.15	Houston, Memphis	5.03	Las Vegas	2.21	— 3.00
Table, full-course restaurants	2.12	Houston	5.06	Las Vegas	2.26	— 2.97
Table, other than full-course restaurants	2.17	New Orleans	5.03	Las Vegas	2.27	— 3.87
Other	2.43	New Orleans	5.36	Las Vegas	2.64	— 3.92

¹Of the areas analyzed, one-fourth reported employer-paid averages above the highest average shown and one-fourth, below the lowest average shown.

²For purposes of this study, "tipped occupations" are those in which most incumbents customarily and regularly receive customer tips. However, some workers in tipped occupations did not receive tips during the survey period. (Under the Fair Labor Standards Act,

however, "tipped employees" are defined as those who customarily and regularly receive more than \$30 a month in tips.)

NOTE: The comprehensive bulletin on the study provides information on average tips for selected occupations and also presents data for counter waiters and waitresses, not shown here.

vacations, typically 1 week after 1 year of service, 2 weeks after 2 years, and 3 weeks after 10 years. Life, hospitalization, surgical, basic medical, and major medical insurance (for which the employer paid at least part of the cost), were available to three-fourths or more of the workers in nearly all areas. Retirement pension plans were available to a majority of workers in 10 of the 23 areas. Also, food and beverage service workers typically received at least one free meal a day.

The 2,050 establishments within scope of the survey employed a total of 356,000 workers during July through September 1983. Of this total, nonsupervisory, nonoffice employees represented five-sixths of the work force (296,000 workers). Nearly one-half of these workers were concentrated in Las Vegas (59,500 workers), Atlantic City (22,000), New York (20,600), Los Angeles–Long Beach (20,500), and Chicago (19,900). Corresponding employment in the remaining 18 areas ranged from about 14,000 in Dallas–Fort Worth, San Francisco–Oakland, and Washington to 1,750 in Buffalo.

Nearly three-fifths each of the food service and other nonoffice workers were employed in hotels and motels with collective bargaining agreements covering a majority of such workers. The proportions, however, varied widely by area. For example, virtually all of the workers in Atlantic City were covered by labor-management agreements, but no establishment visited in Houston or Memphis had union agreements covering a majority of their workers. The Service Employees International Union and the Hotel and Restaurant

Employees Union, both AFL–CIO affiliates, were the major unions.

A comprehensive report on the survey—*Industry Wage Survey: Hotels and Motels, July–September 1983* (BLS Bulletin 2227) may be purchased from any of the Bureau's regional sales offices or the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. □

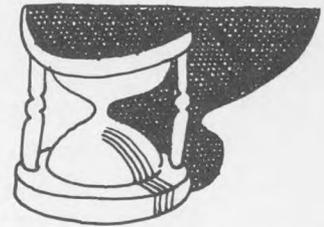
—FOOTNOTES—

¹The 23 areas for which data have been developed are Standard Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through October 1979. They are: *Northeast*—Atlantic City, Boston, Buffalo, New York, Philadelphia, and Pittsburgh; *South*—Atlanta, Dallas–Fort Worth, Houston, Memphis, Miami, New Orleans, and Washington; *North Central*—Chicago, Detroit, Kansas City, Minneapolis–St. Paul, and St. Louis; *West*—Denver–Boulder, Las Vegas, Los Angeles–Long Beach, Phoenix, and San Francisco–Oakland.

²Under the Fair Labor Standards Act, tips received may be counted as part of wages in an amount up to 40 percent (\$1.34) of the current \$3.35 per hour minimum wage. The employer must inform tipped employees about this tip credit allowance before using the credit and the employee must be allowed to retain all tips (individually or through a pooling arrangement). Tip pools are formal arrangements usually defined by management, where tipped employees contribute a specified amount of their tips to a fund (pool) for distribution among themselves, to others (non-contributors), or both. The employer must be able to show that the employee receives at least the minimum wage in the combination of both wages and tips. The cost or fair value of providing meals and lodging may also be considered in meeting minimum wage requirements.

³Except where specifically noted, wage data exclude tips and the value of free meals, room, and uniforms, if any were provided, and premium pay for overtime and for work on weekends, holidays, and late shifts. Service charges added to customers' bills and distributed by the employer to the employees were considered as wages rather than tips, and were included.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in August is based on information from the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Private industry	Labor organization ¹	Number of workers
Independent contractors, South and West Florida (Florida)	Construction	Operating Engineers	1,250
Master Plumbers Association (Boston, MA)	Construction	Plumbers	1,250
Mechanical Contractors Association, 2 agreements (Washington, DC)	Construction	Plumbers	2,900
National Electrical Contractors Association (Boston, MA)	Construction	Electrical Workers (IBEW)	2,000
National Electrical Contractors Association (Atlanta, GA)	Construction	Electrical Workers (IBEW)	1,400
National Electrical Contractors Association, American Line Builders Chapter (Interstate)	Construction	Electrical Workers (IBEW)	1,800
Plumbing and Air Conditioning Contractors (Western Arizona)	Construction	Plumbers	2,200
Plumbing and Mechanical Contractors (Honolulu, HI)	Construction	Plumbers	1,000
Wilson Foods Corp. (Interstate)	Food products	Food and Commercial Workers	4,800
Rath Packing Co. (Waterloo, IA)	Food products	Food and Commercial Workers	1,100
Associated Garment Industries of St. Louis (Missouri)	Apparel	Ladies' Garment Workers	2,000
San Francisco sportswear industry (California)	Apparel	Ladies' Garment Workers	2,500
Mead Corp. (Ohio)	Paper	Paperworkers	1,400
Philadelphia Newspapers Inc. (Pennsylvania)	Printing and publishing	Newspaper Guild	1,050
Minnesota Mining and Manufacturing Co. (St. Paul, MN)	Chemicals	Oil, Chemical and Atomic Workers	1,850
Gates Rubber Co. (Denver, CO)	Rubber	Rubber Workers	1,500
National refractories agreement (Interstate)	Stone, clay, and glass products	Aluminum, Brick and Glass Workers	1,200
Interlake, Inc. (Riverdale, IL)	Primary metals	Steelworkers	1,700
Combustion Engineering, Inc. (Chattanooga, TN)	Fabricated metal products	Boilermakers	1,200
Remington Arms Co., Inc. (Ilion, NY)	Fabricated metal products	Employees' Mutual Association (Ind.)	1,500
Bucyrus-Erie Co. (Interstate)	Machinery	Steelworkers	1,200
Raytheon Co. (Massachusetts)	Electrical products	Electrical Workers (IBEW)	10,000
GTE Sylvania Inc. (Interstate)	Electrical products	Various	3,000
Goodyear Aerospace Corp. (Akron, OH)	Transportation equipment	Auto Workers	1,450
Bowman Transportation, Inc. (Georgia)	Trucking	Steelworkers	1,700
Delta Air Lines, pilots (Interstate) ²	Air transportation	Air Line Pilots	4,000
American Airlines, Inc., ground service (Interstate) ²	Air transportation	Transport Workers	10,400
General Telephone Company of Florida (Florida)	Communication	Electrical Workers (IBEW)	8,000
Laclede Gas Co. (Missouri)	Utilities	Oil, Chemical and Atomic Workers	1,500
East Bay Restaurant Association (California)	Restaurants	Hotel Employees and Restaurant Employees	2,300
Stanford University (Palo Alto, CA)	Services	Service Employees	1,400
	Government activity	Labor organization¹	Number of workers
California: Long Beach Unified School District	Education	Education Association (Ind.)	2,800
Los Angeles County, 17 agreements	Multidepartments	Service Employees; State, County and Municipal Employees; Police Associations and Doctors' Association	53,000
Florida: Leon County Board of Education, teachers	Education	Education Association (Ind.)	1,400
Okaloosa County Board of Education, teachers	Education	Education Association (Ind.)	1,250
Idaho: Boise Board of Education, teachers	Education	Education Association (Ind.)	1,200

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

	Government activity	Labor organization ¹	Number of workers
Illinois: Chicago Board of Education, teachers	Education	Teachers	26,000
Elgin School District	Education	Elgin Teachers Association (Ind.)	1,400
University of Illinois, clerical unit	Education	Service Employees	1,400
Indiana: Indianapolis Board of School Commissioners	Education	Education Association (Ind.)	2,950
Michigan: Flint Board of Education, teachers	Education	United Teachers of Flint (Ind.)	1,600
Nebraska: Lincoln Board of Education, teachers	Education	Education Association (Ind.)	2,450
Oklahoma: Tulsa Board of Education, teachers	Education	Classroom Teachers Association (Ind.)	2,500
Pennsylvania: Philadelphia Board of Education, multidepartments, 4 agreements	Education	Teachers	25,200
Rhode Island: Providence School Committee, teachers	Education	Teachers	1,200
Tennessee: Knoxville County Independent School District, 2 agreements	Education	Education Association (Ind.) and others	4,400
Washington: Seattle School District, teachers	Education	Education Association (Ind.)	2,500
Seattle Police Department	Police protection	Police Officers' Guild (Ind.)	1,000

¹Affiliated with AFL-CIO except where noted as independent (Ind.).

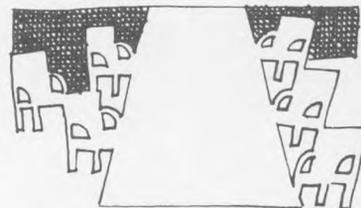
²Information is from newspaper reports.

New dimensions

In the past three decades, for a variety of reasons—foreign competition, the introduction of labor-saving devices, and the movement from the Snowbelt to the Sunbelt among them—the percentage of union members in the labor force has been dropping steadily. To try to recoup their losses, the AFL-CIO, as well as individual unions, have renewed their efforts to organize the unorganized. To do so, many of the unions are reaching out to people working in jobs not usually associated with traditional union jurisdictions. As a result, a number of unions have an increasingly diversified membership, with a variety of concerns and demands. The United Food and Commercial Workers, for example, represent not just retail clerks and meat cutters but barbers, racetrack tellers, and insurance salesmen as well. As a consequence, centralized bargaining, once so effective, is becoming less so, and is giving way to a more decentralized approach.

—DORIS B. McLAUGHLIN
in consultation with DOUGLAS A. FRASER,
“Collective Bargaining: The Next Twenty Years,”
The Annals of the American Academy of Political and Social Science,
May 1984, p. 36.

Developments in Industrial Relations



Goodrich contract sets pattern

Bargaining at the four major rubber producers ended when 36,000 workers agreed to essentially identical 3-year contracts. The contracts, reflecting the generally profitable conditions in the industry, provided for specified wage increases, unlike the 1982 contracts negotiated during a period of operating losses. The provision for automatic cost-of-living pay adjustments, which resulted in a total of \$1.16 an hour in pay increases during the 1982 contracts, also was continued.

Initially, the Rubber Workers concentrated on bargaining with Goodyear Tire and Rubber Co., in accord with the union's usual practice of pressing for a settlement with a "target" company that can set a pattern for settlements with the other companies. Subsequently, the union shifted the focus to B. F. Goodrich Co. and negotiated wage and benefit terms that were later accepted by Goodyear, Firestone Tire and Rubber Co., and Uniroyal, Inc.

At first, there was some doubt that Firestone would accept the pattern terms. Earlier, a Firestone official had informed union negotiators that "the days of rich pattern settlements must be behind us Our approach is to assess the domestic and foreign competition and make sure that our company maintains a realistic course for future survival and profits in the manufacturing part of our business."

The settlements with the four companies provided for specified increases in hourly pay of 25 cents effective in April 1985, 10 cents in April 1986, and 8 cents in April 1987. According to the union, the workers also could receive \$1.89 an hour in automatic cost-of-living pay increases over the term if the BLS Consumer Price Index rises 5 percent a year. The union reported that its members at the companies were receiving average compensation of about \$22 an hour, including about \$12.50 in wages, at the April 20 termination of the prior agreements.

Benefit changes included a 2-cent-an-hour increase in employer financing of Supplemental Unemployment Benefits; a \$3.50 increase in the monthly pension rate for future

retirees, bringing it to \$20 for each year of credited service (\$18.50 at Uniroyal); a 50-cent increase in the pension rates for current retirees; and improved life insurance and sickness and accident benefits.

The Goodyear and Uniroyal accords incorporated similar health care cost containment plans the parties had negotiated earlier in the year, while the Firestone and Goodrich accords established such plans, which differed somewhat from each other and from Goodyear and Uniroyal. (See *Monthly Labor Review*, March 1985, p. 48, for terms of the Uniroyal plan.)

Teamsters, trucking companies settle

In mid-May, the Teamsters union announced ratification of a 3-year contract with two major associations of trucking companies—Trucking Management, Inc. (TMI) and Motor Carrier Labor Advisory Council (MCLAC). The vote tally was 62,296 for and 54,873 against the accord. TMI comprises about 35 national carriers, while MCLAC comprises regional, short-haul, and specialized carriers. The union also negotiated similar wage and benefit terms with a number of independent companies, and bargaining continued with others.

There was opposition from a group of Teamsters' members which initiated court action to overthrow the vote, contending that about 40,000 casual workers—whose pay was cut under the settlement—had not been permitted to cast ballots. The union maintained that there were only about 7,000 casuals involved, and that they had been traditionally excluded from voting on proposed settlements.

Defending the accord, Teamsters President Jackie Presser said, "we were able to successfully address areas of the greatest concern to the members, including wage increases, increased health and welfare and pension contributions, and perhaps most importantly, job security."

The opponents generally contended that the agreement did not provide for adequate wage increases for all employees, discriminated against new full-time and all part-time employees by establishing lower pay rates for them, and did not do enough to prevent the carriers from engaging in "double-breasting" (forming subsidiaries employing nonunion workers).

The accord provided for 50 cents an hour wage increases

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

for local drivers on the April 1, 1985, termination date of the 1982 accord, and on April 1 of 1986 and 1987. In each case, the 50 cents includes a flat 31 cents "cost-of-living adjustment" (COLA) that is not contingent on the movement of the Consumer Price Index. Unlike the 1982 agreement, the COLA adjustments are not subject to diversion to meet pension and health and welfare cost increases. Over-the-road drivers received increases of 1.25 cents per mile (including a 0.775-cent COLA adjustment) on the same dates. According to the union, hourly employees will earn \$6,240 more over the contract term than under the previous contract (based on 2,080 hours compensated per year), and over-the-road drivers will earn \$9,750 more than under the previous contract (based on 2,500 miles driven per week).

Under the 1982 agreement, the employees did not receive any specified wage increases, and all but 47 cents of the total of \$1.40 in automatic annual COLA's was diverted to help meet the employers cost of maintaining pension and health and welfare benefits.

Full-time workers hired after the effective date of the 1985 contract will start at 70 percent of the current top pay rate for their job category, move to 80 percent of the rate after 1 year, to 90 percent after 2 years, and to the top rate after 3 years.

Pay rates for all casual employees were set at \$11 an hour on April 1, 1985, and will increase by 50 cents on April 1 of 1986 and 1987. As before, the casual employees will not receive any benefits. Previously, they earned \$13.21 an hour.

In the area of benefits, the agreement provides for a total of 30 cents an hour to be allocated between pension and health and welfare funds over the term. This will permit some improvements, such as increasing the monthly pension to \$1,000 for 30-year employees retiring under the Central States Pension Fund.

One of the new job security provisions says that employers will not "subcontract or divert the work presently performed by, or hereafter assigned to, its employees, to other business entities owned and/or controlled by the signatory employer, or its parent, subsidiaries, or affiliates."

Airline update

At American Airlines, the Transport Workers agreed to a 45-month contract that provides for lump-sum payments in lieu of wage increases. The accord, covering 12,000 mechanics and other ground workers, calls for payments of \$750 in April 1986, \$1,000 in 1987, and \$1,500 in 1988. The lifetime job guarantee program was expanded to cover some workers hired after the ratification date of the new contract. The program, which was established under the 1983 contract in return for lower entry pay rates and changes in work rules, originally covered only workers on the payroll when that contract was ratified.

Provisions of the 1985 accord increased the probationary period to 180 days, from 90, for new hires, requires them

to pay for their own insurance during their first year on the job, reduces their ultimate maximum vacation to 4 weeks, from 6, and permits American to hire more part-time workers.

Other terms included a three-step increase in pension rates to a range of \$25.05-\$35 a month (varying by job classification) for each year of service for employees retiring at age 65; a new "voluntary separation program" for employees who quit their jobs, with payments ranging from a minimum of \$5,000 to a maximum of 23 weeks of pay.

At Continental Airlines, the Machinists and the Flight Attendants unions ended their 18-month strike and asked the airline to reinstate their members. Continental agreed to do so, but specified that "there will be no displacement of current employees under any circumstances as a result of the unions' action." This means that some of the strikers might have long waits before returning to work. About 50 percent of the members of both unions had earlier returned to work without union authorization and Continental had also hired some nonunion replacements.

The dispute began in 1983, when the airline reacted to the Air Line Pilots and the Flight Attendants rejection of profit sharing in exchange for labor cost concessions by seeking protection under Chapter 11 of the Bankruptcy Code, then resuming operation with employees paid substantially less than under prior union contracts. (See *Monthly Labor Review*, November 1983, p. 73.)

Despite the two unions' decision to return to work and negotiate with Continental on wages, benefits, and work rules, the Air Line Pilots continued their strike, even though 25 percent of its members had returned to work without authorization. One possible reason was that the striking pilots are receiving strike benefits of \$2,400 a month from their union, compared with \$70 a week for the mechanics and nothing for the flight attendants.

Both the Flight Attendants and the Machinists unions said they were ordering the return to work because it was time for a change in strategies and because they wanted to correct a mistaken public impression that they were out to ruin Continental. An official of the Flight Attendants also conceded that, "financially, our members could not deal with it any longer." Despite the change of strategy, both unions noted that they had not withdrawn several lawsuits they had filed against Continental.

A Continental spokesman said that the company earned a profit of \$50.3 million in 1984, compared with a loss of \$218.4 million in 1983, and that "we are a much more efficient operation now, and we are better utilizing our work force."

At USAir, a settlement with the Machinists union for 2,100 ground service employees featured a lengthened pay progression schedule for new employees and a new "voluntary separation program" to induce current employees to retire. The company said that it hopes that "as many [employees] as possible" choose to leave so that it can reduce

costs by hiring replacements under the new pay progression schedule.

Under the new schedule, workers will reach the maximum for their pay grade after 5 years of service, instead of the previous 18 months. The starting rates for employees hired after the effective date of the contract are \$12.95 an hour for mechanics (formerly \$16.22), \$9.27 for utility workers (formerly \$12.35), and \$10.73 for stock clerks (formerly \$12.96).

The 3-year accord raised pay rates 9.9 percent, in steps, over the term. For mechanics at the top of their pay schedule, the resulting hourly rates are \$16.90 retroactive to March 1, 1984 (formerly \$16.65), \$17.25 retroactive to November 1984, \$17.60 in November 1985, \$18 in September 1986, and \$18.30 in January 1987. Over the term, top rates will rise to \$13.10 (from \$11.92) for utility workers and \$15.17 (from \$13.79) for stock clerks.

The voluntary separation program, which is limited to employees eligible for retirement, provides for payments to participants calculated at 1 week's pay for each year of service. The minimum payment is \$5,000 and the maximum is 23 weeks' pay.

Other terms include 55 cents an hour pay (formerly 45 cents) for each of up to two Federal licenses held, improved dental benefits, and increases in tool insurance.

Coordinated bargaining ends in steel industry

Unified collective bargaining in the steel industry ended when the five remaining Coordinating Committee Steel Companies voted to disband and bargain individually with the United Steelworkers when their contracts expire in July 1986. In 1956, when the unified approach was initiated, 12 companies participated; since then the number has dwindled. This was particularly true in the last few years as the industry has been buffeted by increased competition from foreign producers, the growing number of lower cost domestic "mini-mills," and the increasing use of alternate materials. These conditions led some of the member companies to merge, sell operations, or to seek and obtain concessionary changes in the industry settlement pattern from the union in an effort to improve their competitive position.

J. Bruce Johnston, executive vice president of U.S. Steel Corp., who was chief bargainer for the five Coordinating Committee Steel Companies, cited several reasons for the breakup, including "sustained financial losses" by member companies, recent joint ventures between U.S. and foreign companies, and rising use of imported semifinished steel. He maintained that, "very clearly, the union has abandoned pattern bargaining" by granting "off-pattern settlements" at a large number of plants that placed U.S. Steel and the other four companies at a cost disadvantage. Reportedly, labor costs were \$17 an hour or less at the companies that had obtained concessions from the union, compared with an average of more than \$21 at other companies. Johnston

indicated that the competitive conditions in the industry might lead to bargaining on a plant-by-plant basis, not just on a company-by-company basis.

Steelworkers President Lynn R. Williams disputed Johnston, saying, "there haven't been any number of concessions" that come "quickly to my mind." He said that the end to coordinated bargaining was "not necessarily a disaster for the union" and that the union would continue a coordinated approach to bargaining and resist pressures by the companies to "trade off cheap wages and cheap benefits against one another."

In addition to U.S. Steel, the other companies that participated in the coordinated bargaining were Armco Inc., Bethlehem Steel Corp., LTV Steel Co., and Inland Steel Corp. Together, they employ 136,000 members of the Steelworkers union. However, the end of the bargaining approach has wider implications because a number of smaller companies had traditionally followed the settlement lead of the major companies.

Union moves to stop 'double breasting'

The Sheet Metal Workers union's executive council approved a plan to halt the spread of "double-breasted" contractors who operate both union and nonunion shops in the sheet metal and other parts of the construction industry. Under the plan, double-breasted contractors will be barred from participating in the union's 3-year-old program to aid unionized firms that are having difficulty competing with nonunion firms. The aid is in the form of cuts in wages and benefits and changes in work rules.

The new policy requires employers to sign an "integrity clause" before negotiating and receiving contract concessions, and defines a "bad faith employer" as one who operates or permits operation on a double-breasted basis. Sheet Metal Workers' President Edward J. Carlough said that to grant the concessionary contract provisions to employers who then hire nonunion employees would violate the very purpose of the program.

The Sheet Metal Workers also announced two actions to improve the financial conditions of its retirees. One action was the establishment of a cost-of-living adjustment (COLA) trust fund that will provide annual lump-sum payments to 14,000 retirees, supplementing their regular monthly pension payments. The payment will be financed by employers at the rate of 5 cents for each hour worked by active employees covered by the union's national pension plan. The annual lump-sum payment will equal 3 percent of the retirees' regular annual pension for each year of service, up to 15 years.

The other new program will reimburse retirees and their spouses for most of the deductible and coinsurance costs not covered by Medicare Parts A and B. It will be financed by the union's national pension trust, with retirees contributing \$13 a month if single, and \$26 if married.

Service Employees asks for study of VDT safety

Employees concern over possible adverse physical effects from video display terminals was reflected in a settlement between Service Employees Local 105 and the Kaiser Permanente health care plan. The 3-year agreement for 650 clerical, technical, and service workers in the Denver, CO, area calls for Kaiser to study the issue and to "formulate a reasonable safety standard guide to be issued to supervisors and employees which could be discussed and shared with the union."

A provision in the settlement eliminated benefits for employees who work less than 24 hours a week. Charlene Rotola, Kaiser's director of labor relations, explained "we didn't really need benefits at that level to attract employees to part-time positions. We'd rather transfer the benefits to the full-time employees." The part-timers will receive an additional 40 cents an hour in lieu of benefits. Previously, employees who worked 20 to 23 hours a week received a prorated share of the benefits received by full-timers.

The agreement also provided for 4-, 4-, and 4.5-percent salary increases in the respective contract years, and elimination of a pay progression step after 6 months of service in favor of a new top step after 10 years of service. The previous top step was after 5 years of service.

Union leadership changes

William G. Lindner, president of the Transport Workers, died May 1. He was 65. Lindner was the third president of the Transport Workers in its 50 year history. He joined the union in 1946 while working as a mechanic at American Airlines in Chicago, and became the first president of Local 512, which he helped to form. Subsequently, he held a series of progressively higher positions, culminating in election to the presidency in 1979. Under the union's constitution, John D. Lawe will serve as president until a successor is elected at the union's September convention. Lawe

is president of Local 100 in New York City.

J.C. Turner retired as president of the Operating Engineers union on May 31, and was succeeded by sixth vice president Larry L. Dugan. Turner, who continued with the union as president emeritus, began his career in 1934 when he became a member of Local 77 in Washington, DC. He became president of the international union in 1975, after serving 3 years as vice president. Dugan, 55, held various posts in Local 428 in Phoenix, AZ, before becoming an Operating Engineers vice president and assistant to the president in 1979.

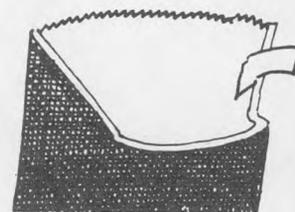
Hotel and restaurant employees settle

The Hotel Employees and Restaurant Employees and the Hotel-Restaurant Employers Council of Southern California negotiated new wage and benefit provisions extending to March 15, 1989. The parties bargained under a wage reopening provision of their previous contract which was scheduled to expire in 1986. The new agreement covered about 10,000 workers in the Los Angeles area and was expected to set a settlement pattern for 2,000 employees of independent hotels and restaurants. It is subject to reopening in March 1988 on wages and health and welfare benefits.

Hotel employees who receive tips will receive pay increases of 5 percent on April 1 of 1986 and 1987. For those who do not receive tips, the increases were 4 percent retroactive to April 1, 1985, and 5 percent on April 1 of 1986 and 1987. Both tipped and nontipped restaurant employees will receive 4-percent increases on April 1 of 1986 and 1987.

Other provisions permit employers to pay new workers at 80 percent of regular scale during their first 90 days on the job (previously, they received regular scale immediately), and increase employer payments to the health and welfare trust to \$1.05 an hour (from 90 cents) over the term, with additional amounts to be diverted from the scheduled wage increases if needed to maintain benefit levels. □

Book Reviews



When employers join hands

Employers Associations and Industrial Relations: A Comparative Study. Edited by John P. Windmuller and Alan Gladstone. New York, Oxford University Press, 1984. 370 pp. \$39.95.

John P. Windmuller, professor of industrial and labor relations at Cornell University and Alan Gladstone, an affiliate of the International Labor Organization, have edited a comparative study of employers associations in 10 countries: Australia, Great Britain, United States, Sweden, Federal Republic of Germany, The Netherlands, France, Italy, Israel, and Japan. In addition, the editors have each written summary essays: Windmuller on organization, structure, and administration of employers associations and Gladstone on functions and activities.

The employers associations are in democratic market economies. The separate monographs follow a standardized format which includes history, structure and government, functions—including relationships to governments and political parties—and future prospects. The authors are all established scholars and have set out authoritative, well-written, well-organized, and useful monographs.

Some monographs are, from my viewpoint, better than others. There are those who interpret their brief broadly to encompass not only the governance of the employers association but its social and political setting. Some write with a sense of the sweep of events, others limit themselves pretty much to the organizational specifications. However else they differ, almost all employers associations originate as defensive counter-union organizations. We have an interesting challenge-response chain here because unions originated as—and largely continue to be—counter-employer organizations. The interest of employers associations in challenging union power does not foreclose them from having internal conflicts any more than it does unions. Employers associations are not “bosses unions,” however. Unions are the beginning principals. Employers associations are rarely principals, although the scope of delegated authority varies widely.

If you want to set up an employers association, this is the book to turn to for authoritative instruction. If you want to construct a *theory* of employers associations, this is also the book to turn to but you will have to extract the theory yourself—the editors specifically disclaim a concern with theory. It would not require all that much work to derive a theory from the raw material which the volume offers. Without too much extra effort a sort of theory could, for example, try to explain why some associations are ideologically anti-union and others are not, why some are even “pronunion” in a manner of speaking; that is, if they don’t approve of unions they accept at least the legitimacy of the union function in a modern industrial society.

Employers associations are part of the effort to institutionalize conflict, which marks industrial relations systems in what I learned to call the IMEC’s (industrialized market economies). There are bargaining associations and legislative associations and there are employers associations which, in concert with their union federations, “legislate” economic policy. It has been stylish in some academic circles to characterize these as corporatist and neocorporatist but the analogy is strained, when it isn’t wrong.

Some employers associations proclaim an ideology like the social market or social partnership. Socially minded leaders use their position in the employers association to go beyond simple maximizing for their constituent employer groups to proclaim a *social* responsibility or to urge more constructive modes of relationships with their union counterparts.

It is bad form, I know, for a reviewer to impose his idea of what the book ought to have covered. The book does well what its editors intended it to do, namely to rescue from obscurity a side of industrial relations institutionalism that has been neglected for a long time. One might have wished that they had interpreted their mandate more broadly—which several of the individual contributions do.

—JACK BARBASH

Visiting Professor of Administration,
University of California, Davis

A pyrrhic victory

The Fighting Machinists: A Century of Struggle. By Robert G. Rodden. Washington, Kelly Press, Inc., 1985. 304 pp. \$5, paper.

Historian Robert Zieger once stated that labor's house has many rooms, inferring that the truncated state of labor literature creates a need for historical works. In the 1960's and 1970's, the more leftish interpretations held court and it carried over into the 1980's. Yet, institutional histories, writings highlighting the development of trade unions and their leaders, have appeared in the past few years. Walter Galenson's *The United Brotherhood of Carpenters* is an example of this revived institutional interest. Robert G. Rodden's *The Fighting Machinists* is not of the same caliber, but then it was not intended as such. It was written from the heart by a longtime member of the Machinists union for rank-and-file members.

Rodden's book charts the 96-year history (1888–1984) of the International Association of Machinists. It centers on the union's chief executives and the main events which shaped the union during their tenures. Originating in 1888, the IAM, the only international union with roots in the American South, experienced the typical problems associated with early American Federation of Labor craft organizations: economic fluctuations, wars, dual unionism, jurisdictional disputes, radicalism, internal dissention, and, of course, antiunion employers. The old Knights of Labor provided the foundations and many members for the Machinists union, but, unlike that body, the IAM grew as technological changes in society (railroads, automobiles, mass production, airlines) created new opportunities for skilled machinists and related trades. Until 1926, the union, with a constitutionally guaranteed referendum and a strong Socialist-Populist elan, was one of the most democratically functioning labor organizations. After 1926, changes in leadership moved the union toward a more conservative philosophy, but it never became authoritarian.

The history of the IAM is rich and colorful. It was organized by itinerant railroad machinists called "Boomers," and was among the first American unions to accept women as equals in both pay and social status. The union conducted some notable work stoppages, including the famous 1922 Shopmen's Strike against the railroad lines of E. H. Harriman, yet, in the same year, negotiated a famous labor-management cooperative agreement with executives of the B&O Railroad. The IAM struggled in the 1930's to retain a Gompersian philosophy while actively seeking to expand its membership in mass production industries. In the 1950's, President Al Hayes served as the paradigm for honest union leadership during a period marked by exposes of union corruption. In more recent times, the IAM has conducted important strikes against the airlines industry (1966), the railroads (1969), and the aerospace industry (1977).

Rodden's coverage of this episodic journey is extensive, based on excerpts from the *Machinists Monthly Journal*, selected monographic sources, and oral reminiscence by IAM officials. This latter resource paradoxically is the author's strength and weakness. As historian David Brody noted, "oral histories are merely what their informants volunteered." In addition, excerpts from the *Machinists Monthly Journal* are not counterbalanced by other trade union publications; the result is a very narrow point of view. IAM officials are "trustworthy," "loyal," and "dignified." Even when Rodden criticizes them, their halos tilt but do not tumble. Union dissidents, on the other hand, are described as "hotheads" while employers are always "haughty" and "imperious." U.S. President Warren G. Harding, in the author's words, was "empty-headed." Rodden has the core of an interesting and valuable book but fails to avoid the pitfalls endemic in one whose life blood runs in concordance with that of his subject. The author says that this history was written for the benefit of fellow machinists. That is the book's strength and also its weakness as history.

—Henry P. Guzda
Historian
U.S. Department of Labor

Moving toward center stage

The Handbook of Employee Benefits: Design, Funding and Administration. Edited by Jerry S. Rosenbloom. Homewood, IL, Dow Jones-Irwin, 1984. 1,096 pp.

The Handbook of Employee Benefits will be a valuable addition to the bookshelf of a specialist in employee compensation. Benefit plans—for example, paid leave items and employer-financed pensions and health and life insurance—are growing in both cost and complexity. Once regarded as "fringe benefits"—minor appendages to basic wages and salaries—they now commonly account for a fourth or more of expenditures on employee compensation.

Furthermore, their increased complexity is a major reason for the growing professionalization of compensation administration. Benefit plan administrators must have expertise in a variety of areas, including tax and insurance laws, actuarial principles, and investment planning. They must also be familiar with such specialized legislation as the Employee Retirement Income Security Act and the Age Discrimination in Employment Act. Additional complexities result from changes in the legislative framework. For example, in recent years benefit plans have been affected by the Economic Recovery Tax Act of 1981, the Tax Equity and Fiscal Responsibility Act of 1982, the Deficit Reduction Act of 1984, and the Retirement Equity Act of 1984.

The Handbook provides detailed discussions of the var-

ious issues involved in designing, funding, and administering employee benefit plans. Edited by Jerry S. Rosenbloom, Professor of Insurance at the Wharton School of the University of Pennsylvania, its 1,096 pages include 60 chapters grouped into eight parts: Environment of Employee Benefit Plans; Designing Employee Benefits—Death Benefits; Designing Employee Benefits—Health Related Benefits; Designing Employee Benefit Plans—Additional Benefits and Services; Designing Employee Benefit Plans—Retirement and Capital Accumulation Plans; Costing and Funding of Employee Benefit Plans; Administration of Employee Benefit Plans; and Issues of Special Interest in Employee Benefit Planning. Authors of the chapters include individuals with academic, actuarial, consulting, and legal backgrounds.

Despite its broad scope, the *Handbook* does not cover the gamut of employee benefits. Instead, it focuses on major benefit areas commonly financed through trust funds or the purchase of insurance policies, for example, retirement and capital accumulation plans and life, health, and disability insurance. Individual chapters also are devoted to several benefits whose current incidence is relatively low—property and liability insurance, legal service plans, and financial counseling. Except for limited coverage of sick leave, however, there is no analysis of paid leave items, such as vacations and holidays. Among other items given little or no mention are severance pay, supplemental unemployment benefits, employer-financed child care, and educational assistance.

The *Handbook's* treatment of individual benefits tends to concentrate on tax and other regulatory issues. Generally, less emphasis is given to data on the incidence of plan provisions. Although Internal Revenue Service requirements for integrating private pension and social security benefits are discussed, readers will receive only a sketchy indication of the extent of such integration and the relative

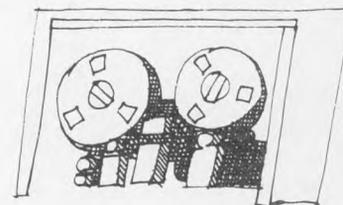
popularity of alternative techniques to accomplish this result. Consequently, readers will find it helpful to use the *Handbook* in conjunction with publications reporting on the findings of statistical surveys of the incidence and provisions of employee benefit plans.

What type of reader is likely to use the *Handbook*? As implied by its title, this book is not recommended reading for an individual seeking a brief overview of the employee benefits area. It is designed for practitioners, such as a company's manager of employee benefits, who need a reference work containing intensive treatment of a broad range of benefits. The *Handbook* will also serve as a comprehensive textbook at the college or professional education level. Nevertheless, it is not a "do-it-yourself" guide to designing and administering benefit plans nor does it substitute for the services of actuaries, attorneys, and investment advisers.

Considering the rapidity of change in employee benefits, it is not too early to envision a second edition of the *Handbook*. What revisions might enhance the usefulness of the current version? The following suggestions are offered: (1) Incorporate material on funding through salary reduction arrangements in the chapter on cafeteria approaches to benefit planning; (2) Give greater prominence to collectively bargained employee benefit plans; (3) To provide perspective on current practices, include information on the historical development of employee benefits, either in a separate introductory chapter or in the discussion of individual benefits; and (4) To aid readers seeking additional information, append bibliographies to the individual chapters. (A bibliography does follow the present edition's two chapters on employee stock ownership plans.)

—VICTOR J. SHEIFER
Office of Wages and Industrial Relations
Bureau of Labor Statistics

Current Labor Statistics



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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. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted labor force data in tables 3-8 were revised in the February 1985 issue of the *Review*, to reflect experience through 1984.

Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data shown in tables 11, 13, 15, and 17 were made in July 1985 using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 29 and 30 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from 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 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 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. More information from household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau. Comparable household information is published in a two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. Comparable establishment information appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and their annual supplements. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve 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 may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	July 5	June	August 2	July	September 6	August	1-11
Producer Price Index	July 12	June	August 9	July	September 13	August	23-27
Consumer Price Index	July 23	June	August 22	July	September 24	August	19-22
Real earnings	July 23	June	August 22	July	September 24	August	12-16
Productivity and costs:							
Nonfinancial corporations			August 27	2nd quarter			29-32
Nonfarm business and manufacturing	July 25	2nd quarter					29-32
Major collective bargaining settlements	July 25	1st half					36-37
Employment Cost Index	July 30	2nd quarter					33-35
Export and Import Price Indexes			August 1	2nd quarter			

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

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 59,500 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 civilians 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. Members of the Armed Forces stationed in the United States are also included in the employed total. 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 or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **unemployment**

rate for all civilian workers represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **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, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the 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 preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2-8 are seasonally adjusted, based on the seasonal experience through December 1984.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-84

[Numbers in thousands]

Year	Noninstitutional population	Labor force									Not in labor force	
		Number	Percent of population	Employed						Unemployed		
				Total	Percent of population	Resident Armed Forces	Civilian			Number		Percent of labor force
							Total	Agriculture	Nonagricultural industries			
1950	106,164	63,377	59.7	60,087	56.6	1,169	58,918	7,160	51,758	3,288	5.2	42,787
1955	111,747	67,087	60.0	64,234	57.5	2,064	62,170	6,450	55,722	2,852	4.3	44,660
1960	119,106	71,489	60.0	67,639	56.8	1,861	65,778	5,458	60,318	3,852	5.4	46,617
1965	128,459	76,401	59.5	73,034	56.9	1,946	71,088	4,361	66,726	3,366	4.4	52,058
1966	130,180	77,892	59.8	75,017	57.6	2,122	72,895	3,979	68,915	2,875	3.7	52,288
1967	132,092	79,565	60.2	76,590	58.0	2,218	74,372	3,844	70,527	2,975	3.7	52,527
1968	134,281	80,990	60.3	78,173	58.2	2,253	75,920	3,817	72,103	2,817	3.5	53,291
1969	136,573	82,972	60.8	80,140	58.7	2,238	77,902	3,606	74,296	2,832	3.4	53,602
1970	139,203	84,889	61.0	80,796	58.0	2,118	78,678	3,463	75,215	4,093	4.8	54,315
1971	142,189	86,355	60.7	81,340	57.2	1,973	79,367	3,394	75,972	5,016	5.8	55,834
1972	145,939	88,847	60.9	83,966	57.5	1,813	82,153	3,484	78,669	4,882	5.5	57,091
1973	148,870	91,203	61.3	86,838	58.3	1,774	85,064	3,470	81,594	4,355	4.8	57,667
1974	151,841	93,670	61.7	88,515	58.3	1,721	86,794	3,515	83,279	5,156	5.5	58,171
1975	154,831	95,453	61.6	87,524	56.5	1,678	85,845	3,408	82,438	7,929	8.3	59,377
1976	157,818	97,826	62.0	90,420	57.3	1,668	88,752	3,331	85,421	7,406	7.6	59,991
1977	160,689	100,665	62.6	93,673	58.3	1,656	92,017	3,283	88,734	6,991	6.9	60,025
1978	163,541	103,882	63.5	97,679	59.7	1,631	96,048	3,387	92,661	6,202	6.0	59,659
1979	166,460	106,559	64.0	100,421	60.3	1,597	98,824	3,347	95,477	6,137	5.8	59,900
1980	169,349	108,544	64.1	100,907	59.6	1,604	99,303	3,364	95,938	7,637	7.0	60,806
1981	171,775	110,315	64.2	102,042	59.4	1,645	100,397	3,368	97,030	8,273	7.5	61,460
1982	173,939	111,872	64.3	101,194	58.2	1,668	99,526	3,401	96,125	10,578	9.5	62,067
1983	175,891	113,226	64.4	102,510	58.3	1,676	100,834	3,383	97,450	10,717	9.5	62,665
1984	178,080	115,241	64.7	106,702	59.9	1,697	105,005	3,321	101,685	8,539	7.4	62,839

2. Employment status of the population, including Armed Forces in the United States, by sex, seasonally adjusted

[Numbers in thousands]

Employment status and sex	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Noninstitutional population ^{1,2}	175,891	178,080	177,813	177,974	178,138	178,295	178,483	178,661	178,834	179,004	179,081	179,219	179,368	179,501	179,649
Labor force ²	113,226	115,241	115,412	115,309	115,566	115,341	115,484	115,721	115,773	116,162	116,572	116,787	117,215	117,073	117,078
Participation rate ³	64.4	64.7	64.9	64.8	64.9	64.7	64.7	64.8	64.7	64.9	65.1	65.2	65.3	65.2	65.2
Total employed ²	102,510	106,702	106,852	107,081	107,075	106,860	107,114	107,354	107,631	107,971	108,088	108,388	108,820	108,647	108,665
Employment-population rate ⁴	58.3	59.9	60.1	60.2	60.1	59.9	60.0	60.1	60.2	60.3	60.4	60.5	60.7	60.5	60.5
Resident Armed Forces ¹	1,676	1,697	1,690	1,690	1,698	1,712	1,720	1,705	1,699	1,698	1,697	1,703	1,701	1,702	1,705
Civilian employed	100,834	105,005	105,162	105,391	105,377	105,148	105,394	105,649	105,932	106,273	106,391	106,685	107,119	106,945	106,960
Agriculture	3,383	3,321	3,367	3,368	3,333	3,264	3,319	3,169	3,334	3,385	3,320	3,340	3,362	3,428	3,312
Nonagricultural industries	97,450	101,685	101,795	102,023	102,044	101,884	102,075	102,480	102,598	102,888	103,071	103,345	103,757	103,517	103,648
Unemployed	10,717	8,539	8,560	8,228	8,491	8,481	8,370	8,367	8,142	8,191	8,484	8,399	8,396	8,426	8,413
Unemployment rate ⁵	9.5	7.4	7.4	7.1	7.3	7.4	7.2	7.2	7.0	7.1	7.3	7.2	7.2	7.2	7.2
Not in labor force	62,665	62,839	62,401	62,665	62,572	62,954	62,999	62,940	63,061	62,842	62,509	62,432	62,153	62,428	62,571
Men, 16 years and over															
Noninstitutional population ^{1,2}	84,064	85,156	85,024	85,101	85,179	85,257	85,352	85,439	85,523	85,607	85,629	85,692	85,764	85,827	85,898
Labor force ²	64,580	65,386	65,304	65,348	65,412	65,357	65,589	65,558	65,657	65,814	65,822	65,818	65,923	65,986	66,032
Participation rate ³	76.8	76.8	76.8	76.8	76.8	76.7	76.8	76.7	76.8	76.9	76.9	76.8	76.9	76.9	76.9
Total employed ²	58,320	60,642	60,578	60,758	60,687	60,766	60,959	61,018	61,155	61,252	61,213	61,226	61,427	61,405	61,553
Employment-population rate ⁴	69.4	71.2	71.2	71.4	71.2	71.3	71.4	71.4	71.5	71.6	71.5	71.4	71.6	71.5	71.7
Resident Armed Forces ¹	1,533	1,551	1,545	1,545	1,551	1,563	1,571	1,557	1,552	1,550	1,549	1,554	1,553	1,553	1,556
Civilian employed	56,787	59,091	59,033	59,213	59,136	59,203	59,388	59,461	59,603	59,702	59,664	59,672	59,874	59,852	59,997
Unemployed	6,260	4,744	4,726	4,590	4,725	4,591	4,630	4,540	4,502	4,562	4,609	4,592	4,495	4,582	4,479
Unemployment rate ⁵	9.7	7.3	7.2	7.0	7.2	7.0	7.1	6.9	6.9	6.9	7.0	7.0	6.8	6.9	6.8
Women, 16 years and over															
Noninstitutional population ^{1,2}	91,827	92,924	92,789	92,873	92,958	93,039	93,132	93,222	93,311	93,397	93,452	93,527	93,603	93,674	93,751
Labor force ²	48,646	49,855	50,108	49,961	50,154	49,984	49,895	50,163	50,116	50,348	50,570	50,970	51,293	51,086	51,047
Participation rate ³	53.0	53.7	54.0	53.8	54.0	53.7	53.6	53.8	53.7	53.9	54.3	54.5	54.8	54.5	54.4
Total employed ²	44,190	46,061	46,274	46,323	46,388	46,094	46,155	46,336	46,476	46,719	46,875	47,162	47,392	47,242	47,113
Employment-population rate ⁴	48.1	49.6	49.9	49.9	49.9	49.5	49.6	49.7	49.8	50.0	50.2	50.4	50.6	50.4	50.3
Resident Armed Forces ¹	143	146	145	145	147	149	149	148	147	148	148	149	148	149	149
Civilian employed	44,047	45,915	46,129	46,178	46,241	45,945	46,006	46,188	46,329	46,571	46,727	47,013	47,244	47,093	46,964
Unemployed	4,457	3,794	3,834	3,638	3,766	3,890	3,740	3,827	3,640	3,629	3,875	3,807	3,900	3,844	3,934
Unemployment rate ⁵	9.2	7.6	7.7	7.3	7.5	7.8	7.5	7.6	7.3	7.2	7.6	7.5	7.6	7.5	7.7

¹The population and Armed Forces figures are not adjusted for seasonal variation.

²Includes members of the Armed Forces stationed in the United States.

³Labor force as a percent of the noninstitutional population.

⁴Total employed as a percent of the noninstitutional population.

⁵Unemployment as a percent of the labor force (including the resident Armed Forces).

3. Employment status of the civilian population by sex, age, race, and Hispanic origin, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1984									1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
TOTAL																
Civilian noninstitutional population ¹	174,215	176,383	176,123	176,284	176,440	176,583	176,763	176,956	177,135	177,306	177,384	177,516	177,667	177,799	177,944	
Civilian labor force	111,550	113,544	113,722	113,619	113,868	113,629	113,764	114,016	114,074	114,464	114,875	115,084	115,514	115,371	115,373	
Participation rate	64.0	64.4	64.6	64.5	64.5	64.3	64.4	64.4	64.4	64.6	64.8	64.8	65.0	64.9	64.8	
Employed	100,834	105,005	105,162	105,391	105,377	105,148	105,394	105,649	105,932	106,273	106,391	106,685	107,119	106,945	106,960	
Employment-population ratio ²	57.9	59.5	59.7	59.8	59.7	59.5	59.6	59.7	59.8	59.9	60.0	60.1	60.3	60.1	60.1	
Unemployed	10,717	8,539	8,560	8,228	8,491	8,481	8,370	8,367	8,142	8,191	8,484	8,399	8,396	8,426	8,413	
Unemployment rate	9.6	7.5	7.5	7.2	7.5	7.5	7.4	7.3	7.1	7.2	7.4	7.3	7.3	7.3	7.3	
Not in labor force	62,665	62,839	62,401	62,665	62,572	62,954	62,999	62,940	63,061	62,842	62,509	62,432	62,153	62,428	62,571	
Men, 20 years and over																
Civilian noninstitutional population ¹	74,872	76,219	76,073	76,176	76,269	76,350	76,451	76,565	76,663	76,753	76,760	76,829	76,904	76,988	77,068	
Civilian labor force	58,744	59,701	59,572	59,668	59,730	59,771	59,892	59,913	59,994	60,131	60,033	60,061	60,152	60,177	60,214	
Participation rate	78.5	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.2	78.2	78.2	78.2	78.1	
Employed	53,487	55,769	55,663	55,861	55,846	55,935	56,075	56,182	56,269	56,372	56,234	56,287	56,421	56,370	56,563	
Employment-population ratio ²	71.4	73.2	73.2	73.3	73.2	73.3	73.3	73.3	73.4	73.4	73.3	73.3	73.4	73.2	73.4	
Agriculture	2,429	2,418	2,443	2,448	2,444	2,406	2,414	2,334	2,434	2,494	2,417	2,362	2,326	2,390	2,370	
Nonagricultural industries	51,058	53,351	53,220	53,413	53,402	53,529	53,661	53,848	53,835	53,878	53,817	53,926	54,095	53,980	54,193	
Unemployed	5,257	3,932	3,909	3,807	3,884	3,836	3,817	3,731	3,725	3,759	3,798	3,774	3,731	3,807	3,651	
Unemployment rate	8.9	6.6	6.6	6.4	6.5	6.4	6.4	6.2	6.2	6.3	6.3	6.3	6.2	6.3	6.1	
Women, 20 years and over																
Civilian noninstitutional population ¹	84,069	85,429	85,272	85,380	85,488	85,581	85,688	85,793	85,897	85,995	86,015	86,086	86,181	86,274	86,380	
Civilian labor force	44,636	45,900	46,130	45,958	46,131	46,092	45,950	46,264	46,279	46,463	46,771	46,894	47,193	47,155	47,077	
Participation rate	53.1	53.7	54.1	53.8	54.0	53.9	53.6	53.9	53.9	54.0	54.4	54.5	54.8	54.7	54.5	
Employed	41,004	42,793	43,003	42,986	43,001	42,878	42,906	43,091	43,252	43,511	43,610	43,768	44,014	43,958	43,846	
Employment-population ratio ²	48.8	50.1	50.4	50.3	50.3	50.1	50.1	50.2	50.4	50.6	50.7	50.8	51.1	51.0	50.8	
Agriculture	620	595	603	611	580	573	590	569	580	595	592	614	659	651	597	
Nonagricultural industries	40,384	42,198	42,400	42,375	42,421	42,305	42,316	42,522	42,672	42,916	43,018	43,153	43,355	43,307	43,249	
Unemployed	3,632	3,107	3,127	2,972	3,130	3,214	3,044	3,173	3,027	2,952	3,161	3,126	3,179	3,197	3,231	
Unemployment rate	8.1	6.8	6.8	6.5	6.8	7.0	6.6	6.9	6.5	6.4	6.8	6.7	6.7	6.8	6.9	
Both sexes, 16 to 19 years																
Civilian noninstitutional population ¹	15,274	14,735	14,778	14,728	14,683	14,653	14,624	14,598	14,575	14,557	14,610	14,600	14,582	14,538	14,496	
Civilian labor force	8,171	7,943	8,020	7,993	8,007	7,766	7,922	7,839	7,801	7,870	8,072	8,129	8,169	8,039	8,082	
Participation rate	53.5	53.9	54.3	54.3	54.5	53.0	54.2	53.7	53.5	54.1	55.2	55.7	56.0	55.3	55.8	
Employed	6,342	6,444	6,496	6,544	6,530	6,335	6,413	6,376	6,411	6,390	6,547	6,630	6,684	6,617	6,551	
Employment-population ratio ²	41.5	43.7	44.0	44.4	44.5	43.2	43.9	43.7	44.0	43.9	44.8	45.4	45.8	45.5	45.2	
Agriculture	334	309	321	309	309	285	315	266	320	296	311	364	377	387	345	
Nonagricultural industries	6,008	6,135	6,175	6,235	6,221	6,050	6,098	6,110	6,091	6,094	6,236	6,266	6,307	6,230	6,206	
Unemployed	1,829	1,499	1,524	1,449	1,477	1,431	1,509	1,463	1,390	1,480	1,525	1,499	1,485	1,422	1,531	
Unemployment rate	22.4	18.9	19.0	18.1	18.4	18.4	19.0	18.7	17.8	18.8	18.9	18.4	18.2	17.7	18.9	
White																
Civilian noninstitutional population ¹	150,805	152,347	152,229	152,295	152,286	152,402	152,471	152,605	152,659	152,734	153,103	153,191	153,296	153,388	153,489	
Civilian labor force	97,021	98,492	98,749	98,690	98,627	98,223	98,426	98,631	98,630	99,005	99,496	99,711	100,035	99,805	99,768	
Participation rate	64.3	64.6	64.9	64.8	64.8	64.4	64.6	64.6	64.6	64.8	65.0	65.1	65.3	65.1	65.0	
Employed	88,893	92,120	92,330	92,516	92,389	91,951	92,177	92,407	92,587	92,884	93,124	93,552	93,785	93,544	93,539	
Employment-population ratio ²	58.9	60.5	60.7	60.7	60.7	60.3	60.5	60.6	60.6	60.8	60.8	61.1	61.2	61.0	60.9	
Unemployed	8,128	6,372	6,419	6,174	6,238	6,272	6,249	6,224	6,043	6,121	6,372	6,159	6,250	6,262	6,230	
Unemployment rate	8.4	6.5	6.5	6.3	6.3	6.4	6.3	6.3	6.1	6.2	6.4	6.2	6.2	6.3	6.2	
Black																
Civilian noninstitutional population ¹	18,925	19,348	19,302	19,330	19,360	19,386	19,416	19,449	19,481	19,513	19,518	19,542	19,569	19,594	19,620	
Civilian labor force	11,647	12,033	11,968	11,959	12,083	12,142	12,082	12,208	12,276	12,306	12,315	12,309	12,280	12,403	12,370	
Participation rate	61.5	62.2	62.0	61.9	62.4	62.2	62.2	62.8	63.0	63.1	63.1	63.0	62.8	63.3	63.0	
Employed	9,375	10,119	10,053	10,138	10,079	10,222	10,260	10,340	10,426	10,462	10,475	10,301	10,412	10,508	10,438	
Employment-population ratio ²	49.5	52.3	52.1	52.4	52.1	52.7	52.8	53.2	53.5	53.6	53.7	52.7	53.2	53.6	53.2	
Unemployed	2,272	1,914	1,915	1,821	2,004	1,920	1,822	1,868	1,850	1,844	1,840	2,008	1,869	1,894	1,932	
Unemployment rate	19.5	15.9	16.0	15.2	16.6	15.8	15.1	15.3	15.1	15.0	14.9	16.3	15.2	15.3	15.6	
Hispanic origin																
Civilian noninstitutional population ¹	10,795	11,164	11,118	11,148	11,180	11,209	11,240	11,270	11,301	11,332	11,363	11,394	11,425	11,457	11,485	
Civilian labor force	6,884	7,247	7,170	7,267	7,264	7,299	7,353	7,384	7,394	7,472	7,255	7,330	7,365	7,336	7,330	
Participation rate	63.8	64.9	64.5	65.2	65.0	65.1	65.4	65.5	65.4	65.9	63.8	64.3	64.5	64.0	63.8	
Employed	5,943	6,469	6,402	6,519	6,503	6,521	6,573	6,574	6,636	6,698	6,487	6,621	6,615	6,577	6,546	
Employment-population ratio ²	55.1	57.9	57.6	58.5	58.2	58.2	58.5	58.3	58.7	59.1	57.1	58.1	57.9	57.4	57.0	
Unemployed	940	778	768	748	761	778	780	810	758	774	768	709	750	759	784	
Unemployment rate	13.7	10.7	10.7	10.3	10.5	10.7	10.6	11.0	10.3	10.4	10.6	9.7	10.2	10.3	10.7	

¹The population figures are not seasonally adjusted.

²Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

4. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Civilian employed, 16 years and over	100,834	105,005	105,162	105,391	105,377	105,148	105,394	105,649	105,932	106,273	106,391	106,685	107,119	106,945	106,960
Men	56,787	59,091	59,033	59,213	59,136	59,203	59,388	59,461	59,603	59,702	59,644	59,672	59,874	59,852	59,997
Women	44,047	45,915	46,129	46,178	46,241	45,945	46,006	46,188	46,329	46,571	46,727	47,013	47,244	47,093	46,964
Married men, spouse present	37,967	39,056	39,060	39,060	39,123	39,073	39,071	39,054	39,337	39,443	39,441	39,357	39,531	39,434	39,244
Married women, spouse present	24,603	25,636	25,658	25,734	25,719	25,772	25,715	25,897	25,995	26,122	25,912	26,108	26,195	26,058	25,951
Women who maintain families	5,091	5,465	5,606	5,622	5,626	5,496	5,429	5,378	5,396	5,396	5,584	5,525	5,631	5,622	5,683
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,579	1,555	1,580	1,578	1,519	1,453	1,565	1,511	1,593	1,733	1,596	1,611	1,610	1,705	1,611
Self-employed workers	1,565	1,553	1,549	1,566	1,557	1,562	1,555	1,487	1,555	1,485	1,531	1,503	1,502	1,491	1,507
Unpaid family workers	240	213	239	211	220	209	195	187	204	212	227	242	263	231	196
Nonagricultural industries:															
Wage and salary workers	89,500	93,565	93,780	93,845	93,768	93,680	94,140	94,415	94,442	94,725	95,068	95,348	95,756	95,617	95,772
Government	15,537	15,770	15,744	15,713	15,639	15,758	15,881	15,997	15,785	15,858	15,738	16,009	16,004	15,968	15,905
Private industries	73,963	77,794	78,036	78,132	78,129	77,922	78,259	78,418	78,657	78,867	79,330	79,339	79,752	79,649	79,866
Private households	1,247	1,238	1,327	1,297	1,238	1,199	1,198	1,213	1,228	1,257	1,374	1,304	1,210	1,208	1,259
Other	72,716	76,556	76,709	76,835	76,891	76,723	77,061	77,205	77,429	77,610	77,956	78,035	78,542	78,441	78,607
Self-employed workers	7,575	7,785	7,745	7,815	7,744	7,807	7,752	7,782	7,731	7,786	7,783	7,673	7,809	7,696	7,665
Unpaid family workers	376	335	323	347	318	321	318	314	357	357	343	340	320	304	283
PERSONS AT WORK PART TIME¹															
All industries:															
Part time for economic reasons	6,266	5,744	5,625	5,831	5,759	5,582	5,690	5,710	5,623	5,814	5,628	5,335	5,664	5,664	5,912
Slack work	2,833	2,430	2,286	2,326	2,373	2,371	2,461	2,514	2,449	2,596	2,431	2,212	2,599	2,580	2,658
Could only find part-time work	3,099	2,948	3,042	2,984	2,832	2,743	2,943	2,879	2,855	2,873	2,848	2,835	2,744	2,755	2,888
Voluntary part time	12,911	13,169	13,250	13,090	13,248	13,210	13,144	13,126	13,142	13,239	13,355	13,647	13,624	13,278	12,905
Nonagricultural industries:															
Part time for economic reasons	5,997	5,512	5,377	5,549	5,482	5,384	5,449	5,483	5,413	5,596	5,389	5,077	5,400	5,374	5,617
Slack work	2,684	2,291	2,153	2,160	2,214	2,254	2,306	2,364	2,319	2,473	2,287	2,040	2,405	2,390	2,457
Could only find part-time work	2,993	2,866	2,949	2,911	2,756	2,675	2,847	2,821	2,782	2,793	2,749	2,751	2,649	2,668	2,803
Voluntary part time	12,417	12,704	12,799	12,621	12,786	12,747	12,669	12,679	12,670	12,778	12,861	13,157	13,137	12,834	12,483

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

5. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total, all civilian workers	9.6	7.5	7.5	7.2	7.5	7.5	7.4	7.3	7.1	7.2	7.4	7.3	7.3	7.3	7.3
Both sexes, 16 to 19 years	22.4	18.9	19.0	18.1	18.4	18.4	19.0	18.7	17.8	18.8	18.9	18.4	18.2	17.7	18.9
Men, 20 years and over	8.9	6.6	6.6	6.4	6.5	6.4	6.4	6.2	6.2	6.3	6.3	6.3	6.2	6.3	6.1
Women, 20 years and over	8.1	6.8	6.8	6.5	6.8	7.0	6.6	6.9	6.5	6.4	6.8	6.7	6.7	6.8	6.9
White, total	8.4	6.5	6.5	6.3	6.3	6.4	6.3	6.3	6.1	6.2	6.4	6.2	6.2	6.3	6.2
Both sexes, 16 to 19 years	19.3	16.0	16.2	15.8	15.2	16.0	16.3	15.9	15.1	15.9	15.8	15.2	15.1	14.9	16.1
Men, 16 to 19 years	20.2	16.8	16.9	16.6	17.4	16.7	17.0	16.6	16.2	16.2	15.9	17.0	15.2	15.3	16.8
Women, 16 to 19 years	18.3	15.2	15.5	15.1	12.9	15.4	15.5	15.2	13.9	15.5	15.8	13.4	14.9	14.3	15.3
Men, 20 years and over	7.9	5.7	5.7	5.4	5.5	5.5	5.5	5.4	5.4	5.4	5.5	5.4	5.4	5.5	5.2
Women, 20 years and over	6.9	5.8	5.8	5.6	5.8	5.9	5.7	5.8	5.5	5.5	5.9	5.6	5.9	5.8	5.9
Black, total	19.5	15.9	16.0	15.2	16.6	15.8	15.1	15.3	15.1	15.0	14.9	16.3	15.2	15.3	15.6
Both sexes, 16 to 19 years	48.5	42.7	44.4	37.1	42.3	41.3	41.9	40.2	41.2	42.1	42.1	43.1	41.9	39.0	40.4
Men, 16 to 19 years	48.8	42.7	41.4	38.2	42.3	40.5	41.0	43.8	42.0	43.8	45.3	41.1	40.9	38.5	38.4
Women, 16 to 19 years	48.2	42.6	48.1	35.8	42.2	42.2	43.0	36.2	40.2	40.1	38.5	45.3	43.1	39.5	42.5
Men, 20 years and over	18.1	14.3	14.3	14.6	15.5	14.1	13.5	13.4	12.8	13.3	12.7	14.4	13.3	13.6	13.6
Women, 20 years and over	16.5	13.5	13.7	12.6	13.8	13.8	12.6	13.4	13.5	12.7	12.8	13.9	12.9	13.2	13.7
Hispanic origin, total	13.7	10.7	10.3	10.5	10.7	10.6	11.0	10.3	10.4	10.6	9.7	9.7	10.2	10.3	10.7
Married men, spouse present	6.5	4.6	4.6	4.6	4.5	4.5	4.6	4.5	4.4	4.4	4.4	4.4	4.2	4.3	4.0
Married women, spouse present	7.0	5.7	5.8	5.7	5.8	5.8	5.7	5.7	5.4	5.4	5.7	5.4	5.9	5.9	5.8
Women who maintain families	12.2	10.3	10.0	9.8	9.8	10.3	10.1	10.4	10.8	9.6	10.0	11.0	10.2	10.8	10.9
Full-time workers	9.5	7.2	7.2	6.7	7.2	7.1	7.1	7.1	6.9	6.9	7.1	7.1	6.9	6.9	6.8
Part-time workers	10.4	9.3	9.4	10.0	9.6	9.6	9.3	9.1	8.6	8.8	9.3	8.7	9.6	9.7	10.3
Unemployed 15 weeks and over	3.8	2.4	2.5	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.0	2.1	2.1	2.1	1.9
Labor force time lost ¹	10.9	8.6	8.6	8.4	8.5	8.5	8.5	8.4	8.2	8.3	8.2	8.2	8.2	8.2	8.3
INDUSTRY															
Nonagricultural private wage and salary workers	9.9	7.4	7.3	7.0	7.4	7.4	7.3	7.2	7.2	7.2	7.3	7.3	7.2	7.3	7.2
Mining	17.0	10.0	8.8	7.5	7.7	10.2	8.6	10.5	11.7	10.7	10.1	10.9	11.0	10.9	7.3
Construction	18.4	14.3	14.7	14.6	14.6	14.1	13.9	13.7	14.2	13.7	13.4	13.4	13.3	13.3	10.2
Manufacturing	11.2	7.5	7.2	7.3	7.5	7.4	7.4	7.3	7.2	7.2	7.6	7.5	7.7	8.0	7.8
Durable goods	12.1	7.2	7.1	7.2	6.9	6.9	6.9	6.9	7.0	7.1	7.2	7.1	7.4	7.8	7.8
Nondurable goods	10.0	7.8	7.3	7.5	8.5	8.1	8.1	7.8	7.4	7.2	8.1	8.2	8.1	8.3	7.7
Transportation and public utilities	7.4	5.5	5.7	5.3	5.9	5.9	5.9	5.3	5.2	5.0	4.9	5.5	4.6	5.4	5.2
Wholesale and retail trade	10.0	8.0	8.0	7.3	7.8	7.7	8.0	7.9	7.6	7.5	7.7	7.7	7.5	7.3	7.9
Finance and service industries	7.2	5.9	5.7	5.5	5.9	6.0	5.6	5.7	5.8	5.9	5.9	5.7	5.7	5.7	6.2
Government workers	5.3	4.5	4.7	4.2	4.5	4.4	4.5	4.4	4.3	4.4	4.1	3.9	3.9	3.7	3.9
Agricultural wage and salary workers	16.0	13.5	13.8	12.3	14.3	13.1	14.7	13.7	11.2	12.2	15.5	13.6	12.2	13.1	11.5

¹ Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

6. Unemployment rates by sex and age, seasonally adjusted

[Civilian workers]

Sex and age	Annual average		1984									1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Total, 16 years and over	9.6	7.5	7.5	7.2	7.5	7.5	7.4	7.3	7.1	7.2	7.4	7.3	7.3	7.3	7.3	
16 to 24 years	17.2	13.9	14.1	13.2	13.6	13.9	13.9	13.5	13.2	13.5	13.6	13.7	13.5	13.3	14.2	
16 to 19 years	22.4	18.9	19.0	18.1	18.4	18.4	19.0	18.7	17.8	18.8	18.9	18.4	18.2	17.7	18.9	
16 to 17 years	24.5	21.2	20.6	20.1	20.7	21.2	20.9	20.2	20.0	21.0	21.2	20.0	20.9	20.7	21.1	
18 to 19 years	21.1	17.4	17.9	16.8	16.7	16.7	17.7	17.8	16.8	17.7	17.4	17.4	16.5	15.8	17.3	
20 to 24 years	14.5	11.5	11.6	10.8	11.2	11.7	11.4	11.0	10.9	10.9	10.9	11.2	11.1	11.0	11.8	
25 years and over	7.5	5.8	5.8	5.7	5.8	5.7	5.6	5.7	5.5	5.5	5.8	5.6	5.6	5.7	5.5	
25 to 54 years	8.0	6.1	6.0	5.8	6.1	6.0	5.9	5.9	5.8	5.8	6.1	5.9	5.9	6.1	5.8	
55 years and over	5.3	4.5	4.5	4.5	4.5	4.5	4.5	4.7	4.4	4.1	4.2	3.9	4.0	4.0	4.3	
Men, 16 years and over	9.9	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.1	7.2	7.1	7.0	7.1	6.9	
16 to 24 years	18.4	14.4	14.3	13.9	14.5	14.3	14.6	13.8	13.7	14.1	13.8	14.4	13.9	13.6	14.8	
16 to 19 years	23.3	19.6	19.5	18.9	20.4	18.8	19.7	19.8	18.9	19.4	19.1	19.5	18.1	18.2	19.4	
16 to 17 years	25.2	21.9	21.7	22.4	22.6	22.2	21.0	21.3	20.3	19.8	21.2	20.7	22.2	21.5	22.2	
18 to 19 years	22.2	18.3	18.1	17.0	18.5	16.6	18.7	18.9	18.3	19.3	18.0	18.6	15.7	16.2	17.4	
20 to 24 years	15.9	11.9	11.7	11.5	11.6	12.1	12.2	10.9	11.2	11.5	11.2	11.8	11.7	11.3	12.5	
25 years and over	7.8	5.7	5.7	5.5	5.6	5.5	5.4	5.4	5.4	5.4	5.5	5.4	5.3	5.5	5.0	
25 to 54 years	8.2	5.9	5.9	5.7	5.8	5.7	5.6	5.6	5.6	5.6	5.8	5.6	5.6	5.8	5.2	
55 years and over	5.6	4.6	4.6	4.5	4.6	4.6	4.8	4.7	4.7	4.4	4.3	4.0	3.8	3.9	4.1	
Women, 16 years and over	9.2	7.6	7.7	7.3	7.5	7.8	7.5	7.7	7.3	7.2	7.7	7.5	7.6	7.5	7.7	
16 to 24 years	15.8	13.3	13.9	12.5	12.7	13.5	13.2	13.2	12.6	12.8	13.3	12.9	13.2	12.9	13.5	
16 to 19 years	21.3	18.0	18.4	17.3	16.4	18.1	18.3	17.4	16.6	18.1	18.6	17.3	18.2	17.1	18.4	
16 to 17 years	23.7	20.4	19.4	17.6	18.7	20.3	20.9	19.0	19.7	22.3	21.2	19.4	19.5	19.8	19.9	
18 to 19 years	19.9	16.6	17.7	16.5	14.7	16.7	16.6	16.5	15.1	16.0	16.7	16.2	17.4	15.5	17.3	
20 to 24 years	12.9	10.9	11.5	10.0	10.8	11.1	10.5	11.1	10.7	10.2	10.5	10.6	10.5	10.7	10.9	
25 years and over	7.2	6.0	5.9	5.9	6.0	6.1	5.9	6.0	5.7	5.6	6.1	5.9	6.0	6.0	6.1	
25 to 54 years	7.7	6.3	6.2	6.0	6.4	6.5	6.2	6.2	6.1	6.0	6.4	6.3	6.4	6.3	6.5	
55 years and over	4.7	4.2	4.3	4.5	4.2	4.3	4.0	4.8	3.9	3.7	4.2	3.8	4.2	4.2	4.6	

7. Unemployed persons by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		1984									1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Job losers	6,258	4,421	4,373	4,271	4,475	4,227	4,188	4,261	4,141	4,176	4,313	4,251	4,158	4,228	3,935	
On layoff	1,780	1,171	1,187	1,162	1,165	1,146	1,110	1,151	1,068	1,070	1,229	1,240	1,163	1,208	1,059	
Other job losers	4,478	3,250	3,186	3,109	3,310	3,081	3,078	3,110	3,073	3,106	3,084	3,011	2,995	3,019	2,876	
Job leavers	830	823	812	809	850	833	841	829	869	858	884	865	848	838	868	
Reentrants	2,412	2,184	2,184	1,989	2,111	2,294	2,254	2,150	2,161	2,218	2,244	2,233	2,341	2,312	2,428	
New entrants	1,216	1,110	1,170	1,134	1,092	1,088	1,057	1,060	1,024	1,011	1,049	1,035	1,090	1,072	1,159	
PERCENT DISTRIBUTION																
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Job losers	58.4	51.8	51.2	52.1	52.5	50.1	50.2	51.3	50.5	50.5	50.8	50.7	49.3	50.0	46.9	
On layoff	16.6	13.7	13.9	14.2	13.7	13.6	13.3	13.9	13.0	12.9	14.5	14.8	13.8	14.3	12.6	
Other job losers	41.8	38.1	37.3	37.9	38.8	36.5	36.9	37.5	37.5	37.6	36.3	35.9	35.5	35.7	34.3	
Job leavers	7.7	9.6	9.5	9.9	10.0	9.9	10.1	10.0	10.6	10.4	10.4	10.3	10.0	9.9	10.3	
Reentrants	22.5	25.6	25.6	24.2	24.8	27.2	27.0	25.9	26.4	26.8	26.4	26.6	27.7	27.4	28.9	
New entrants	11.3	13.0	13.7	13.8	12.8	12.9	12.7	12.8	12.5	12.2	12.4	12.3	12.9	12.7	13.8	
PERCENT OF CIVILIAN LABOR FORCE																
Job losers	5.6	3.9	3.8	3.8	3.9	3.7	3.7	3.7	3.6	3.6	3.8	3.7	3.6	3.7	3.4	
Job leavers	.7	.7	.7	.7	.7	.7	.7	.7	.8	.7	.8	.8	.7	.7	.8	
Reentrants	2.2	1.9	1.9	1.8	1.9	2.0	2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.1	
New entrants	1.1	1.0	1.0	1.0	1.0	1.0	.9	.9	.9	.9	.9	.9	.9	.9	1.0	

8. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1984									1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Less than 5 weeks	3,570	3,350	3,275	3,229	3,409	3,513	3,313	3,395	3,352	3,282	3,662	3,524	3,590	3,558	3,659	
5 to 14 weeks	2,937	2,451	2,440	2,303	2,449	2,406	2,533	2,406	2,324	2,516	2,552	2,469	2,478	2,525	2,635	
15 weeks and over	4,210	2,737	2,833	2,630	2,672	2,621	2,605	2,527	2,428	2,374	2,243	2,416	2,400	2,377	2,247	
15 to 26 weeks	1,652	1,104	1,173	1,012	1,088	1,116	1,106	1,092	990	972	941	1,076	1,065	1,022	1,040	
27 weeks and over	2,559	1,634	1,660	1,618	1,584	1,505	1,499	1,435	1,438	1,402	1,302	1,340	1,335	1,354	1,207	
Mean duration in weeks	20.0	18.2	18.5	18.1	18.0	17.6	17.3	16.7	17.4	17.3	15.3	15.9	15.9	16.1	14.9	
Median duration in weeks	10.1	7.9	8.3	7.5	7.6	7.6	7.6	7.3	7.3	7.4	6.7	7.2	7.1	6.7	6.2	

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

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 over 200,000 establishments representing all industries except agriculture. 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

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th 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 manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12-16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities; in wholesale and retail trade; in finance, insurance, and real estate; and in services industries. These groups 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). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated

to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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 gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in table 17 of the May 1983 issue, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 3-, 6-, and 9-month spans are seasonally adjusted, while that for the 12-month span is unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909-84*, BLS Bulletin 1312-12.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20. See also BLS *Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982).

9. Employment, by industry, selected years, 1950-84

[Nonagricultural payroll data, in thousands]

Year	Total	Private sector	Goods-producing				Service-producing									
			Total	Mining	Construction	Manufacturing	Total	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government			
													Total	Federal	State	Local
1950	45,197	39,170	18,506	901	2,364	15,241	26,691	4,034	2,635	6,751	1,888	5,357	6,026	1,928	(1)	(1)
1955	50,641	43,727	20,513	792	2,839	16,882	30,128	4,141	2,926	7,610	2,298	6,240	6,914	2,187	1,168	3,558
1960 ²	54,189	45,836	20,434	712	2,926	16,796	33,755	4,004	3,143	8,248	2,629	7,378	8,353	2,270	1,536	4,547
1964	58,283	48,686	21,005	634	3,097	17,274	37,278	3,951	3,337	8,823	2,911	8,660	9,596	2,348	1,856	5,392
1965	60,765	50,689	21,926	632	3,232	18,062	38,839	4,036	3,466	9,250	2,977	9,036	10,074	2,378	1,996	5,700
1966	63,901	53,116	23,158	627	3,317	19,214	40,743	4,158	3,597	9,648	3,058	9,498	10,784	2,564	2,141	6,080
1967	65,803	54,413	23,308	613	3,248	19,447	42,495	4,268	3,689	9,917	3,185	10,045	11,391	2,719	2,302	6,371
1968	67,897	56,058	23,737	606	3,350	19,781	44,160	4,318	3,779	10,320	3,337	10,567	11,839	2,737	2,442	6,660
1969	70,384	58,189	24,361	619	3,575	20,167	46,023	4,442	3,907	10,798	3,512	11,169	12,195	2,758	2,533	6,904
1970	70,880	58,325	23,578	623	3,588	19,367	47,302	4,515	3,993	11,047	3,645	11,548	12,554	2,731	2,664	7,158
1971	71,214	58,331	22,935	609	3,704	18,623	48,278	4,476	4,001	11,351	3,772	11,797	12,881	2,696	2,747	7,437
1972	73,675	60,341	23,668	628	3,889	19,151	50,007	4,541	4,113	11,836	3,908	12,276	13,334	2,684	2,859	7,790
1973	76,790	63,058	24,893	642	4,097	20,154	51,897	4,656	4,277	12,329	4,046	12,857	13,732	2,663	2,923	8,146
1974	78,265	64,095	24,794	697	4,020	20,077	53,471	4,725	4,433	12,554	4,148	13,441	14,170	2,724	3,039	8,407
1975	76,945	62,259	22,600	752	3,525	18,323	54,345	4,542	4,415	12,645	4,165	13,892	14,686	2,748	3,179	8,758
1976	79,382	64,511	23,352	779	3,576	18,997	56,030	4,582	4,546	13,209	4,271	14,551	14,871	2,733	3,273	8,865
1977	82,471	67,344	24,346	813	3,851	19,682	58,125	4,713	4,708	13,808	4,467	15,303	15,127	2,727	3,377	9,023
1978	86,697	71,026	25,585	851	4,229	20,505	61,113	4,923	4,969	14,573	4,724	16,252	15,672	2,753	3,474	9,446
1979	89,823	73,876	26,461	958	4,463	21,040	63,363	5,136	5,204	14,989	4,975	17,112	15,947	2,773	3,541	9,633
1980	90,406	74,166	25,658	1,027	4,346	20,285	64,748	5,146	5,275	15,035	5,160	17,890	16,241	2,866	3,610	9,765
1981	91,156	75,126	25,497	1,139	4,188	20,170	65,659	5,185	5,358	15,189	5,298	18,619	16,031	2,772	3,640	9,619
1982	89,566	73,729	23,813	1,128	3,905	18,781	65,753	5,082	5,278	15,179	5,341	19,036	15,837	2,739	3,640	9,458
1983 ³	90,196	74,330	23,334	952	3,948	18,434	66,862	4,954	5,268	15,613	5,468	19,694	15,869	2,774	3,662	9,434
1984 ³	94,461	78,477	24,730	974	4,345	19,412	69,731	5,171	5,550	16,584	5,682	20,761	15,984	2,807	3,712	9,465

¹ Not available.

² Data include Alaska and Hawaii beginning in 1959.

³ Data have been revised to reflect March 1984 benchmarks and differ from data published previously.

10. Employment, by State

[Nonagricultural payroll data, in thousands]

State	April 1984	March 1985	April 1985 ^P	State	April 1984	March 1985	April 1985 ^P
Alabama	1,379.7	1,382.4	1,400.0	Montana	277.1	279.4	282.3
Alaska	217.7	222.1	225.7	Nebraska	620.5	636.0	640.6
Arizona	1,174.3	1,256.7	1,260.9	Nevada	418.7	441.6	446.2
Arkansas	779.2	788.9	793.6	New Hampshire	430.6	455.9	460.7
California	10,449.8	10,769.0	10,803.7	New Jersey	3,305.2	3,367.7	3,407.4
Colorado	1,377.2	1,403.6	1,407.1	New Mexico	497.9	510.0	513.9
Connecticut	1,509.5	1,543.2	1,556.6	New York	7,497.9	7,584.2	7,638.1
Delaware	277.1	284.6	288.0	North Carolina	2,542.4	2,599.1	2,617.6
District of Columbia	605.3	615.7	619.1	North Dakota	250.0	247.9	250.5
Florida	4,179.6	4,426.4	4,424.5	Ohio	4,208.9	4,273.6	4,319.3
Georgia	2,415.9	2,563.7	2,580.2	Oklahoma	1,182.2	1,183.7	1,187.8
Hawaii	412.6	421.2	420.1	Oregon	994.8	1,010.7	1,013.5
Idaho	323.2	325.0	327.5	Pennsylvania	4,623.5	4,657.7	4,689.9
Illinois	4,597.7	4,635.0	4,657.2	Rhode Island	407.5	412.0	414.2
Indiana	2,110.2	2,153.2	2,183.4	South Carolina	1,254.7	1,312.2	1,326.9
Iowa	1,060.7	1,052.4	1,061.5	South Dakota	242.1	239.9	242.5
Kansas	955.1	971.7	981.3	Tennessee	1,799.3	1,828.8	1,846.6
Kentucky	1,200.8	1,229.1	1,238.4	Texas	6,417.0	6,546.4	6,550.7
Louisiana	1,593.8	1,588.5	1,586.7	Utah	593.2	616.1	620.4
Maine	434.1	437.5	443.3	Vermont	209.8	218.9	217.8
Maryland	1,781.4	1,846.8	1,861.4	Virginia	2,297.4	2,373.2	2,396.2
Massachusetts	2,815.2	2,917.4	2,956.5	Washington	1,625.6	1,655.0	1,670.4
Michigan	3,313.8	3,387.3	3,403.9	West Virginia	589.9	584.7	588.5
Minnesota	1,800.0	1,838.3	1,864.2	Wisconsin	1,909.6	1,940.4	1,963.0
Mississippi	818.9	838.3	844.0	Wyoming	194.8	(1)	(1)
Missouri	2,011.7	2,020.2	2,041.0	Virgin Islands	37.0	36.9	36.7

¹ Not available.

p = preliminary.

11. Employment, by industry, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
TOTAL	90,196	94,461	93,998	94,317	94,615	94,893	95,238	95,573	95,882	96,092	96,419	96,591	96,910	97,118	97,463
PRIVATE SECTOR	74,330	78,477	78,055	78,384	78,655	78,885	79,154	79,460	79,764	80,010	80,319	80,480	80,767	80,978	81,275
GOODS-PRODUCING	23,334	24,730	24,670	24,767	24,842	24,889	24,851	24,918	24,955	25,045	25,112	25,062	25,056	25,098	25,098
Mining	952	974	973	978	979	984	985	979	978	973	974	976	977	981	977
Oil and gas extraction	598	613	607	610	613	618	622	623	626	624	621	620	618	622	618
Construction	3,948	4,345	4,307	4,344	4,354	4,366	4,386	4,403	4,424	4,469	4,534	4,525	4,553	4,648	4,680
General building contractors	1,020	1,158	1,153	1,163	1,162	1,163	1,171	1,171	1,179	1,190	1,219	1,214	1,223	1,236	1,239
Manufacturing	18,434	19,412	19,390	19,445	19,509	19,539	19,480	19,536	19,553	19,603	19,604	19,561	19,526	19,469	19,441
Production workers	12,530	13,310	13,311	13,341	13,391	13,396	13,341	13,380	13,376	13,409	13,399	13,347	13,309	13,252	13,234
Durable goods	10,732	11,522	11,485	11,538	11,589	11,638	11,611	11,652	11,666	11,701	11,702	11,675	11,651	11,611	11,608
Production workers	7,117	7,749	7,732	7,763	7,802	7,832	7,806	7,835	7,832	7,855	7,843	7,806	7,776	7,735	7,729
Lumber and wood products	657	707	708	710	708	707	705	708	709	711	709	704	701	694	698
Furniture and fixtures	448	487	486	488	489	489	486	491	495	497	499	498	499	497	495
Stone, clay, and glass products	570	595	595	596	597	595	596	597	598	601	602	600	601	599	599
Primary metal industries	832	858	868	868	865	863	852	851	848	844	844	840	832	824	822
Blast furnaces and basic steel products	341	334	342	342	339	331	324	320	318	316	315	313	311	306	305
Fabricated metal products	1,370	1,464	1,457	1,465	1,475	1,478	1,476	1,483	1,486	1,489	1,486	1,483	1,480	1,478	1,477
Machinery, except electrical	2,033	2,197	2,189	2,205	2,220	2,232	2,225	2,233	2,232	2,232	2,228	2,224	2,220	2,207	2,208
Electrical and electronic equipment	2,013	2,208	2,199	2,210	2,224	2,237	2,241	2,247	2,250	2,253	2,252	2,248	2,243	2,226	2,217
Transportation equipment	1,747	1,906	1,888	1,900	1,911	1,934	1,927	1,935	1,940	1,965	1,974	1,972	1,969	1,983	1,984
Motor vehicles and equipment	754	860	848	853	857	880	866	869	873	888	891	876	867	876	876
Instruments and related products	692	714	712	714	716	717	718	720	722	723	723	725	727	726	729
Miscellaneous manufacturing	371	384	383	382	384	386	385	387	386	386	385	381	379	377	379
Nondurable goods	7,702	7,890	7,905	7,907	7,920	7,901	7,869	7,884	7,887	7,902	7,902	7,886	7,875	7,858	7,833
Production workers	5,413	5,561	5,579	5,578	5,589	5,564	5,535	5,545	5,544	5,554	5,556	5,541	5,533	5,517	5,505
Food and kindred products	1,615	1,619	1,618	1,618	1,625	1,617	1,610	1,617	1,620	1,630	1,633	1,633	1,638	1,629	1,628
Tobacco manufactures	68	65	65	65	65	64	66	66	65	66	67	66	66	66	65
Textile mill products	741	746	755	752	748	744	738	730	726	722	720	712	706	708	701
Apparel and other textile products	1,163	1,197	1,209	1,202	1,201	1,196	1,181	1,181	1,180	1,184	1,182	1,175	1,167	1,164	1,149
Paper and allied products	661	681	681	684	684	684	680	683	682	683	683	682	682	681	682
Printing and publishing	1,299	1,372	1,366	1,372	1,379	1,382	1,387	1,392	1,397	1,397	1,403	1,406	1,407	1,411	1,416
Chemicals and allied products	1,043	1,048	1,046	1,048	1,050	1,051	1,050	1,051	1,052	1,054	1,052	1,052	1,052	1,049	1,047
Petroleum and coal products	196	189	189	189	188	188	187	188	187	186	185	184	183	182	180
Rubber and miscellaneous plastics products	711	782	780	783	786	786	784	792	796	799	798	799	798	794	792
Leather and leather products	205	192	196	194	194	189	186	184	182	181	179	177	176	174	173
SERVICE-PRODUCING	66,862	69,731	69,328	69,550	69,773	70,004	70,387	70,655	70,927	71,047	71,307	71,529	71,854	72,020	72,365
Transportation and public utilities	4,954	5,171	5,145	5,164	5,174	5,194	5,210	5,223	5,229	5,246	5,259	5,272	5,269	5,286	5,307
Transportation	2,745	2,929	2,904	2,921	2,932	2,953	2,970	2,983	2,993	3,009	3,015	3,029	3,028	3,043	3,063
Communication and public utilities	2,209	2,242	2,241	2,243	2,242	2,241	2,240	2,240	2,236	2,237	2,244	2,243	2,241	2,243	2,244
Wholesale trade	5,268	5,550	5,516	5,532	5,557	5,573	5,610	5,636	5,647	5,665	5,686	5,697	5,714	5,735	5,756
Durable goods	3,070	3,272	3,252	3,268	3,286	3,296	3,311	3,321	3,334	3,347	3,358	3,367	3,377	3,390	3,408
Nondurable goods	2,197	2,278	2,264	2,264	2,271	2,277	2,299	2,315	2,313	2,318	2,328	2,330	2,337	2,345	2,348
Retail trade	15,613	16,584	16,443	16,534	16,623	16,673	16,750	16,859	16,994	17,026	17,090	17,160	17,249	17,278	17,389
General merchandise stores	2,165	2,278	2,259	2,271	2,279	2,285	2,298	2,311	2,357	2,323	2,341	2,343	2,349	2,348	2,372
Food stores	2,556	2,655	2,618	2,630	2,649	2,661	2,679	2,706	2,728	2,745	2,753	2,773	2,790	2,791	2,821
Automotive dealers and service stations	1,674	1,802	1,787	1,793	1,807	1,815	1,824	1,839	1,848	1,851	1,855	1,865	1,873	1,886	1,892
Eating and drinking places	5,042	5,403	5,348	5,396	5,447	5,454	5,472	5,493	5,512	5,535	5,559	5,588	5,615	5,642	5,660
Finance, insurance, and real estate	5,468	5,682	5,653	5,680	5,693	5,707	5,719	5,737	5,755	5,776	5,790	5,809	5,835	5,858	5,891
Finance	2,741	2,855	2,843	2,853	2,858	2,866	2,874	2,883	2,891	2,902	2,910	2,919	2,933	2,942	2,959
Insurance	1,720	1,753	1,742	1,748	1,755	1,758	1,763	1,770	1,774	1,780	1,783	1,789	1,792	1,799	1,808
Real estate	1,007	1,074	1,068	1,079	1,080	1,083	1,082	1,084	1,090	1,094	1,097	1,101	1,110	1,117	1,124
Services	19,694	20,761	20,628	20,707	20,766	20,849	21,014	21,087	21,184	21,252	21,382	21,480	21,644	21,723	21,834
Business services	3,562	4,076	4,026	4,058	4,102	4,152	4,183	4,205	4,234	4,259	4,295	4,324	4,377	4,405	4,445
Health services	5,988	6,104	6,106	6,096	6,111	6,070	6,117	6,125	6,139	6,154	6,169	6,186	6,204	6,215	6,240
Government	15,869	15,984	15,943	15,933	15,960	16,008	16,084	16,113	16,118	16,082	16,100	16,111	16,143	16,140	16,188
Federal	2,774	2,807	2,806	2,802	2,805	2,812	2,827	2,823	2,831	2,836	2,836	2,834	2,850	2,848	2,840
State	3,662	3,712	3,708	3,712	3,712	3,723	3,733	3,727	3,732	3,722	3,730	3,733	3,744	3,744	3,756
Local	9,434	9,465	9,429	9,419	9,443	9,473	9,524	9,563	9,555	9,524	9,534	9,544	9,549	9,548	9,592

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table differ from data published previously.

12. Average hours and earnings, by industry, 1968-84

[Production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings
	Private sector			Mining			Construction		
1968	37.8	\$2.85	\$107.73	42.6	\$3.35	\$142.71	37.3	\$4.41	\$164.49
1969	37.7	3.04	114.61	43.0	3.60	154.80	37.9	4.79	181.54
1970	37.1	3.23	119.83	42.7	3.85	164.40	37.3	5.24	195.45
1971	36.9	3.45	127.31	42.4	4.06	172.14	37.2	5.69	211.67
1972	37.0	3.70	136.90	42.6	4.44	189.14	36.5	6.06	221.19
1973	36.9	3.94	145.39	42.4	4.75	201.40	36.8	6.41	235.89
1974	36.5	4.24	154.76	41.9	5.23	219.14	36.6	6.81	249.25
1975	36.1	4.53	163.53	41.9	5.95	249.31	36.4	7.31	266.08
1976	36.1	4.86	175.45	42.4	6.46	273.90	36.8	7.71	283.73
1977	36.0	5.25	189.00	43.4	6.94	301.20	36.5	8.10	295.65
1978	35.8	5.69	203.70	43.4	7.67	332.88	36.8	8.66	318.69
1979	35.7	6.16	219.91	43.0	8.49	365.07	37.0	9.27	342.99
1980	35.3	6.66	235.10	43.3	9.17	397.06	37.0	9.94	367.78
1981	35.2	7.25	255.20	43.7	10.04	438.75	36.9	10.82	399.26
1982	34.8	7.68	267.26	42.7	10.77	459.88	36.7	11.63	426.82
1983 ¹	35.0	8.02	280.70	42.5	11.28	479.40	37.1	11.94	442.97
1984 ¹	35.3	8.33	294.05	43.3	11.63	503.58	37.7	12.12	456.92
	Manufacturing			Transportation and public utilities			Wholesale trade		
1968	40.7	\$3.01	\$122.51	40.6	\$3.42	\$138.85	40.1	\$3.05	\$122.31
1969	40.6	3.19	129.51	40.7	3.63	147.74	40.2	3.23	129.85
1970	39.8	3.35	133.33	40.5	3.85	155.93	39.9	3.44	137.26
1971	39.9	3.57	142.44	40.1	4.21	168.82	39.5	3.65	129.85
1972	40.5	3.82	154.71	40.4	4.65	187.86	39.4	3.85	144.18
1973	40.7	4.09	166.46	40.5	5.02	203.31	39.3	4.08	151.69
1974	40.0	4.42	176.80	40.2	5.41	217.48	38.8	4.39	160.34
1975	39.5	4.83	190.79	39.7	5.88	233.44	38.7	4.73	183.05
1976	40.1	5.22	209.32	39.8	6.45	256.71	38.7	5.03	194.66
1977	40.3	5.68	228.90	39.9	6.99	278.90	38.8	5.39	209.13
1978	40.4	6.17	249.27	40.0	7.57	302.80	38.8	5.88	228.14
1979	40.2	6.70	269.34	39.9	8.16	325.58	38.8	6.39	247.93
1980	39.7	7.27	288.62	39.6	8.87	351.25	38.5	6.96	267.96
1981	39.8	7.99	318.00	39.4	9.70	382.18	38.5	7.56	291.06
1982	38.9	8.49	330.26	39.0	10.32	402.48	38.3	8.09	309.85
1983 ¹	40.1	8.83	354.08	39.0	10.79	420.81	38.5	8.55	329.18
1984 ¹	40.7	9.18	373.63	39.4	11.11	437.73	38.6	8.96	345.86
	Retail trade			Finance, insurance, and real estate			Services		
1968	34.7	\$2.16	\$74.95	37.0	\$2.75	\$101.75	34.7	\$2.42	\$83.97
1969	34.2	2.30	78.66	37.1	2.93	108.70	34.7	2.61	90.57
1970	33.8	2.44	82.47	36.7	3.07	112.67	34.4	2.81	96.66
1971	33.7	2.60	87.62	36.6	3.22	117.85	33.9	3.04	103.06
1972	33.4	2.75	91.85	36.6	3.36	122.98	33.9	3.27	110.85
1973	33.1	2.91	96.32	36.6	3.53	129.20	33.8	3.47	117.29
1974	32.7	3.14	102.68	36.5	3.77	137.61	33.6	3.75	126.00
1975	32.4	3.36	108.86	36.5	4.06	148.19	33.5	4.02	134.67
1976	32.1	3.57	114.60	36.4	4.27	155.43	33.3	4.31	143.52
1977	31.6	3.85	121.66	36.4	4.54	165.26	33.0	4.65	153.45
1978	31.0	4.20	130.20	36.4	4.89	178.00	32.8	4.99	163.67
1979	30.6	4.53	138.62	36.2	5.27	190.77	32.7	5.36	175.27
1980	30.2	4.88	147.38	36.2	5.79	209.60	32.6	5.85	190.71
1981	30.1	5.25	158.03	36.3	6.31	229.05	32.6	6.41	208.97
1982	29.9	5.48	163.85	36.2	6.78	245.44	32.6	6.92	225.59
1983 ¹	29.8	5.74	171.05	36.2	7.29	263.90	32.7	7.31	239.04
1984 ¹	30.0	5.88	176.40	36.5	7.62	278.13	32.8	7.64	250.59

¹Data have been revised to reflect March 1984 benchmarks and may differ from data published previously.

13. Average weekly hours, by industry, seasonally adjusted

[Production or nonsupervisory workers on private nonagricultural payrolls]

Industry	Annual average		1984									1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. P	May P	
PRIVATE SECTOR	35.0	35.3	35.3	35.3	35.3	35.2	35.3	35.2	35.2	35.2	35.1	35.1	35.2	35.1	35.0	
CONSTRUCTION	37.1	37.7	37.6	37.8	37.5	37.6	37.9	37.7	38.0	37.8	37.7	37.8	38.1	38.0	37.4	
MANUFACTURING	40.1	40.7	40.7	40.6	40.5	40.5	40.6	40.5	40.5	40.6	40.6	40.1	40.4	40.1	40.3	
Overtime hours	3.0	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.3	3.2	3.3	3.1	
Durable goods	40.7	41.4	41.4	41.3	41.3	41.3	41.4	41.3	41.2	41.3	41.3	40.7	41.1	40.9	40.9	
Overtime hours	3.0	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.5	3.5	3.6	3.2	
Lumber and wood products	40.1	39.9	39.8	39.6	39.5	39.6	40.1	39.7	39.6	39.8	39.7	38.9	39.6	39.5	39.6	
Furniture and fixtures	39.4	39.7	39.7	39.3	39.8	39.3	39.8	39.6	39.7	39.6	40.4	39.5	39.5	39.2	38.7	
Stone, clay, and glass products	41.5	42.0	42.1	41.9	41.9	41.8	41.9	41.9	41.8	41.8	41.7	41.6	42.0	42.0	42.0	
Primary metal industries	40.5	41.7	42.0	41.7	41.5	41.2	41.3	41.3	41.5	41.2	41.0	40.9	41.1	41.1	41.6	
Blast furnaces and basic steel products	39.5	40.6	41.3	40.9	40.1	39.8	40.1	40.1	40.9	39.8	39.9	40.5	40.5	40.6	41.5	
Fabricated metal products	40.6	41.4	41.4	41.3	41.3	41.2	41.4	41.3	41.1	41.4	41.4	40.9	41.1	41.0	40.9	
Machinery, except electrical	40.5	41.9	42.0	42.0	41.9	42.0	42.0	41.9	41.8	41.7	41.7	41.1	41.6	41.1	41.3	
Electrical and electronic equipment	40.5	41.0	41.1	40.9	40.9	41.0	41.1	40.9	40.9	41.0	40.8	40.2	40.7	40.2	40.2	
Transportation equipment	42.1	42.7	42.5	42.5	42.3	42.6	42.8	42.6	42.4	42.8	43.1	41.9	42.5	42.2	42.4	
Motor vehicles and equipment	43.3	43.8	43.3	43.4	42.9	43.5	43.7	43.5	43.5	44.0	44.3	42.4	43.2	43.0	42.9	
Instruments and related products	40.4	41.3	40.9	41.3	41.3	41.2	41.5	41.3	41.4	41.8	41.2	40.7	41.0	40.7	40.8	
Miscellaneous manufacturing	39.1	39.4	39.4	39.3	39.3	39.2	39.4	39.3	39.3	39.3	39.2	39.0	39.1	39.0	38.9	
Nondurable goods	39.4	39.6	39.7	39.6	39.5	39.5	39.5	39.4	39.5	39.6	39.5	39.3	39.4	39.1	39.3	
Overtime hours	3.0	3.1	3.1	3.2	3.1	3.1	3.0	3.0	3.1	3.0	3.0	2.9	2.9	3.0	2.9	
Food and kindred products	39.5	39.8	39.7	39.8	39.7	39.7	39.7	39.7	39.7	40.1	39.8	39.7	39.8	39.5	40.0	
Tobacco manufactures	37.4	38.9	39.5	39.4	38.3	38.9	38.3	38.7	39.0	38.8	38.3	39.2	38.9	34.7	36.7	
Textile mill products	40.4	39.9	40.0	40.0	39.8	39.5	39.3	38.8	39.1	39.2	39.2	38.8	39.1	38.9	39.2	
Apparel and other textile products	36.2	36.4	36.5	36.4	36.1	36.1	36.1	36.0	36.1	36.3	36.2	35.9	36.1	35.6	36.1	
Paper and allied products	42.6	43.1	43.1	43.0	43.2	43.0	43.1	43.0	43.1	43.1	43.0	42.9	42.9	42.9	42.8	
Printing and publishing	37.6	37.9	38.0	37.8	37.8	37.8	37.9	37.8	37.8	37.7	37.8	37.7	37.6	37.6	37.3	
Chemicals and allied products	41.6	41.9	41.9	41.9	41.9	41.9	41.8	41.7	41.8	41.9	42.0	41.9	42.1	41.9	41.9	
Petroleum and coal products	43.9	43.7	43.6	43.4	43.5	43.9	43.4	43.6	43.4	43.0	43.2	43.1	43.3	43.3	42.7	
Leather and leather products	36.8	36.8	36.6	36.7	36.9	36.2	36.5	36.6	36.6	36.9	36.8	36.4	37.1	36.9	36.9	
TRANSPORTATION AND PUBLIC UTILITIES	39.0	39.4	39.4	39.6	39.7	39.4	39.8	39.2	39.4	39.3	39.3	39.4	39.5	39.5	39.5	
WHOLESALE TRADE	38.5	38.6	38.6	38.6	38.6	38.7	38.7	38.6	38.6	38.6	38.6	38.6	38.7	38.6	38.6	
RETAIL TRADE	29.8	30.0	30.1	30.1	30.0	29.9	29.9	29.8	29.9	29.9	29.8	29.8	29.8	29.7	29.8	
SERVICES	32.7	32.8	32.8	32.8	32.8	32.7	32.8	32.8	32.8	32.9	32.7	32.8	32.8	32.8	32.7	

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment

factors. Because of these revisions, data in this table may differ from data published previously. Publication of data for construction, miscellaneous manufacturing, and tobacco manufactures has been resumed.

14. Average hourly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

Industry	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
PRIVATE SECTOR	\$8.02	\$8.33	\$8.28	\$8.30	\$8.32	\$8.30	\$8.43	\$8.40	\$8.43	\$8.46	\$8.50	\$8.52	\$8.52	\$8.53	\$8.54
Seasonally adjusted	(¹)	(¹)	8.29	8.32	8.35	8.35	8.40	8.38	8.42	8.47	8.44	8.49	8.53	8.54	8.55
MINING	11.28	11.63	11.61	11.62	11.63	11.62	11.72	11.58	11.63	11.70	11.86	11.90	11.91	11.90	11.82
CONSTRUCTION	11.94	12.12	12.08	12.03	12.06	12.10	12.24	12.23	12.10	12.26	12.30	12.33	12.22	12.20	12.25
MANUFACTURING	8.83	9.18	9.12	9.15	9.19	9.15	9.24	9.24	9.31	9.40	9.43	9.43	9.45	9.48	9.48
Durable goods	9.39	9.74	9.68	9.72	9.73	9.70	9.79	9.78	9.85	9.96	9.99	9.99	10.01	10.03	10.05
Lumber and wood products	7.80	8.03	7.95	8.08	8.07	8.10	8.20	8.11	8.06	8.09	8.10	8.09	8.06	8.05	8.14
Furniture and fixtures	6.62	6.85	6.78	6.82	6.87	6.88	6.94	6.93	6.95	6.99	7.01	7.01	7.07	7.08	7.10
Stone, clay, and glass products	9.28	9.57	9.54	9.58	9.64	9.63	9.65	9.64	9.67	9.68	9.70	9.73	9.71	9.79	9.80
Primary metal industries	11.35	11.47	11.53	11.50	11.49	11.38	11.43	11.36	11.49	11.49	11.55	11.69	11.66	11.66	11.67
Blast furnaces and basic steel products	12.89	12.99	13.09	13.02	13.03	12.90	13.01	12.86	12.99	12.95	13.07	13.42	13.27	13.34	13.34
Fabricated metal products	9.12	9.38	9.35	9.35	9.35	9.33	9.43	9.40	9.44	9.58	9.59	9.59	9.62	9.65	9.64
Machinery, except electrical	9.55	9.96	9.90	9.93	9.96	9.93	10.02	10.02	10.07	10.16	10.13	10.14	10.15	10.19	10.22
Electrical and electronic equipment	8.67	9.04	8.94	8.97	9.00	9.05	9.13	9.15	9.20	9.32	9.33	9.33	9.39	9.39	9.42
Transportation equipment	11.67	12.22	12.06	12.17	12.16	12.16	12.26	12.32	12.45	12.62	12.67	12.63	12.59	12.62	12.59
Motor vehicles and equipment	12.14	12.74	12.56	12.72	12.66	12.64	12.74	12.86	13.02	13.27	13.41	13.35	13.29	13.37	13.29
Instruments and related products	8.48	8.85	8.75	8.82	8.88	8.89	8.96	8.93	8.95	9.03	9.00	9.11	9.10	9.11	9.14
Miscellaneous manufacturing	6.81	7.04	7.04	7.03	7.07	7.01	7.05	7.05	7.06	7.16	7.23	7.19	7.20	7.22	7.30
Nondurable goods	8.08	8.37	8.30	8.33	8.41	8.37	8.44	8.44	8.52	8.55	8.59	8.60	8.61	8.67	8.64
Food and kindred products	8.19	8.38	8.41	8.42	8.39	8.33	8.35	8.31	8.43	8.45	8.48	8.51	8.53	8.58	8.59
Tobacco manufactures	10.38	11.27	11.65	12.00	11.77	10.92	10.52	10.60	11.93	11.17	11.39	11.80	12.00	12.02	12.48
Textile mill products	6.18	6.46	6.43	6.44	6.44	6.47	6.50	6.49	6.55	6.57	6.59	6.60	6.64	6.72	6.67
Apparel and other textile products	5.38	5.55	5.50	5.53	5.53	5.55	5.63	5.61	5.61	5.68	5.73	5.70	5.73	5.75	5.70
Paper and allied products	9.93	10.41	10.30	10.38	10.52	10.47	10.51	10.52	10.64	10.66	10.63	10.64	10.64	10.72	10.72
Printing and publishing	9.11	9.40	9.33	9.31	9.38	9.44	9.53	9.50	9.56	9.57	9.58	9.60	9.61	9.59	9.60
Chemicals and allied products	10.58	11.08	10.99	11.00	11.09	11.09	11.20	11.29	11.31	11.34	11.39	11.39	11.37	11.47	11.45
Petroleum and coal products	13.28	13.43	13.31	13.32	13.25	13.30	13.52	13.51	13.66	13.62	13.96	13.99	14.06	14.13	13.97
Rubber and miscellaneous plastics products	8.00	8.29	8.22	8.24	8.31	8.29	8.32	8.32	8.40	8.44	8.49	8.48	8.46	8.48	8.43
Leather and leather products	5.54	5.70	5.68	5.67	5.71	5.68	5.73	5.72	5.76	5.80	5.72	5.79	5.82	5.83	5.84
TRANSPORTATION AND PUBLIC UTILITIES	10.79	11.11	10.99	11.03	11.14	11.13	11.22	11.18	11.25	11.28	11.23	11.27	11.27	11.28	11.24
WHOLESALE TRADE	8.55	8.96	8.88	8.91	8.98	8.96	9.06	9.00	9.08	9.19	9.16	9.22	9.19	9.23	9.26
RETAIL TRADE	5.74	5.88	5.87	5.87	5.86	5.82	5.88	5.88	5.93	5.89	5.97	5.99	5.97	5.95	5.96
FINANCE, INSURANCE, AND REAL ESTATE	7.29	7.62	7.55	7.58	7.60	7.57	7.76	7.67	7.71	7.78	7.77	7.87	7.87	7.88	7.90
SERVICES	7.31	7.64	7.58	7.56	7.59	7.56	7.72	7.71	7.77	7.84	7.84	7.87	7.87	7.88	7.88

¹ Not available.

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

15. The Hourly Earnings Index, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls; 1977 = 100]

Industry	Not seasonally adjusted					Seasonally adjusted						
	May 1984	Mar. 1985	Apr. 1985 ^P	May 1985 ^P	Percent change from: May 1984 to May 1985	May 1984	Jan. 1985	Feb. 1985	Mar. 1985	Apr. 1985 ^P	May 1985 ^P	Percent change from: Apr. 1985 to May 1985
PRIVATE SECTOR (in current dollars)	159.9	164.3	164.7	164.8	3.1	159.9	163.0	164.0	164.4	164.7	164.8	0.1
Mining	172.6	177.8	178.4	178.0	3.1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Construction	147.6	148.8	149.1	149.0	1.0	148.3	149.2	150.8	149.9	150.3	149.8	-.4
Manufacturing	162.1	167.3	168.0	168.2	3.8	162.3	166.3	166.9	167.4	167.9	168.5	.3
Transportation and public utilities	160.9	164.8	164.7	164.3	2.7	160.8	163.5	164.2	165.4	165.2	165.1	(²)
Wholesale trade	164.4	169.9	170.6	170.6	3.8	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Retail trade	154.2	155.8	155.9	156.0	1.2	153.5	154.5	155.4	155.5	155.4	155.4	-.1
Finance, insurance, and real estate	164.2	170.3	170.6	170.8	4.1	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Services	161.7	167.4	167.8	167.9	3.8	161.6	164.9	166.2	167.2	167.6	167.7	.1
PRIVATE SECTOR (in constant dollars)	95.0	94.6	94.4	(³)	(³)	95.0	94.5	94.7	94.5	94.3	(³)	(³)

¹ This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

² Percent change is less than .05 percent.

³ Not available.

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

16. Average weekly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

Industry	Annual average		1984								1985				
	1983	1984	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^p	May ^p
PRIVATE SECTOR															
Current dollars	\$280.70	\$294.05	\$291.46	\$294.65	\$296.19	\$294.65	\$298.42	\$294.84	\$295.89	\$300.33	\$294.95	\$294.79	\$298.20	\$297.70	\$298.90
Seasonally adjusted	(¹)	(¹)	292.64	293.70	294.76	293.92	296.52	294.98	296.38	298.14	296.24	298.00	300.26	299.75	299.25
Constant (1977) dollars	171.37	173.48	173.18	174.66	174.85	172.31	173.50	171.42	172.23	174.61	171.28	170.50	171.68	170.60	(¹)
MINING	479.40	503.58	501.55	507.79	500.09	505.47	515.68	500.26	505.91	515.97	508.79	514.08	519.28	517.65	515.35
CONSTRUCTION	442.97	456.92	460.25	464.36	464.31	464.64	471.24	464.74	451.33	460.98	447.72	451.28	460.69	461.16	464.28
MANUFACTURING															
Current dollars	354.08	373.63	371.18	373.32	370.36	369.66	376.07	374.22	378.92	387.28	380.03	374.37	381.78	380.15	381.10
Constant (1977) dollars	216.17	220.43	220.55	221.29	218.63	216.18	218.65	217.57	220.56	225.16	220.69	216.52	219.79	217.85	(¹)
Durable goods															
Lumber and wood products	382.17	403.24	400.75	403.38	397.96	397.70	406.29	403.91	407.79	419.32	410.59	403.60	412.41	409.22	411.05
Furniture and fixtures	312.78	320.40	318.80	325.62	318.77	324.00	332.10	322.78	315.95	321.98	315.90	309.85	317.56	317.98	324.79
Stone, clay, and glass products	260.83	271.95	267.81	270.07	269.30	272.45	278.29	278.59	278.70	283.79	276.19	270.59	277.85	276.12	273.35
Primary metal industries	385.12	401.94	404.50	407.15	406.81	406.39	409.16	406.81	406.14	404.62	392.85	393.09	404.91	411.18	414.54
Blast furnaces and basic steel products	459.68	478.30	483.11	481.85	474.54	464.30	474.35	464.62	475.69	477.98	473.55	478.12	481.56	482.72	485.47
Fabricated metal products	509.16	527.39	540.62	536.42	525.11	506.97	524.30	506.68	524.80	516.71	517.57	544.85	540.09	553.61	554.94
Machinery except electrical	370.27	388.33	388.03	388.96	381.48	382.53	390.40	388.22	389.87	405.23	395.11	387.44	396.34	394.69	394.28
Electrical and electronic equipment	386.78	417.32	413.82	417.06	412.34	412.10	420.84	417.83	422.94	434.85	422.42	415.74	424.27	417.79	420.04
Transportation equipment	351.14	370.64	365.65	367.77	363.60	368.34	376.16	374.24	379.04	389.58	379.73	373.20	383.11	375.60	376.80
Motor vehicles and equipment	491.31	521.79	514.96	520.88	509.50	507.07	519.82	523.60	531.62	554.02	546.08	524.15	537.59	536.35	535.08
Instruments and related products	525.66	558.01	550.13	559.68	539.32	534.67	550.37	556.84	565.07	597.15	594.06	559.37	576.79	581.60	575.46
Miscellaneous manufacturing	342.59	365.51	357.00	364.27	363.19	364.49	373.63	367.92	373.22	382.87	369.90	369.87	374.01	368.96	372.00
Nondurable goods															
Food and kindred products	266.27	277.38	276.67	275.58	275.02	274.09	279.18	279.89	280.99	285.68	279.08	276.82	282.24	280.86	283.24
Tobacco manufactures	318.35	331.45	328.68	331.53	331.35	331.45	335.07	332.54	337.39	342.00	336.73	333.68	338.37	338.13	339.55
Textile mill products	323.51	333.52	333.04	336.80	333.08	334.03	336.51	330.74	337.20	342.23	334.96	331.89	335.23	335.48	342.74
Apparel and other textile products	388.21	438.40	461.34	487.20	441.38	428.06	416.59	420.82	480.78	433.40	424.85	442.50	452.40	411.08	459.26
Paper and allied products	249.67	257.75	257.84	260.18	253.09	256.86	256.10	253.11	257.42	258.86	257.01	254.10	258.96	258.72	262.13
Printing and publishing	194.76	202.02	200.75	203.50	199.08	201.47	203.24	203.08	203.08	206.75	205.13	202.35	206.85	203.55	205.77
Chemicals and allied products	424.02	448.67	441.87	447.38	453.41	449.16	456.13	453.41	460.71	466.91	456.03	451.14	454.33	457.74	456.67
Petroleum and coal products	342.54	356.26	352.67	350.06	352.69	357.78	363.09	359.10	364.24	366.53	359.25	358.08	362.30	359.63	357.12
Rubber and miscellaneous plastics products	440.13	464.25	459.38	462.00	462.45	462.45	470.40	469.66	473.89	480.82	477.24	476.10	478.68	480.59	479.76
Leather and leather products	582.99	586.89	580.32	580.75	580.35	583.87	597.58	590.39	596.94	584.30	597.49	594.58	601.77	611.83	596.52
TRANSPORTATION AND PUBLIC UTILITIES	420.81	437.73	430.81	438.99	445.60	441.86	447.68	438.26	444.38	445.56	440.22	440.66	442.91	443.30	441.73
WHOLESALE TRADE	329.18	345.86	342.77	344.82	348.42	347.65	351.53	348.30	351.40	357.49	351.74	352.20	353.82	354.43	357.44
RETAIL TRADE	171.05	176.40	176.10	178.45	179.90	178.09	176.40	174.64	176.12	179.65	173.73	174.31	175.52	174.93	177.01
FINANCE, INSURANCE, AND REAL ESTATE	263.90	278.13	274.07	275.15	278.92	275.55	284.02	279.96	280.64	285.53	282.83	286.47	286.47	286.83	286.77
SERVICES	239.04	250.59	247.87	248.72	251.99	249.48	253.22	252.12	254.08	257.94	254.80	256.56	256.56	257.68	256.89

¹ Not available.

p = preliminary.

NOTE: Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

17. Indexes of diffusion: industries in which employment increased, seasonally adjusted

[In percent]

Time span	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span	1983	52.2	45.9	59.7	70.0	68.9	63.0	72.7	69.5	73.2	74.1	66.8	68.9
	1984	67.3	72.7	66.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	55.1	63.5
	1985	57.6	50.3	55.9	P45.4	P54.6	.....	.....	.....	.....	.....	.....	.....
Over 3-month span	1983	46.2	53.2	63.0	73.5	71.9	73.8	72.7	80.3	80.8	78.6	74.6	74.3
	1984	78.1	75.9	77.6	68.9	69.7	67.0	65.4	60.3	60.0	56.5	67.0	60.0
	1985	58.6	54.1	P47.0	P45.1	.....	.....	.....	.....	.....	.....	.....	.....
Over 6-month span	1983	50.0	62.4	65.7	67.8	74.3	78.4	79.7	79.5	78.9	79.2	79.7	78.4
	1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
	1985	P51.9	P48.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Over 12-month span	1983	48.6	55.1	61.4	68.6	72.4	75.1	77.0	79.7	78.4	80.8	81.6	81.1
	1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	P60.3	P55.1	.....

p = preliminary.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components

are counted as rising.) Data are centered within the spans. See the "Definitions" in this section.

Data have been revised to reflect March 1984 benchmarks and updated seasonal adjustment factors. Because of these revisions, data in this table may differ from data published previously.

UNEMPLOYMENT INSURANCE DATA

NATIONAL UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from monthly reports of unemployment insurance activity prepared by State agencies. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act. The total may include persons receiving Federal-State Extended Benefits.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about 10 percent of the labor force) and those who have exhausted or not yet earned benefit rights are

excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

Average weekly seasonally adjusted insured unemployment data are computed by BLS' Weekly Seasonal Adjustment program. This procedure incorporated the X-11 Variant of the Census Method II Seasonal Adjustment program.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

18. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1984									1985			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
All programs:													
Insured unemployment	2,613	2,290	2,166	2,327	2,184	2,083	2,149	2,441	2,778	3,361	3,339	3,113	.....
State unemployment insurance program:¹													
Initial claims ²	1,429	1,368	1,387	1,767	1,459	1,260	1,758	1,825	2,074	2,610	1,662	1,509	.....
Insured unemployment (average weekly volume)	2,515	2,215	2,111	2,270	2,129	2,023	2,072	2,355	2,691	3,264	3,239	3,016	.....
Rate of insured unemployment	2.9	2.6	2.5	2.6	2.5	2.3	2.4	2.7	3.1	3.7	3.6	3.4	.....
Weeks of unemployment compensated	9,695	9,304	8,053	8,380	8,716	7,209	8,092	8,421	9,211	12,382	11,759	11,702	.....
Average weekly benefit amount for total unemployment	\$125.26	\$123.69	\$121.96	\$119.83	\$120.24	\$122.49	\$123.19	\$123.95	\$125.36	\$126.68	\$127.28	\$129.00	.....
Total benefits paid	\$1,173,601	\$1,109,268	\$948,381	\$974,135	\$1,017,804	\$853,424	\$962,856	\$1,005,727	\$1,114,781	\$1,505,278	\$1,450,239	\$1,442,418	.....
State unemployment insurance program:¹ (Seasonally adjusted data)													
Initial claims ²	1,569	1,614	1,559	1,661	1,618	1,707	1,746	1,765	1,602	1,766	1,814	1,711	.....
Insured unemployment (average weekly volume)	2,507	2,300	2,356	2,457	2,355	2,567	2,461	2,551	2,541	2,532	2,585	2,614	.....
Rate of insured unemployment	2.9	2.7	2.7	2.8	2.7	3.0	2.8	2.9	2.9	2.8	2.9	2.9	.....
Unemployment compensation for ex-servicemen:³													
Initial claims ¹	12	12	12	13	14	13	15	13	12	14	12	12	.....
Insured unemployment (average weekly volume)	20	18	18	18	19	20	21	22	23	24	22	21	.....
Weeks of unemployment compensated	78	79	71	71	79	72	86	87	88	102	86	82	.....
Total benefits paid	\$10,349	\$10,577	\$9,467	\$9,573	\$10,715	\$9,820	\$11,766	\$11,984	\$11,930	\$13,901	\$11,720	\$11,234	.....
Unemployment compensation for Federal civilian employees:⁴													
Initial claims	13	9	11	12	10	9	15	12	11	14	9	8	.....
Insured unemployment (average weekly volume)	23	20	19	20	19	19	21	23	24	27	26	24	.....
Weeks of unemployment compensated	98	88	76	80	83	69	85	89	94	113	101	101	.....
Total benefits paid	\$11,844	\$10,529	\$8,994	\$9,489	\$9,776	\$8,198	\$10,088	\$10,830	\$11,386	\$14,017	\$12,847	\$12,793	.....
Railroad unemployment insurance:													
Applications	2	2	11	25	7	6	9	10	11	13	4	3	3
Insured unemployment (average weekly volume)	27	19	16	16	17	18	21	26	29	31	34	34	23
Number of payments	70	54	38	35	37	34	46	52	61	94	74	75	64
Average amount of benefit payment	\$196.32	\$188.45	\$187.37	\$189.06	\$197.85	\$196.15	\$195.20	\$198.85	\$205.26	\$206.99	\$209.76	\$209.66	\$198.24
Total benefits paid	\$13,356	\$10,233	\$7,039	\$6,691	\$6,695	\$6,349	\$8,596	.....	.....	.....	.....	.....	.....
Employment service:⁵													
New applications and renewals	.....	.....	9,517	.....	.....	4,803	.....	.....	6,728	.....	.....	.....	.....
Nonfarm placements	.....	.....	1,810	.....	.....	1,182	.....	.....	1,577	.....	.....	.....	.....

¹ Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

² Excludes transition claims under State programs.

³ Excludes data on claims and payments made jointly with other programs.

⁴ Excludes data on claims and payments made jointly with State programs.

⁵ Cumulative total for fiscal year (October 1–September 30). Data computed quarterly.

r = revised.

p = preliminary.

NOTE: Data for Puerto Rico and the Virgin Islands included. Dashes indicate data not available.

PRICE DATA

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 (1967 = 100, unless otherwise noted).

Definitions

The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. It introduced a CPI for All Urban Consumers, covering 80 percent of the total noninstitutional population, and revised the CPI for Urban Wage Earners and Clerical Workers, covering about half the new index population. The All Urban Consumers index covers in addition to wage earners and clerical workers, 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 is kept essentially unchanged between major revisions so that only price changes will be measured. Data are collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972-73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

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.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. 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 groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Regional CPI's cross classified by population size were introduced in the May 1978 *Review*. These indexes enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes are published bimonthly. (See table 20.)

For details concerning the 1978 revision of the CPI, see *The Consumer Price Index: Concepts and Content Over the Years*, Report 517, revised edition (Bureau of Labor Statistics, May 1978).

As of January 1976, the Producer Price Index incorporated a revised weighting structure reflecting 1972 values of shipments.

Additional data and analyses of price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

For a discussion of the general method of computing producer, and industry price indexes, see *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 7. For consumer prices, see *BLS Handbook of Methods for Surveys and Studies* (1976), chapter 13. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965.

19. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-84

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	115.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.3	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	128.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	8.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	287.2	11.3	203.7	8.5	213.6	8.8
1981	272.3	10.2	267.8	7.7	293.2	11.4	186.6	5.2	281.3	12.3	295.1	10.4	219.0	7.5	233.3	9.2
1982	288.6	6.0	278.5	4.0	314.7	7.3	190.9	2.3	293.1	4.2	326.9	10.8	232.4	6.1	257.0	10.2
1983	297.4	3.0	284.7	2.2	322.0	2.3	195.6	2.5	300.0	2.4	355.1	8.6	242.4	4.3	286.3	11.4
1984	307.6	3.4	295.2	3.7	329.2	2.2	199.1	1.8	313.9	4.6	377.7	6.4	251.2	3.6	304.9	6.5

20. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984				1985			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	308.8	315.3	315.5	316.1	317.4	318.8	320.1	304.1	311.9	312.2	312.6	313.9	315.3	316.7
Food and beverages	294.5	296.3	297.2	299.3	301.4	301.6	301.6	294.7	296.2	297.1	299.1	301.2	301.6	301.2
Housing	333.2	340.9	341.2	342.0	343.3	344.7	345.9	322.7	334.4	335.0	335.7	337.2	338.2	339.5
Apparel and upkeep	199.2	205.2	203.2	199.8	201.8	205.3	205.9	198.2	204.2	202.1	198.5	200.7	204.2	204.9
Transportation	309.6	316.1	315.8	314.7	314.3	316.7	320.0	311.9	318.3	317.9	316.7	316.3	318.7	322.0
Medical care	375.7	387.5	388.5	391.1	393.8	396.5	398.0	373.9	385.6	386.7	389.3	392.0	394.6	396.1
Entertainment	253.8	259.0	260.1	261.0	261.3	262.2	263.3	249.8	254.8	255.8	256.6	256.9	257.3	258.6
Other goods and services	302.8	316.5	316.7	319.1	320.5	321.1	321.8	300.4	312.6	312.8	315.6	317.1	317.6	318.3
Commodities	280.1	283.0	282.8	282.7	284.0	285.3	286.8	279.2	282.8	282.7	282.5	283.5	285.2	286.7
Commodities less food and beverages	268.7	272.2	271.4	270.0	270.7	272.8	275.1	267.8	272.3	271.8	270.3	271.1	273.1	275.5
Nondurables less food and beverages	275.7	278.2	277.0	274.4	274.7	277.9	281.5	277.5	279.9	278.7	275.8	276.2	279.4	283.2
Durables	265.2	270.0	269.8	270.2	271.4	271.9	272.6	258.5	264.5	264.6	264.9	266.2	266.7	267.3
Services	358.1	369.9	370.6	372.1	373.5	375.0	376.2	350.1	365.9	366.8	368.3	369.6	371.0	372.2
Rent, residential	246.4	254.8	256.1	257.1	258.4	259.2	260.4	245.7	254.0	255.3	256.3	257.5	258.4	259.6
Household services less rent of shelter (12/82 = 100)	106.2	108.8	108.5	108.9	108.9	111.5	109.8	...	...	...	100.4	100.4	101.1	101.2
Transportation services	315.8	328.9	330.1	331.8	332.2	333.2	334.1	312.1	325.1	326.1	327.7	328.1	328.8	329.6
Medical care services	406.3	418.5	419.3	422.4	425.3	428.1	429.4	403.9	416.1	417.0	420.1	423.1	425.7	427.1
Other services	291.3	305.2	306.1	307.1	307.8	308.6	309.9	288.3	301.5	302.3	303.5	304.2	304.9	306.2
Special indexes:														
All items less food	308.6	316.2	316.2	316.3	317.4	319.1	320.8	303.3	312.6	312.7	312.7	313.7	315.4	317.2
All items less homeowners' costs	105.1	107.6	107.6	107.8	108.2	108.7	109.2	...	...	...	...	...	...	...
All items less mortgage interest costs	...	...	...	...	...	...	...	292.4	298.2	298.3	...	...	...	...
Commodities less food	266.5	269.9	269.2	267.8	268.6	270.6	272.8	265.7	270.1	269.6	268.2	269.0	271.0	273.3
Nondurables less food	270.7	273.3	272.2	269.7	270.2	273.2	276.5	272.6	275.0	273.9	271.2	271.7	274.7	278.2
Nondurables less food and apparel	312.1	313.4	312.8	310.9	310.8	313.5	318.1	313.5	314.5	313.8	311.8	311.5	314.4	319.1
Nondurables	286.3	288.5	288.3	288.0	289.6	291.0	292.7	287.2	289.2	289.0	288.6	289.8	291.6	293.4
Services less rent of shelter (12/82 = 100)	106.8	110.5	110.6	111.1	111.3	111.9	112.2	...	...	...	100.5	100.7	101.2	101.4
Services less medical care	350.6	362.3	363.0	364.3	365.5	366.9	368.1	342.2	358.2	359.2	360.4	361.6	362.8	364.1
Domestically produced farm foods	279.4	278.8	279.9	282.1	284.8	284.2	283.3	278.1	277.2	278.2	280.4	282.9	282.5	281.6
Selected beef cuts	280.6	271.6	276.0	276.2	275.2	275.0	273.3	282.3	273.0	277.4	277.5	276.5	276.6	274.8
Energy	421.3	421.8	418.9	414.5	411.4	416.6	424.4	421.5	421.5	418.5	413.8	410.6	416.0	424.2
Energy commodities	414.2	407.2	404.1	395.7	391.3	398.3	410.8	414.8	407.8	404.7	396.2	391.8	399.0	411.6
All items less energy	300.5	307.7	308.2	309.2	310.9	312.0	312.7	294.6	303.2	303.8	304.7	306.4	307.4	308.1
All items less food and energy	298.3	306.9	307.3	307.9	309.5	310.8	311.8	291.3	301.6	302.1	302.7	304.3	305.5	306.4
Commodities less food and energy	251.8	257.0	256.7	256.5	258.1	259.3	260.0	248.4	254.2	254.0	253.8	255.5	256.6	257.2
Services less energy	352.2	364.0	365.0	366.4	368.0	369.4	370.7	343.3	359.4	360.7	362.0	363.6	364.9	366.2
Purchasing power of the consumer dollar, 1967 = \$1	\$0.324	\$0.317	\$0.317	\$0.316	\$0.315	\$0.314	\$0.312	\$0.327	\$0.321	\$0.320	\$0.320	\$0.319	\$0.317	\$0.316

20. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984			1985				
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
FOOD AND BEVERAGES	294.5	296.3	297.2	299.3	301.4	301.6	301.6	294.7	296.2	297.1	299.1	301.2	301.6	301.4
Food	302.3	304.1	305.1	307.3	309.5	309.7	309.6	302.3	303.7	304.7	306.9	309.0	309.3	309.2
Food at home	292.8	292.4	293.2	296.1	298.6	298.4	297.7	291.6	290.9	291.7	294.5	297.0	296.9	296.1
Cereals and bakery products	302.8	309.0	310.7	312.4	313.7	314.4	314.8	301.3	307.4	309.0	310.7	311.9	312.7	313.1
Cereals and cereal products (12/77 = 100)	162.5	163.8	164.2	165.6	167.0	168.1	168.2	163.1	164.4	164.7	166.2	167.5	168.7	168.8
Flour and prepared flour mixes (12/77 = 100)	143.8	143.9	143.4	146.6	148.2	148.9	147.5	144.1	144.4	143.6	146.8	148.4	149.1	147.8
Cereal (12/77 = 100)	183.9	186.7	187.6	189.4	191.9	193.0	193.9	186.1	189.0	189.8	191.7	194.1	195.2	196.2
Rice, pasta, and cornmeal (12/77 = 100)	149.2	149.3	149.9	149.3	149.0	150.5	150.7	150.4	150.5	151.0	150.3	150.2	151.7	151.9
Bakery products (12/77 = 100)	159.4	163.4	164.5	165.2	165.6	165.7	166.0	158.2	162.1	163.1	163.8	164.2	164.4	164.7
White bread	258.2	265.8	265.4	267.2	267.1	266.8	266.2	254.0	261.3	261.0	263.0	262.8	262.5	261.9
Other breads (12/77 = 100)	154.7	155.4	156.2	156.0	158.1	158.6	160.2	156.8	157.6	158.4	158.1	160.5	161.0	162.7
Fresh biscuits, rolls, and muffins (12/77 = 100)	159.2	161.1	161.9	161.8	164.1	163.3	161.4	155.1	157.0	157.5	157.6	159.7	158.8	157.3
Fresh cakes and cupcakes (12/77 = 100)	161.2	166.4	169.6	169.6	168.9	169.4	169.9	159.2	164.1	167.3	167.3	166.8	167.4	168.0
Cookies (12/77 = 100)	163.8	168.5	170.9	171.3	171.5	171.9	172.2	164.8	169.6	171.9	172.3	172.5	172.9	173.2
Crackers, bread, and cracker products (12/77 = 100)	156.6	160.9	164.3	166.3	167.9	168.6	170.3	158.1	162.4	166.0	167.8	169.2	170.2	171.9
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	160.1	163.9	164.1	164.9	165.0	163.8	165.0	163.1	166.7	166.9	167.7	166.9	166.9	167.9
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	166.0	171.1	171.7	172.9	172.4	174.2	174.8	159.1	163.8	164.3	165.5	164.9	166.8	167.2
Meats, poultry, fish, and eggs	270.5	262.4	265.9	266.6	267.0	266.1	263.6	270.0	261.8	265.3	266.0	266.3	265.6	262.9
Meats, poultry, and fish	272.7	269.4	272.5	275.0	274.8	273.7	271.2	272.1	268.7	271.7	274.2	274.0	273.0	270.3
Meats	268.9	266.1	269.6	270.8	270.6	269.5	266.4	268.4	265.5	268.9	270.2	270.0	268.9	265.7
Beef and veal	280.8	271.9	276.2	276.4	275.6	275.3	273.7	281.7	272.5	276.9	277.0	276.2	276.2	274.4
Ground beef other than canned	262.7	254.3	257.2	256.0	256.5	256.4	256.1	264.0	255.7	258.2	257.0	257.7	257.7	257.4
Chuck roast	286.8	280.9	286.1	281.5	284.7	280.0	275.1	295.8	289.9	294.7	290.6	293.9	288.9	283.6
Round roast	250.9	234.1	239.0	240.7	239.2	240.2	238.8	254.7	237.9	242.3	244.3	242.2	244.2	242.5
Round steak	262.4	248.4	255.7	258.8	258.4	257.1	255.4	261.4	246.4	253.6	256.3	256.4	254.5	252.1
Sirloin steak	284.3	271.6	276.2	272.7	272.6	274.7	273.5	286.4	273.6	279.1	274.5	273.7	276.3	274.5
Other beef and veal (12/77 = 100)	172.1	168.8	171.2	172.6	170.9	171.1	170.2	171.0	167.3	170.0	171.2	169.5	170.0	169.1
Pork	247.7	251.2	254.6	258.5	258.9	256.5	249.0	247.2	250.3	253.7	257.6	258.0	255.8	248.2
Bacon	258.8	266.5	270.5	276.9	278.9	278.6	277.8	262.6	270.4	274.1	280.9	282.6	282.2	281.8
Chops	232.9	232.7	234.1	236.3	240.5	233.7	226.1	231.1	230.4	232.1	234.2	238.5	232.1	224.5
Ham other than canned (12/77 = 100)	109.2	115.6	120.9	120.0	118.0	119.5	108.2	106.3	112.5	117.7	116.7	114.9	116.5	105.5
Sausage	314.8	315.3	316.6	324.5	321.9	320.2	316.2	315.3	315.5	316.7	325.0	322.1	320.3	315.9
Canned ham	246.9	246.8	248.8	255.3	258.2	257.4	250.2	252.1	250.4	253.9	259.2	262.9	261.9	254.3
Other pork (12/77 = 100)	137.3	137.0	137.3	140.4	139.8	137.3	135.9	136.8	136.4	136.7	139.8	139.1	136.6	135.2
Other meats	264.6	269.4	270.2	269.8	270.5	268.6	269.1	263.9	268.6	269.4	269.2	269.6	267.8	268.2
Frankfurters	262.5	265.0	266.6	267.6	269.2	266.9	267.8	261.1	263.3	265.1	266.6	268.0	265.7	266.0
Bologna, liverwurst, and salami (12/77 = 100)	152.9	155.8	156.2	155.6	156.8	156.4	158.2	152.6	155.7	156.1	155.6	156.6	156.4	158.2
Other luncheats (12/77 = 100)	135.3	138.6	139.2	138.2	138.2	137.0	136.4	133.4	136.7	137.3	136.2	136.2	134.9	134.4
Lamb and organ meats (12/77 = 100)	138.9	141.1	140.8	141.5	141.1	140.2	140.1	142.1	143.9	143.4	144.4	143.6	142.7	142.4
Poultry	222.3	213.1	213.8	217.4	219.5	217.3	216.7	220.4	210.9	211.3	215.1	217.0	214.8	214.4
Fresh whole chicken	231.2	215.4	210.4	214.3	216.5	215.7	215.0	228.7	213.0	208.0	212.0	214.0	213.2	212.7
Fresh and frozen chicken parts (12/77 = 100)	150.1	140.4	140.4	141.7	143.3	140.9	140.3	148.3	138.4	138.2	139.5	141.3	138.8	138.3
Other poultry (12/77 = 100)	128.0	132.6	138.9	142.4	143.2	141.6	141.6	127.3	131.9	138.0	141.8	142.3	140.7	140.8
Fish and seafood	387.3	389.2	392.2	406.1	401.4	403.3	402.8	385.9	388.2	391.4	405.3	403.2	403.1	401.9
Canned fish and seafood	132.7	133.0	133.4	134.4	133.5	133.7	133.0	132.2	132.5	132.9	134.0	133.2	133.3	132.8
Fresh and frozen fish and seafood (12/77 = 100)	156.3	157.3	158.9	166.7	164.3	165.4	165.5	156.1	157.3	159.1	166.9	164.9	166.0	165.6
Eggs	249.6	175.6	185.7	161.3	169.7	172.1	169.9	251.0	176.4	186.5	162.0	170.2	172.7	170.6
Dairy products	251.5	257.2	258.4	258.8	259.2	258.9	258.3	250.5	256.2	257.3	257.8	258.3	257.8	257.2
Fresh milk and cream (12/77 = 100)	136.8	139.8	140.4	140.4	140.7	140.6	140.2	136.2	139.1	139.6	139.7	140.0	139.8	139.4
Fresh whole milk	223.7	228.7	229.6	229.6	229.8	229.7	229.1	222.6	227.5	228.4	228.4	228.7	228.5	227.9
Other fresh milk and cream (12/77 = 100)	137.3	140.0	140.7	141.0	141.5	141.2	140.8	136.6	139.3	139.9	140.3	140.8	140.5	140.1
Processed dairy products	149.6	153.3	154.1	154.5	154.8	154.4	154.2	149.8	153.6	154.4	154.8	155.1	154.7	154.4
Butter	252.4	268.7	269.4	266.4	264.9	263.9	259.2	254.9	271.5	272.3	269.1	267.6	266.6	262.0
Cheese (12/77 = 100)	146.6	150.1	150.1	150.3	150.8	150.5	149.9	146.9	150.5	150.5	150.6	151.3	150.9	150.3
Ice cream and related products (12/77 = 100)	156.4	158.1	160.1	162.3	162.6	162.1	162.4	155.3	157.1	159.0	161.3	161.7	161.1	161.4
Other dairy products (12/77 = 100)	148.2	150.9	152.5	153.0	153.0	152.8	154.7	148.7	151.3	152.8	153.3	153.4	153.2	155.0
Fruits and vegetables	315.3	314.8	309.7	320.8	333.0	332.1	333.2	311.2	308.9	303.9	314.9	327.1	326.8	328.1
Fresh fruits and vegetables	326.5	323.4	312.6	332.7	354.1	352.1	353.5	321.0	314.6	303.9	323.6	344.9	344.2	346.1
Fresh fruits	304.2	343.9	331.6	341.5	362.6	362.9	367.2	294.0	329.3	317.6	326.1	347.0	348.3	353.7
Apples	299.3	302.8	297.5	304.1	318.5	321.4	328.8	300.4	304.5	299.3	304.9	319.5	322.4	329.7
Bananas	275.2	234.9	225.2	248.6	268.9	281.6	301.2	273.1	232.7	224.0	246.7	267.9	289.1	300.1
Oranges	309.5	473.6	428.0	429.7	448.6	437.4	444.3	283.4	434.1	390.2	388.9	408.7	399.0	407.4
Other fresh fruits (12/77 = 100)	161.5	175.3	174.3	180.0	193.0	193.2	191.7	155.1	168.1	167.0	172.0	184.6	185.4	184.8
Fresh vegetables	347.4	304.4	294.8	324.5	346.3	342.0	340.8	345.4	301.5	291.6	321.5	343.2	340.7	339.5
Potatoes	367.3	313.1	327.3	331.5	335.7	338.3	342.9	360.1	305.1	320.4	323.5	327.5	331.0	335.8
Lettuce	244.4	350.5	276.0	385.6	339.7	306.7	263.5	247.1	349.2	274.4	386.6	341.7	311.9	266.9
Tomatoes	280.4	245.3	232.4	238.0	282.4	322.4	410.0	286.6	249.7	236.0	240.6	285.6	326.0	413.5
Other fresh vegetables (12/77 = 100)														

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984			1985				
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Fruits and vegetables—Continued														
Processed vegetables (12/77 = 100)	145.6	146.1	146.5	147.1	147.5	147.1	147.1	144.3	145.0	145.3	146.0	146.4	146.0	145.9
Frozen vegetables (12/77 = 100)	156.0	156.9	156.9	158.9	159.6	159.0	160.0	157.7	158.7	158.7	160.9	161.6	160.9	162.0
Cut corn and canned beans except lima (12/77 = 100)	148.5	149.7	150.8	150.7	150.0	150.2	149.7	145.8	147.1	148.0	148.0	147.4	147.5	147.1
Other canned and dried vegetables (12/77 = 100)	138.9	138.9	139.0	139.3	140.1	139.6	139.2	137.2	137.3	137.4	138.5	138.5	138.1	137.6
Other foods at home	351.0	355.0	354.6	358.0	359.8	360.5	360.8	351.6	355.3	354.9	358.3	360.2	361.0	361.3
Sugar and sweets	387.7	390.9	391.7	394.5	394.8	394.8	396.1	387.3	390.5	391.4	394.0	394.4	394.2	395.5
Candy and chewing gum (12/77 = 100)	158.6	161.6	162.3	162.8	162.9	163.4	164.2	158.4	161.5	162.2	162.6	162.7	163.2	164.1
Sugar and artificial sweeteners (12/77 = 100)	171.8	170.3	169.4	171.9	171.5	170.8	169.3	173.0	171.7	170.7	173.2	172.8	172.0	170.6
Other sweets (12/77 = 100)	156.9	158.0	159.1	160.0	160.9	160.6	162.7	154.7	155.5	156.7	157.5	158.4	158.1	160.3
Fats and oils (12/77 = 100)	282.4	293.0	293.7	295.9	295.1	294.9	294.0	281.9	292.5	293.1	295.3	294.7	294.3	293.7
Margarine	280.5	292.9	295.6	298.2	296.8	297.6	297.0	278.5	290.6	292.6	295.5	294.0	294.5	294.4
Nondairy substitutes and peanut butter (12/77 = 100)	154.3	157.3	158.7	160.2	159.7	159.9	160.0	152.2	153.3	156.6	158.1	157.6	157.7	158.1
Other fats, oils, and salad dressings (12/77 = 100)	146.7	152.7	152.1	153.1	152.8	152.3	151.6	142.1	153.2	152.8	153.6	153.5	153.0	152.3
Nonalcoholic beverages	443.6	445.5	443.4	449.4	452.7	454.0	454.0	445.2	446.7	444.7	450.9	454.2	455.5	455.6
Cola drinks, excluding diet cola	320.8	317.3	316.4	324.3	325.9	326.4	325.5	318.0	314.4	313.9	321.6	323.2	323.6	322.7
Carbonated drinks, including diet cola (12/77 = 100)	151.3	148.8	146.8	147.9	149.8	149.7	150.3	149.0	146.6	144.3	145.4	147.4	147.4	148.3
Roasted coffee	368.6	376.0	376.7	376.2	379.5	381.4	378.9	363.0	369.8	370.3	369.9	373.3	375.2	372.8
Freeze dried and instant coffee	362.2	372.7	373.8	373.7	375.5	376.5	378.9	361.6	371.9	372.9	372.9	374.5	375.6	378.0
Other noncarbonated drinks (12/77 = 100)	144.7	150.5	149.7	151.3	152.4	153.6	153.8	144.6	150.8	150.1	151.5	152.7	154.0	154.1
Other prepared foods	283.8	287.5	287.7	289.6	291.5	292.2	292.8	285.4	288.8	289.1	290.9	292.9	293.7	294.2
Canned and packaged soup (12/77 = 100)	144.6	148.1	148.7	149.9	150.7	149.8	150.7	146.5	149.8	150.4	151.6	152.5	151.7	152.6
Frozen prepared foods (12/77 = 100)	159.3	162.6	162.2	163.6	165.3	165.7	165.8	158.4	161.5	160.9	162.2	164.0	164.4	164.8
Snacks (12/77 = 100)	163.0	167.4	166.4	167.6	169.5	169.5	169.3	165.2	169.7	168.7	169.9	172.0	171.9	171.8
Seasonings, olives, pickles, and relish (12/77 = 100)	163.5	164.9	165.9	167.6	168.1	168.0	167.9	162.4	164.0	164.8	166.6	167.1	167.1	166.8
Other condiments (12/77 = 100)	157.5	158.8	159.9	160.9	161.1	161.6	162.6	159.4	160.7	161.8	162.8	162.9	163.4	164.3
Miscellaneous prepared foods (12/77 = 100)	155.8	155.6	155.4	156.3	157.1	159.6	159.7	156.0	155.6	155.4	156.3	157.1	159.7	159.8
Other canned and packaged prepared foods (12/77 = 100)	151.7	152.1	152.7	152.8	153.6	153.6	153.9	153.0	153.1	153.8	154.0	154.9	154.9	155.1
Food away from home	330.9	337.7	339.2	339.9	341.4	342.6	343.9	334.1	340.9	342.3	343.0	344.6	345.8	347.1
Lunch (12/77 = 100)	159.6	163.2	163.8	164.4	164.9	165.5	165.9	161.2	164.7	165.3	165.8	166.5	167.0	167.4
Dinner (12/77 = 100)	159.6	162.8	163.6	163.8	164.7	165.3	166.1	161.3	164.6	165.4	165.6	166.6	167.2	168.0
Other meals and snacks (12/77 = 100)	163.7	166.5	167.3	167.5	168.1	168.8	169.7	164.2	167.1	167.8	168.0	168.6	169.3	170.1
Alcoholic beverages	221.3	223.8	223.9	224.3	225.8	226.5	226.7	224.6	227.1	227.2	227.6	229.1	229.9	229.9
Alcoholic beverages at home (12/77 = 100)	142.3	143.2	143.2	143.5	144.3	144.8	144.7	144.5	145.4	145.4	145.7	146.5	147.1	146.9
Beer and ale	229.9	231.9	232.5	232.9	234.5	235.9	235.4	228.9	230.7	231.6	232.0	233.4	234.7	234.2
Whiskey	153.1	154.3	154.0	154.1	154.8	154.9	154.7	153.7	154.6	154.1	154.1	154.7	154.9	154.6
Wine	233.4	233.0	232.2	233.3	234.4	234.2	234.9	241.7	241.3	239.7	241.0	242.0	241.8	242.6
Other alcoholic beverages (12/77 = 100)	122.8	123.5	122.8	123.2	124.3	124.5	124.7	122.7	123.3	122.5	122.9	123.7	124.2	124.4
Alcoholic beverages away from home (12/77 = 100)	153.6	158.2	158.5	158.6	160.2	160.4	161.5	154.8	159.5	159.8	159.9	161.5	161.8	162.7
HOUSING	333.2	340.9	341.2	342.0	343.6	344.7	345.9	322.7	334.4	335.0	335.7	337.2	338.2	339.5
Shelter (CPI-U)	357.4	368.9	370.1	371.2	373.3	374.3	375.9	.....	.....	.....	.....	.....	.....	.....
Renters' costs	107.4	110.9	111.3	111.8	112.4	112.9	113.5	.....	.....	.....	.....	.....	.....	.....
Rent, residential	246.4	254.8	256.1	257.1	258.4	259.2	260.4	.....	.....	.....	.....	.....	.....	.....
Other renters' costs	371.2	379.1	375.1	378.5	381.9	386.1	390.9	.....	.....	.....	.....	.....	.....	.....
Homeowners' costs	106.2	109.4	109.8	110.0	110.7	110.8	111.3	.....	.....	.....	.....	.....	.....	.....
Owners' equivalent rent	106.2	109.4	109.8	110.0	110.7	110.9	111.3	.....	.....	.....	.....	.....	.....	.....
Household insurance	106.1	108.8	108.9	109.0	109.5	110.4	111.4	.....	.....	.....	.....	.....	.....	.....
Maintenance and repairs	356.3	362.9	364.4	366.0	366.8	370.0	368.0	.....	.....	.....	.....	.....	.....	.....
Maintenance and repair services	408.1	412.6	414.2	414.7	415.8	422.2	418.2	.....	.....	.....	.....	.....	.....	.....
Maintenance and repair commodities	259.2	266.5	267.7	269.9	270.5	270.6	270.4	.....	.....	.....	.....	.....	.....	.....
Shelter (CPI-W)	.....	.....	.....	.....	.....	.....	.....	341.3	357.7	359.0	360.0	362.0	363.0	364.7
Rent, residential	.....	.....	.....	.....	.....	.....	.....	245.7	254.0	255.3	256.3	257.5	258.4	259.6
Other renters' costs	.....	.....	.....	.....	.....	.....	.....	370.7	378.7	374.6	377.8	380.8	385.3	391.0
Lodging while out of town	.....	.....	.....	.....	.....	.....	.....	393.8	394.8	388.3	393.4	397.8	404.3	412.8
Tenants' insurance (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	159.8	163.3	163.5	163.5	164.2	166.2	.....
Homeownership	.....	.....	.....	.....	.....	.....	.....	374.9	394.4	395.9	.....	.....	.....	.....
Home purchase	.....	.....	.....	.....	.....	.....	.....	291.7	301.0	301.4	.....	.....	.....	.....
Financing, taxes, and insurance	.....	.....	.....	.....	.....	.....	.....	480.8	519.5	522.4	.....	.....	.....	.....
Property insurance	.....	.....	.....	.....	.....	.....	.....	440.3	446.6	447.6	.....	.....	.....	.....
Property taxes	.....	.....	.....	.....	.....	.....	.....	244.8	252.9	254.4	.....	.....	.....	.....
Contracted mortgage interest costs	.....	.....	.....	.....	.....	.....	.....	601.6	657.1	661.0	.....	.....	.....	.....
Mortgage interest rates	.....	.....	.....	.....	.....	.....	.....	203.9	216.9	217.6	.....	.....	.....	.....
Maintenance and repairs	.....	.....	.....	.....	.....	.....	.....	354.2	358.5	359.8	360.9	361.5	364.3	363.1
Maintenance and repair services	.....	.....	.....	.....	.....	.....	.....	401.0	406.6	407.7	407.8	408.8	414.8	411.7
Maintenance and repair commodities	.....	.....	.....	.....	.....	.....	.....	255.9	257.8	259.3	260.8	261.1	261.6	261.6
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	147.3	149.1	151.0	152.5	152.2	152.1	151.8
Lumber, awnings, glass, and masonry (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	124.5	122.4	122.5	128.4	127.8	128.3	128.1
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	140.2	142.0	142.0	141.0	143.5	146.1	145.8
Miscellaneous supplies and equipment (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	141.7	145.5	145.2	144.8	145.2	145.5	145.7

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers						
	1984			1985				1984			1985			
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Fuel and other utilities	380.9	387.5	386.0	387.2	386.5	388.2	388.7	382.6	388.7	387.1	388.3	387.5	389.2	389.7
Fuels	476.0	482.6	480.2	481.2	480.8	482.2	483.0	475.4	482.1	479.7	480.7	480.3	481.6	482.3
Fuel oil, coal, and bottled gas	650.7	626.9	625.9	621.6	623.4	620.8	623.5	652.9	629.3	628.4	629.6	625.7	623.1	625.9
Fuel oil	660.9	633.0	631.5	626.5	628.4	626.3	630.1	663.1	635.6	634.0	628.8	631.3	628.7	632.5
Other fuels (6/78 = 100)	195.6	194.9	195.6	195.6	194.9	194.2	193.7	196.3	195.4	196.2	196.1	195.5	194.7	193.7
Gas (piped) and electricity	432.3	444.7	442.2	444.1	443.3	445.5	445.9	431.1	443.7	441.0	443.2	442.3	444.4	444.6
Electricity	338.9	350.9	348.2	351.0	352.6	354.2	355.7	338.0	350.5	347.3	350.1	351.7	353.2	354.6
Utility (piped) gas	573.2	584.9	583.0	582.9	576.8	580.1	578.2	569.8	580.9	579.7	580.2	574.3	577.2	575.0
Other utilities and public services	228.2	234.4	234.1	235.3	234.3	236.3	236.4	229.2	235.3	235.0	236.3	235.1	237.2	237.3
Telephone services	186.4	191.1	190.4	190.8	189.1	191.3	191.1	187.0	191.6	190.9	191.3	189.5	191.2	191.7
Local charges (12/77 = 100)	157.8	166.9	166.5	167.1	164.6	167.7	167.5	158.4	167.4	167.0	167.6	164.9	168.2	168.0
Interstate toll calls (12/77 = 100)	122.3	116.2	116.2	116.2	116.2	116.2	116.2	122.7	116.6	116.5	116.5	116.6	116.6	116.6
Intrastate toll calls (12/77 = 100)	123.7	125.4	124.1	124.0	123.9	124.3	124.2	123.6	125.2	124.0	123.9	123.9	124.2	124.2
Water and sewerage maintenance	371.4	382.8	384.4	389.6	391.3	394.3	393.2	375.7	386.8	388.3	393.3	395.0	395.1	396.8
Household furnishings and operations	242.3	244.2	244.2	244.2	246.2	246.9	247.9	238.9	240.6	240.5	240.4	242.6	243.2	244.1
Housefurnishings	199.9	200.2	199.7	198.8	200.7	200.6	201.7	197.7	197.6	197.3	196.3	198.3	198.2	199.2
Textile housefurnishings	235.2	240.5	239.9	237.1	244.5	241.4	239.5	238.6	244.6	244.1	240.5	247.9	245.2	243.0
Household linens (12/77 = 100)	139.0	145.2	141.6	138.9	146.6	142.2	140.5	139.9	146.6	143.0	140.2	147.9	143.5	141.7
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	154.7	154.9	158.0	157.3	158.6	159.3	158.7	159.2	159.4	162.9	161.3	162.3	163.8	163.0
Furniture and bedding	222.8	227.4	225.6	224.1	225.0	226.7	231.7	218.9	223.4	222.5	220.4	221.5	223.1	228.0
Bedroom furniture (12/77 = 100)	154.2	160.7	160.1	154.1	154.7	156.5	165.5	149.6	156.3	156.4	150.5	151.2	152.1	161.2
Sofas (12/77 = 100)	121.2	122.2	122.3	121.6	121.3	121.4	124.5	121.3	122.0	121.9	121.2	120.7	121.0	123.7
Living room chairs and tables (12/77 = 100)	125.5	127.5	125.8	125.7	125.9	126.7	126.9	126.3	127.9	126.4	126.2	126.9	128.1	128.1
Other furniture (12/77 = 100)	144.6	145.9	143.9	147.2	148.5	149.8	149.1	140.2	141.4	140.4	142.9	144.6	145.2	145.0
Appliances including TV and sound equipment	150.1	146.0	145.2	145.2	145.8	145.4	145.3	151.4	148.0	147.3	147.1	147.9	147.6	147.3
Television and sound equipment	103.4	99.9	99.2	99.1	99.7	99.5	99.0	102.4	98.9	98.2	98.1	98.6	98.5	97.9
Television	96.7	92.1	92.5	92.0	91.9	92.3	90.9	95.3	90.7	91.3	90.7	90.5	91.0	89.5
Sound equipment (12/77 = 100)	110.3	107.7	106.1	106.4	107.6	106.9	107.2	109.3	106.6	105.0	105.2	106.4	105.7	106.0
Household appliances	190.4	186.7	185.9	186.0	186.5	185.7	186.6	192.0	189.2	188.6	188.5	189.2	188.8	189.5
Refrigerators and home freezers	195.8	197.3	197.5	197.1	197.2	195.2	196.0	202.2	203.2	203.8	203.5	203.3	201.0	201.8
Laundry equipment	146.7	148.1	147.6	146.8	147.1	148.4	148.5	147.6	149.1	148.9	147.8	147.9	149.3	149.6
Other household appliances (12/77 = 100)	126.1	121.8	121.0	121.3	121.8	121.2	121.9	124.9	119.9	118.9	119.1	119.8	119.7	120.2
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	126.3	122.4	121.8	121.5	122.4	122.7	122.8	125.4	120.6	120.2	119.5	120.7	121.2	121.0
Office machines, small electric appliances, and air conditioners (12/77 = 100)	126.2	121.5	120.5	121.4	121.4	120.0	121.3	124.2	119.0	117.4	118.4	118.7	117.9	119.1
Other household equipment (12/77 = 100)	143.2	142.8	143.9	143.6	145.1	144.9	144.9	140.7	139.8	140.7	141.0	142.6	142.1	141.9
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	147.6	148.4	152.0	150.9	153.0	152.2	151.1	139.0	137.8	141.9	140.5	142.4	142.4	140.7
Clocks, lamps, and decor items (12/77 = 100)	137.4	137.4	137.2	135.2	137.3	135.8	136.6	132.9	132.6	132.5	131.0	133.2	131.6	132.2
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	149.2	147.6	145.5	146.0	147.0	148.3	148.2	145.1	143.4	140.9	142.8	142.4	144.8	144.1
Lawn equipment, power tools, and other hardware (12/77 = 100)	134.9	134.8	139.1	140.0	141.2	140.4	140.6	140.5	140.2	144.3	144.6	146.0	144.9	145.1
Housekeeping supplies	301.8	306.2	307.5	309.9	311.5	311.8	312.6	298.5	303.5	304.6	306.9	308.5	308.9	309.8
Soaps and detergents	297.1	302.3	305.7	308.0	309.1	308.6	309.4	292.8	297.6	301.1	303.3	304.3	303.9	304.8
Other laundry and cleaning products (12/77 = 100)	153.8	157.1	157.1	158.4	158.8	159.1	157.8	152.5	155.7	155.7	156.9	157.2	157.6	156.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	151.6	156.1	155.8	156.6	158.7	160.0	161.4	151.6	155.8	155.6	156.4	158.4	159.7	161.0
Stationery, stationery supplies, and gift wrap (12/77 = 100)	142.0	145.5	145.2	145.4	145.3	146.0	147.3	145.1	149.1	148.8	149.1	149.0	149.8	151.1
Miscellaneous household products (12/77 = 100)	159.2	162.1	161.5	163.5	163.9	163.9	163.6	153.7	156.7	156.0	158.0	158.4	158.6	158.2
Lawn and garden supplies (12/77 = 100)	147.5	143.4	146.3	147.9	149.8	148.6	150.0	140.5	137.5	140.3	141.6	143.9	142.4	144.3
Housekeeping services	325.7	330.3	330.6	331.3	333.9	337.4	337.9	326.0	330.9	331.1	331.8	334.9	338.5	339.0
Postage	337.5	337.5	337.5	337.5	349.4	371.9	371.9	337.5	337.5	337.5	337.5	349.8	372.7	372.7
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	171.8	176.0	176.6	177.9	180.2	181.4	182.1	172.1	176.4	176.9	178.2	180.9	182.0	182.6
Appliance and furniture repair (12/77 = 100)	149.4	155.4	155.3	155.0	155.8	156.4	156.7	147.5	152.9	152.8	152.6	153.4	154.0	154.4
APPAREL AND UPKEEP	199.2	205.2	203.2	199.8	201.8	205.3	205.9	198.2	204.2	202.1	198.5	200.7	204.2	204.9
Apparel commodities	186.3	191.9	189.6	185.7	187.5	191.3	191.8	185.9	191.6	189.2	185.1	187.2	190.9	191.5
Apparel commodities less footwear	182.6	188.3	185.9	181.9	183.7	187.6	188.2	181.9	187.8	185.3	180.9	183.1	187.0	187.7
Men's and boys'	190.6	197.8	196.0	193.2	192.8	195.2	197.4	191.2	198.6	196.8	193.6	193.1	195.7	197.8
Men's (12/77 = 100)	120.2	124.5	123.2	121.7	121.6	123.2	124.7	121.0	125.4	124.1	122.5	122.2	123.8	125.4
Suits, sport coats, and jackets (12/77 = 100)	112.0	115.7	113.3	112.3	112.2	113.5	115.7	105.4	109.2	106.8	105.6	105.2	106.5	108.6
Coats and jackets	99.0	106.6	105.6	101.5	100.9	100.7	100.4	102.4	109.9	108.8	104.4	103.3	103.0	103.3
Furnishings and special clothing (12/77 = 100)	146.0	152.0	151.7	149.1	149.0	150.6	151.3	142.1	147.8	147.6	145.2	144.8	146.0	146.9
Shirts (12/77 = 100)	127.3	129.4	128.3	127.4	128.0	130.6	132.5	130.1	132.2	130.7	129.9	130.5	133.7	135.5
Dungarees, jeans, and trousers (12/77 = 100)	113.0	117.6	116.6	116.0	115.4	117.3	119.1	119.9	124.3	123.1	122.4	121.6	123.8	125.7
Boys' (12/77 = 100)	123.2	128.5	128.1	125.0	124.4	125.9	126.6	121.8	127.1	126.5	123.2	122.8	124.5	125.2
Coats, jackets, sweaters, and shirts (12/77 = 100)	119.7	125.9	123.9	117.1	116.2	120.0	121.9	122.0	128.3	125.6	118.0	117.3	122.0	123.6
Furnishings (12/77 = 100)	137.2	138.9	139.2	138.1	138.9	138.2	138.8	132.7	134.4	134.7	133.9	134.5	133.8	134.4
Suits, trousers, sport coats, and jackets (12/77 = 100)	120.3	126.4	126.9	126.0	125.1	125.6	125.3	117.6	123.7	124.2	123.4	122.8	123.2	123.1

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984			1985				
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Women's and girls'	163.2	170.4	167.2	161.3	164.1	169.9	170.0	164.5	171.9	168.6	162.1	165.8	171.5	172.0
Women's (12/77 = 100)	108.6	113.4	111.3	107.3	109.3	113.4	113.6	109.9	114.9	112.6	108.3	110.9	114.9	115.2
Coats and jackets	164.9	181.9	175.0	161.7	161.0	164.8	168.2	170.1	186.0	178.2	164.6	166.3	169.8	172.7
Dresses	175.0	175.8	174.3	168.1	172.3	182.5	178.7	160.6	162.4	160.7	154.8	159.7	168.7	166.9
Separates and sportswear (12/77 = 100)	92.8	103.6	100.8	96.1	98.6	102.4	103.2	93.5	104.1	101.5	96.5	98.7	102.7	103.6
Underwear, nightwear, and hosiery (12/77 = 100)	136.9	138.5	138.8	137.9	139.0	140.4	141.1	136.6	138.1	138.3	137.3	138.5	138.8	140.5
Suits (12/77 = 100)	85.1	87.6	81.6	76.8	80.9	88.7	89.1	104.2	106.6	99.9	93.0	100.2	109.8	108.9
Girls' (12/77 = 100)	108.2	112.7	110.9	106.9	108.3	110.7	110.7	107.6	111.8	109.9	105.9	107.7	110.6	111.0
Coats, jackets, dresses, and suits (12/77 = 100)	100.6	106.8	104.0	96.2	100.3	105.1	102.0	98.1	105.8	101.8	94.8	100.1	104.9	102.4
Separates and sportswear (12/77 = 100)	104.3	107.7	106.2	104.1	103.4	105.0	106.8	105.2	106.9	106.3	103.1	102.3	104.9	107.5
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	128.1	131.6	130.9	129.8	130.5	130.7	132.1	126.9	130.2	129.6	128.6	129.5	129.7	131.1
Infants' and toddlers'	289.2	290.2	291.9	290.3	298.8	302.1	295.3	299.7	302.1	302.9	299.7	310.1	314.5	306.4
Other apparel commodities	217.6	215.4	213.3	212.2	215.5	216.9	215.8	205.5	203.1	201.0	199.9	203.0	204.2	203.3
Sewing materials and notions (12/77 = 100)	122.6	120.1	121.9	120.9	122.0	122.9	121.4	120.8	118.4	120.5	119.1	119.5	120.5	119.8
Jewelry and luggage (12/77 = 100)	148.3	147.4	144.7	144.1	146.6	147.6	147.3	138.4	137.2	134.3	133.9	136.7	137.4	136.8
Footwear	208.9	212.9	211.4	208.6	210.1	213.1	213.2	209.4	213.1	211.7	209.5	210.8	213.4	213.3
Men's (12/77 = 100)	135.8	138.4	137.1	136.5	136.5	139.1	139.1	137.9	140.2	138.9	138.5	138.5	140.9	141.1
Boys' and girls' (12/77 = 100)	131.4	136.3	135.3	135.3	136.9	137.1	134.5	133.9	139.0	138.3	138.4	139.7	139.5	136.9
Women's (12/77 = 100)	126.7	127.6	127.0	123.2	124.6	127.0	128.6	123.4	123.6	122.9	119.5	120.8	123.1	124.6
Apparel services	301.5	310.8	311.5	312.5	316.0	317.1	318.4	299.4	308.8	309.3	310.2	313.6	314.7	316.1
Laundry and drycleaning other than coin operated (12/77 = 100)	181.0	186.3	186.9	187.2	189.3	190.2	190.8	179.4	184.4	184.9	185.3	187.3	188.2	188.8
Other apparel services (12/77 = 100)	155.7	161.1	161.2	162.3	163.9	164.3	165.2	156.9	162.5	162.6	163.5	165.2	165.5	166.5
TRANSPORTATION	309.6	316.1	315.8	314.7	314.3	316.7	320.0	311.9	318.3	317.9	316.7	316.3	318.7	322.0
Private	304.8	310.8	310.4	309.1	308.7	311.0	314.6	308.3	314.4	313.9	312.6	312.2	314.6	318.0
New cars	207.4	211.4	212.0	213.1	213.9	214.1	214.1	206.9	210.8	211.3	212.0	213.1	213.4	213.4
Used cars	370.0	383.6	382.7	382.8	384.6	386.1	386.4	370.0	383.6	382.6	382.8	384.6	386.2	386.4
Gasoline	374.0	369.2	365.7	356.8	351.6	351.6	373.8	375.7	370.5	367.1	358.2	353.2	353.2	375.3
Automobile maintenance and repair	338.9	345.8	346.2	346.9	348.2	348.5	348.2	339.6	346.7	347.1	347.9	349.2	349.6	349.3
Body work (12/77 = 100)	171.4	175.8	176.1	176.9	178.4	178.3	178.2	170.1	174.3	174.7	175.5	177.7	177.1	176.7
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	165.1	169.6	169.7	170.0	170.2	170.6	170.9	169.2	173.8	174.0	174.2	174.5	175.1	175.4
Maintenance and servicing (12/77 = 100)	154.2	156.8	157.0	157.1	157.4	157.2	156.8	153.4	156.1	156.3	156.6	156.8	156.5	156.0
Power plant repair (12/77 = 100)	162.4	164.9	165.1	165.7	166.6	167.0	167.0	161.9	164.6	164.8	165.4	166.4	166.8	166.9
Other private transportation	269.0	280.7	282.3	283.9	284.4	284.5	285.8	269.9	281.9	283.3	284.7	285.2	285.1	286.3
Other private transportation commodities	202.4	201.0	202.2	202.0	203.8	201.9	202.8	204.8	203.5	204.7	204.2	206.1	204.2	205.1
Motor oil, coolant, and other products (12/77 = 100)	152.7	155.3	156.2	155.7	156.0	156.4	156.1	151.9	154.4	155.2	154.5	155.2	155.4	154.7
Automobile parts and equipment (12/77 = 100)	127.7	126.4	127.1	127.0	128.3	126.8	127.6	129.4	128.1	128.9	128.6	129.9	128.5	129.2
Tires	172.9	170.2	171.4	171.4	174.0	171.4	173.0	176.5	174.0	175.1	174.9	177.7	175.0	176.5
Other parts and equipment (12/77 = 100)	134.0	134.1	134.5	134.2	133.9	133.5	133.4	133.6	133.5	134.0	133.6	133.2	132.8	132.8
Other private transportation services	289.3	304.6	306.2	308.3	308.5	309.1	310.5	289.7	305.3	306.7	308.6	308.7	309.2	310.4
Automobile insurance	321.8	335.9	340.0	345.1	346.3	348.3	351.8	321.0	334.9	338.9	343.9	345.2	347.2	350.5
Automobile finance charges (12/77 = 100)	160.9	172.2	170.9	169.6	168.1	166.6	165.6	160.4	171.9	170.5	169.2	167.7	166.2	165.2
Automobile rental, registration, and other fees (12/77 = 100)	149.5	158.0	158.4	158.5	159.1	159.6	159.9	150.4	159.2	159.6	159.8	160.4	161.0	161.3
State registration	198.0	213.5	213.5	213.6	213.6	214.6	214.6	198.2	212.9	212.9	213.1	213.1	214.1	214.1
Drivers' licenses (12/77 = 100)	158.0	163.7	163.7	164.6	164.6	164.6	164.6	164.1	164.1	164.1	164.9	164.9	164.9	164.9
Vehicle inspection (12/77 = 100)	139.8	142.2	142.2	142.2	142.2	142.4	144.7	140.3	142.3	142.3	142.3	142.3	142.3	144.4
Other vehicle-related fees (12/77 = 100)	164.3	169.1	170.1	170.3	171.8	172.2	172.7	171.5	176.7	177.8	178.0	180.0	180.5	181.4
Public	378.0	391.8	392.8	394.5	394.4	397.3	398.0	370.6	382.4	382.8	384.2	384.2	386.7	387.4
Airline fare	429.6	455.4	456.2	458.9	468.7	464.3	466.2	425.4	450.6	451.1	454.1	453.8	459.9	462.1
Intracity bus fare	426.7	447.0	455.4	459.6	456.5	454.4	453.5	427.6	447.8	455.4	459.3	455.2	452.2	451.7
Intracity mass transit	342.3	345.9	346.7	347.0	347.0	347.7	347.6	342.1	345.9	346.5	346.7	346.8	347.5	347.4
Taxi fare	308.8	311.3	311.3	313.4	315.0	317.4	317.4	317.9	320.1	320.3	322.4	324.1	326.7	326.8
Intracity train fare	373.4	383.5	388.2	390.2	390.3	390.3	390.2	373.7	383.8	388.7	390.7	390.7	390.7	390.7
MEDICAL CARE	375.7	387.5	388.5	391.1	393.8	396.5	398.0	373.9	385.6	386.7	389.3	392.0	394.6	396.1
Medical care commodities	236.9	245.6	247.3	248.2	249.8	251.9	253.9	237.1	245.6	247.2	248.0	249.6	251.5	253.5
Prescription drugs	230.7	242.2	244.4	245.4	247.6	250.9	253.6	232.2	243.8	245.9	247.0	249.2	252.4	255.1
Anti-infective drugs (12/77 = 100)	164.8	171.0	171.8	171.5	171.9	174.0	175.7	167.3	173.8	174.6	174.3	174.7	176.7	178.4
Tranquilizers and sedatives (12/77 = 100)	198.4	216.2	218.8	220.1	223.2	227.9	233.9	198.3	216.3	218.9	220.2	223.1	227.8	233.8
Circulatory and diuretics (12/77 = 100)	166.1	174.4	174.9	176.0	178.5	180.9	182.7	165.5	173.7	174.2	175.3	177.8	180.1	181.8
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	212.5	223.8	228.3	228.9	229.6	230.8	231.3	214.7	226.1	230.7	231.2	232.2	233.2	233.9
Pain and symptom control drugs (12/77 = 100)	187.7	194.4	198.2	196.6	198.1	200.9	202.7	190.0	196.3	197.2	198.7	200.3	203.0	204.6
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	173.2	178.3	179.1	180.6	183.2	185.7	187.1	173.9	179.0	179.7	181.2	184.0	186.4	187.9
Nonprescription drugs and medical supplies (12/77 = 100)	162.1	166.0	166.8	167.3	168.0	168.6	169.5	163.0	166.9	167.8	168.2	168.9	169.5	170.4
Eyeglasses (12/77 = 100)	138.9	142.2	141.9	142.5	144.0	144.5	144.7	137.6	141.2	140.9	141.4	143.0	143.4	143.4
Internal and respiratory over-the-counter drugs	264.9	271.5	273.7	274.7	275.1	276.6	278.5	266.1	272.7	275.0	275.8	276.2	277.6	279.6
Nonprescription medical equipment and supplies (12/77 = 100)	156.5	159.8	160.3	160.2	161.2	161.1	161.7	158.0	161.5	161.9	161.6	162.8	162.6	163.1

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984			1985				
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Medical care services	406.3	418.5	419.3	422.4	425.3	428.1	429.4	403.9	416.1	417.0	420.1	423.1	425.7	427.1
Professional services	342.5	353.1	354.0	356.8	359.3	361.9	363.0	343.0	353.4	354.4	357.2	359.7	362.4	363.6
Physicians' services	373.5	383.0	383.8	386.1	389.6	392.6	393.9	377.5	387.0	387.9	390.2	393.9	397.0	398.5
Dental services	322.5	336.6	337.7	339.7	340.4	343.3	344.5	320.5	334.3	335.3	337.2	338.0	340.7	342.0
Other professional services (12/77 = 100)	159.5	161.5	166.1	165.9	168.0	168.4	168.5	155.8	157.8	158.4	162.3	164.3	164.7	164.8
Other medical care services	483.4	497.7	498.2	501.7	505.2	508.0	509.6	480.0	494.6	495.3	498.8	502.3	505.0	506.6
Hospital and other medical services (12/77 = 100)	207.5	217.2	217.6	219.4	220.6	221.6	222.0	205.6	214.7	215.1	216.9	218.1	215.8	219.2
Hospital room	660.3	691.3	690.8	697.7	700.7	703.6	704.2	652.9	680.8	680.9	687.0	690.3	692.2	692.9
Other hospital and medical care services (12/77 = 100)	204.2	213.6	214.4	216.0	217.3	218.4	219.0	202.4	211.7	212.5	214.2	215.5	216.3	216.8
ENTERTAINMENT	253.8	259.0	260.1	261.0	266.3	262.2	263.3	249.8	254.8	255.8	256.6	256.9	257.3	258.6
Entertainment commodities	253.4	256.0	256.8	257.1	257.9	258.7	259.5	247.7	250.2	250.9	251.1	251.9	252.2	253.2
Reading materials (12/77 = 100)	164.5	167.8	168.8	169.6	171.5	173.3	173.7	164.0	167.2	168.2	168.8	170.7	172.4	172.9
Newspapers	312.6	319.2	320.1	320.7	323.2	324.3	325.8	312.9	319.4	320.4	321.0	323.5	324.5	326.1
Magazines, periodicals, and books (12/77 = 100)	170.7	174.1	175.6	176.9	179.6	182.8	182.8	170.8	173.7	175.4	176.6	179.4	182.2	182.7
Sporting goods and equipment (12/77 = 100)	139.1	140.0	139.6	140.2	139.9	140.2	140.4	132.6	133.6	133.0	133.9	133.7	133.4	133.8
Sport vehicles (12/77 = 100)	144.6	146.0	145.9	146.9	146.7	147.0	147.3	134.1	135.8	135.4	136.8	136.6	136.0	136.5
Indoor and warm weather sport equipment (12/77 = 100)	117.5	118.2	118.0	117.3	117.6	118.1	118.0	115.6	116.4	116.1	115.5	115.8	116.3	116.1
Bicycles	201.1	198.1	198.4	198.4	199.5	200.0	201.4	202.2	199.1	199.5	199.8	200.9	201.6	202.9
Other sporting goods and equipment (12/77 = 100)	135.6	137.3	134.4	135.1	133.2	132.6	132.6	135.3	136.5	134.0	134.3	132.9	132.3	131.9
Toys, hobbies, and other entertainment (12/77 = 100)	141.0	141.8	142.5	142.1	142.2	142.0	142.6	140.0	140.9	141.5	141.0	141.1	141.0	141.6
Toys, hobbies, and music equipment (12/77 = 100)	134.3	138.1	139.1	137.7	137.8	137.3	138.4	135.8	134.8	135.6	134.1	134.3	133.8	135.0
Photographic supplies and equipment (12/77 = 100)	132.9	134.9	135.1	134.9	135.1	136.0	135.8	134.2	136.2	136.4	136.1	136.3	137.2	136.9
Pet supplies and expenses (12/77 = 100)	149.9	153.4	154.0	155.2	155.2	154.9	155.2	151.0	154.5	155.3	156.3	156.3	156.0	156.3
Entertainment services	254.9	263.8	265.5	267.0	266.7	267.6	269.2	254.7	264.0	265.6	267.4	266.8	267.4	269.2
Fees for participant sports (12/77 = 100)	159.5	165.1	165.9	166.5	166.5	166.9	167.7	160.1	166.2	166.8	167.6	167.5	167.4	168.5
Admissions (12/77 = 100)	149.4	156.8	158.2	160.3	159.4	159.4	160.7	148.3	155.6	156.9	159.1	158.1	158.4	159.7
Other entertainment services (12/77 = 100)	134.8	136.7	138.0	137.9	138.2	139.8	140.4	135.7	137.0	138.5	138.4	138.6	140.3	140.8
OTHER GOODS AND SERVICES	302.8	316.5	316.7	319.1	320.5	321.1	321.8	300.4	312.6	312.8	315.6	317.1	317.6	318.3
Tobacco products	305.9	314.7	314.6	321.0	323.2	323.7	324.0	305.6	314.3	314.2	320.8	323.0	323.4	323.6
Cigarettes	314.1	323.4	323.2	330.3	332.5	332.8	332.9	313.1	322.2	322.1	329.2	331.4	331.7	331.7
Other tobacco products and smoking accessories (12/77 = 100)	157.6	160.6	161.0	161.6	163.1	164.7	165.5	157.6	160.6	161.0	161.5	163.0	164.8	165.6
Personal care	268.9	276.3	276.6	277.2	278.2	278.7	279.8	266.9	274.0	274.4	274.9	275.9	276.3	277.5
Toilet goods and personal care appliances	267.3	273.4	273.5	274.0	275.4	276.0	277.1	268.1	274.0	274.2	274.6	275.9	276.5	277.5
Products for the hair, hairpieces, and wigs (12/77 = 100)	154.9	156.9	156.5	156.4	152.0	157.2	157.4	154.1	156.2	155.8	155.6	156.1	156.3	156.6
Dental and shaving products (12/77 = 100)	165.1	170.9	172.1	173.5	175.8	174.5	176.2	163.3	168.9	170.0	171.4	173.5	172.3	173.8
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	151.8	154.9	155.3	155.3	155.6	155.8	155.9	152.7	155.8	156.3	156.3	156.8	156.8	156.8
Other toilet goods and small personal care appliances (12/77 = 100)	151.6	155.5	154.7	154.8	155.3	157.5	158.3	155.2	159.1	158.3	158.5	158.9	161.1	162.0
Personal care services	271.4	279.9	280.4	281.1	281.7	282.0	283.3	266.1	274.4	275.0	275.7	276.3	276.5	278.0
Beauty parlor services for women	274.4	283.1	283.8	283.9	284.3	285.1	286.2	267.5	275.8	276.6	276.7	277.1	277.8	279.2
Haircuts and other barber shop services for men (12/77 = 100)	150.4	155.0	155.1	156.2	156.8	156.3	157.2	149.2	153.8	153.8	154.9	155.5	155.1	156.0
Personal and educational expenses	356.9	384.1	384.3	385.6	386.9	387.6	388.3	359.7	386.2	386.4	387.9	389.3	390.1	390.7
Schoolbooks and supplies	317.6	333.8	334.0	340.7	343.8	343.9	344.5	322.2	338.7	338.9	345.5	348.7	348.8	349.4
Personal and educational services	366.1	395.4	395.5	395.9	396.9	397.9	398.5	369.0	397.6	397.8	398.3	399.4	400.3	401.0
Tuition and other school fees	184.4	201.3	201.3	201.2	201.4	201.4	201.5	185.3	202.3	202.3	202.3	202.5	202.5	202.6
College tuition (12/77 = 100)	184.7	201.4	201.3	201.3	201.5	201.5	201.6	185.5	202.3	202.2	202.2	202.5	202.5	202.5
Elementary and high school tuition (12/77 = 100)	183.9	201.3	201.4	201.4	206.4	201.4	201.4	184.9	202.8	202.9	202.9	202.9	202.9	202.9
Personal expenses (12/77 = 100)	202.0	208.9	209.5	210.7	212.6	214.9	216.5	202.8	209.2	209.7	211.0	212.7	214.8	216.6
Special indexes:														
Gasoline, motor oil, coolant, and other products	369.8	365.6	362.3	353.8	348.7	356.7	369.9	371.4	366.8	363.6	355.0	350.2	358.1	371.2
Insurance and finance	410.3	440.4	442.8	442.8	442.8	442.8	442.8	410.3	440.4	442.8	442.8	442.8	442.8	442.8
Utilities and public transportation	348.0	358.5	357.5	359.1	358.3	360.6	360.9	347.0	357.1	355.9	357.6	356.7	358.9	359.1
Housekeeping and home maintenance services	368.6	373.7	374.1	374.9	377.6	381.8	381.8	376.6	381.9	382.7	383.3	386.6	390.9	391.1

21. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000-1,250 million)			Size class C (75,000-385,000)			Size class D (75,000 or less)		
	1984			1984			1984			1984		
	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.	Dec.	Feb.	Apr.
Northeast												
EXPENDITURE CATEGORY												
All items	164.3	165.5	166.7	169.9	171.5	173.5	174.4	175.8	177.8	169.7	170.3	174.2
Food and beverages	154.1	157.0	157.7	152.3	156.0	156.5	155.8	158.3	158.3	151.4	153.6	155.2
Housing	169.7	170.5	171.2	181.2	184.3	186.7	187.5	189.9	193.1	176.9	177.4	185.9
Apparel and upkeep	125.5	124.9	127.6	126.7	121.3	128.7	134.2	136.9	138.7	137.7	137.4	137.4
Transportation	173.0	173.0	174.8	176.8	176.4	178.1	176.3	176.3	177.7	176.9	175.5	177.7
Medical care	181.4	184.5	187.1	183.5	185.2	186.9	184.1	185.5	189.1	192.8	194.0	195.9
Entertainment	151.3	151.8	153.9	149.8	146.8	147.5	155.4	157.1	159.0	156.5	158.2	158.1
Other goods and services	178.9	180.7	181.9	177.4	179.8	179.9	181.5	184.5	185.5	180.9	182.7	183.4
COMMODITY AND SERVICE GROUP												
Commodities	155.1	156.7	157.6	161.0	161.7	163.5	160.6	161.3	162.2	159.0	159.6	160.8
Commodities less food and beverages	155.4	156.0	157.1	164.9	163.6	166.2	162.7	162.2	163.7	162.3	161.9	163.0
Services	175.3	176.2	177.6	183.1	186.1	186.3	196.1	198.7	202.0	185.3	185.8	193.5
North Central Region												
EXPENDITURE CATEGORY												
All items	173.2	174.3	175.9	169.2	169.7	171.7	166.4	166.7	168.6	167.6	168.2	169.1
Food and beverages	150.4	152.5	152.4	149.6	151.3	151.1	149.9	151.7	151.9	158.5	158.9	158.9
Housing	191.8	193.6	194.6	178.3	178.5	180.6	174.0	173.3	175.5	171.0	172.1	171.7
Apparel and upkeep	120.8	120.1	123.9	132.5	132.9	135.6	129.3	131.3	135.7	128.0	126.5	129.4
Transportation	173.7	172.8	176.2	174.3	172.7	177.4	176.7	175.6	179.0	174.9	173.7	178.1
Medical care	182.1	184.6	186.6	184.6	188.2	189.4	176.3	178.3	180.1	186.2	189.4	191.1
Entertainment	148.4	150.2	150.8	139.9	142.2	142.5	154.2	155.6	156.0	146.4	147.3	144.1
Other goods and services	173.0	175.7	176.0	186.1	188.7	188.6	169.6	170.8	169.9	181.8	184.9	186.1
COMMODITY AND SERVICE GROUP												
Commodities	159.0	159.7	161.7	157.8	158.1	160.4	155.9	156.1	157.9	156.7	156.2	158.0
Commodities less food and beverages	163.1	162.8	166.0	161.0	160.6	164.2	158.5	157.9	160.6	155.8	154.8	157.6
Services	193.7	195.5	196.6	187.2	188.0	189.7	183.1	183.4	185.5	184.8	186.8	186.6
South												
EXPENDITURE CATEGORY												
All items	170.3	171.0	172.4	172.0	173.0	173.7	170.2	171.2	172.2	170.4	170.1	171.6
Food and beverages	157.8	160.0	159.9	157.4	159.5	158.9	153.8	156.3	155.7	158.1	160.0	159.9
Housing	176.1	177.2	178.1	177.2	178.2	178.0	175.6	177.1	177.3	178.2	176.7	177.9
Apparel and upkeep	137.0	135.3	138.7	132.0	130.8	132.7	130.7	129.5	130.2	117.8	114.9	113.0
Transportation	176.8	175.5	178.5	180.7	180.2	183.3	179.0	178.2	181.6	174.1	173.1	176.9
Medical care	184.2	185.6	188.1	185.3	187.9	189.3	193.1	195.8	197.1	199.0	199.9	201.0
Entertainment	151.8	153.1	154.4	162.6	163.8	163.5	156.2	154.9	157.5	152.7	153.4	154.7
Other goods and services	177.2	178.4	179.2	180.6	182.5	184.7	178.7	181.1	181.5	173.9	176.0	175.6
COMMODITY AND SERVICE GROUP												
Commodities	160.8	160.9	163.0	162.3	163.0	164.5	160.0	160.6	161.7	159.3	159.6	161.5
Commodities less food and beverages	162.0	160.8	164.1	164.1	163.8	166.7	162.8	162.3	164.4	159.5	158.9	161.6
Services	183.1	184.5	185.2	186.2	187.5	187.3	185.9	187.5	188.2	186.9	185.7	187.0
West												
EXPENDITURE CATEGORY												
All items	172.1	173.5	174.6	170.9	172.0	174.4	162.9	164.2	166.9	170.1	170.0	170.8
Food and beverages	157.6	158.9	158.9	161.5	163.1	162.9	155.2	158.2	168.7	164.3	166.2	166.3
Housing	179.8	182.2	182.4	174.1	176.2	179.2	160.9	161.9	164.2	171.2	171.6	172.2
Apparel and upkeep	126.7	127.8	127.3	131.8	131.0	133.9	125.6	126.8	130.3	146.1	146.6	144.0
Transportation	181.2	180.1	184.2	181.8	180.3	184.5	177.0	176.0	181.7	173.4	172.5	173.9
Medical care	187.9	191.8	193.4	184.5	186.8	190.0	193.5	196.0	198.1	189.9	192.5	193.5
Entertainment	146.9	147.9	149.6	154.6	155.5	156.6	158.0	162.6	165.8	169.3	157.1	159.5
Other goods and services	183.0	185.7	186.5	179.8	181.7	182.6	175.0	176.9	177.8	180.3	182.0	183.7
COMMODITY AND SERVICE GROUP												
Commodities	157.8	158.3	159.9	161.4	161.8	163.9	157.9	158.5	161.7	159.0	158.6	159.5
Commodities less food and beverages	157.9	157.8	160.5	161.0	160.7	164.1	158.6	157.8	162.6	156.3	154.5	155.7
Services	190.0	192.4	193.0	183.7	185.4	188.4	168.7	170.8	172.9	186.3	186.5	187.3

22. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area ¹	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1984			1985			1984			1985				
	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average ²	308.8	315.3	315.5	316.1	317.4	318.8	320.1	304.1	311.9	312.2	312.6	313.9	315.3	316.7
Anchorage, Alaska (10/67 = 100)	...	303.2	...	278.3	...	280.0	...	...	270.9	...	271.7	...	273.1	...
Atlanta, Ga.	324.6	...	318.2	...	322.6	...	324.6	309.3	...	316.0	...	320.3	...	322.3
Baltimore, Md.	...	315.3	...	315.2	...	320.7	...	...	315.1	...	315.1	...	320.2	...
Boston, Mass.	...	307.8	...	309.4	...	314.4	...	...	306.5	...	307.8	...	312.3	...
Buffalo, N.Y.	293.0	...	303.4	...	301.3	...	305.4	286.6	...	289.8	...	288.1	...	291.9
Chicago, Ill.—Northwestern Ind.	306.9	313.9	314.0	315.1	316.7	317.4	319.1	296.4	302.6	301.7	302.5	304.0	304.7	306.2
Cincinnati, Ohio—Ky.—Ind.	...	325.4	...	325.1	...	328.4	...	...	319.3	...	318.9	...	322.2	...
Cleveland, Ohio	332.8	...	339.7	...	340.4	...	342.4	320.7	...	318.6	...	319.8	...	321.8
Dallas—Ft. Worth, Tex.	323.9	...	330.7	...	333.2	...	335.6	316.5	...	325.0	...	...	...	329.6
Denver—Boulder, Colo.	...	349.4	...	350.6	...	355.1	...	...	345.1	...	346.2	...	350.7	...
Detroit, Mich.	305.6	308.7	309.1	310.9	313.7	315.5	315.8	298.6	299.8	300.0	301.2	304.0	306.0	306.3
Honolulu, Hawaii	283.2	...	289.8	...	292.6	...	292.7	289.0	...	297.6	...	300.3	...	300.1
Houston, Tex.	325.7	...	333.4	...	333.6	...	335.3	324.8	...	330.9	...	331.1	...	332.8
Kansas City, Mo.—Kansas	309.1	...	313.7	...	314.6	...	319.8	299.7	...	304.0	...	304.4	...	309.7
Los Angeles—Long Beach, Anaheim, Calif.	302.8	311.8	311.1	313.0	314.1	314.7	315.9	298.9	304.3	306.5	308.1	309.1	309.8	311.2
Miami, Fla. (11/77 = 100)	...	168.3	...	168.6	...	170.1	...	...	169.6	...	169.8	...	171.3	...
Milwaukee, Wis.	...	324.3	...	324.6	...	327.8	...	...	342.7	...	343.4	...	346.9	...
Minneapolis—St. Paul, Minn.—Wis.	322.0	...	327.9	...	330.4	...	333.6	321.1	...	323.8	...	306.0	...	329.2
New York, N.Y.—Northeastern N.J.	300.9	308.0	308.0	308.4	310.2	310.9	311.8	291.2	301.2	301.6	302.0	303.6	304.2	305.1
Northeast, Pa. (Scranton)	...	301.1	...	301.5	...	304.9	...	...	300.6	...	301.0	...	304.2	...
Philadelphia, Pa.—N.J.	298.2	306.0	305.1	306.3	309.2	310.4	312.4	299.0	309.2	307.9	309.4	312.4	313.5	315.3
Pittsburgh, Pa.	318.6	...	322.1	...	323.8	...	324.3	301.5	...	304.6	...	306.0	...	306.8
Portland, Oreg.—Wash.	...	304.8	...	306.8	...	309.0	...	...	295.7	...	297.4	...	299.8	...
St. Louis, Mo.—Ill.	...	309.1	...	313.3	...	314.3	...	...	307.1	...	310.4	...	311.0	...
San Diego, Calif.	...	363.7	...	364.1	...	369.2	...	...	328.8	...	329.1	...	333.7	...
San Francisco—Oakland, Calif.	316.4	...	325.8	...	328.7	...	330.4	311.1	...	321.5	...	324.2	...	326.1
Seattle—Everett, Wash.	...	318.1	...	319.5	...	321.4	...	...	305.5	...	306.7	...	309.0	...
Washington, D.C.—Md.—Va.	...	315.8	...	314.6	...	319.2	...	...	319.8	...	317.7	...	322.3	...

¹The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

²Average of 85 cities.

23. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1984	1984									1985				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May	
FINISHED GOODS															
Finished goods	291.1	291.1	290.9	292.3	291.3	289.5	291.5	292.3	292.0	292.3	292.5	292.4	293.1	294.2	
Finished consumer goods	290.3	290.3	290.1	291.6	290.4	288.7	290.3	291.2	290.9	290.6	290.7	290.4	291.2	292.6	
Finished consumer foods	273.3	271.7	270.8	275.3	274.0	273.0	271.1	272.0	273.6	273.7	275.5	274.2	272.4	269.7	
Crude	281.6	270.7	258.9	270.8	274.6	270.3	269.5	257.6	263.0	255.4	287.1	283.9	286.9	262.6	
Processed	270.3	269.6	269.7	273.4	271.7	271.1	269.1	271.0	272.3	273.1	272.2	271.1	268.9	268.2	
Nondurable goods less foods	337.3	338.9	339.2	339.2	336.9	336.2	337.8	338.9	336.7	334.9	332.8	333.4	336.9	342.6	
Durable goods	236.8	236.6	236.4	236.6	236.7	233.0	238.3	239.0	239.2	240.2	241.1	240.8	241.1	241.5	
Consumer nondurable goods less food and energy	239.0	238.7	238.7	240.1	240.1	240.8	240.6	241.1	240.7	242.8	243.7	244.1	244.6	245.1	
Capital equipment	294.0	293.9	293.9	294.6	294.6	292.5	295.9	296.5	295.6	298.5	299.1	299.5	300.0	299.8	
INTERMEDIATE MATERIALS															
Intermediate materials, supplies, and components	320.0	320.9	321.6	321.7	321.1	320.3	320.1	320.4	319.9	319.6	318.6	318.6	319.4	319.9	
Materials and components for manufacturing	301.8	303.3	303.4	303.2	302.5	301.9	301.4	301.7	301.1	300.6	300.5	300.1	300.7	300.6	
Materials for food manufacturing	271.1	276.0	275.2	276.4	272.4	270.0	267.6	269.5	268.2	265.2	264.1	263.5	263.3	261.3	
Materials for nondurable manufacturing	290.5	292.8	292.8	292.7	291.3	290.9	290.4	289.8	289.2	288.9	288.2	287.3	287.2	286.9	
Materials for durable manufacturing	325.1	327.2	326.9	325.4	325.1	323.5	322.3	323.1	321.9	320.6	320.9	320.2	322.5	322.9	
Components for manufacturing	287.5	287.0	287.5	287.9	288.4	288.9	289.4	289.7	289.9	290.4	290.6	291.0	291.1	291.2	
Materials and components for construction	310.3	309.8	310.3	310.9	312.0	311.7	311.8	311.8	312.4	313.4	313.0	313.1	313.8	315.8	
Processed fuels and lubricants	566.2	567.2	575.2	576.6	569.2	565.3	564.1	566.6	561.3	556.3	546.5	548.2	552.5	558.2	
Manufacturing industries	483.5	485.5	490.4	491.4	484.7	481.8	483.4	486.1	483.0	478.7	470.2	472.3	474.8	477.7	
Nonmanufacturing industries	638.1	638.2	649.1	650.9	643.0	638.1	634.3	636.5	629.2	623.5	612.6	614.0	619.8	628.2	
Containers	302.3	300.9	301.8	303.0	304.1	305.2	308.8	310.1	310.4	311.1	311.9	312.4	312.1	311.2	
Supplies	283.4	284.3	283.9	283.2	284.1	283.6	283.2	282.9	283.1	283.9	283.8	283.8	283.9	283.5	
Manufacturing industries	279.0	278.4	279.0	279.2	280.9	280.7	281.5	281.7	282.2	283.5	283.8	284.2	285.0	284.9	
Nonmanufacturing industries	285.9	287.6	286.7	285.6	286.0	285.3	284.4	283.8	283.8	284.5	284.1	283.8	283.6	283.0	
Feeds	215.8	229.2	221.6	211.7	208.3	203.0	195.4	192.4	191.1	190.1	185.6	180.4	176.3	172.6	
Other supplies	300.6	300.0	300.5	301.0	302.2	302.3	302.7	302.6	302.8	303.8	304.2	304.8	305.4	305.4	
CRUDE MATERIALS															
Crude materials for further processing	330.8	338.0	333.0	334.1	328.9	326.2	319.6	323.2	322.4	318.9	318.3	312.9	311.3	310.0	
Foodstuffs and feedstuffs	259.5	266.4	260.3	263.6	256.5	252.7	244.9	252.8	253.0	250.7	250.7	243.6	240.5	237.0	
Nonfood materials	484.5	492.3	489.6	486.4	485.0	484.6	480.3	475.2	472.0	466.0	464.2	462.2	464.0	467.0	
Nonfood materials except fuel	380.5	389.9	386.1	380.9	376.8	379.3	374.7	369.2	366.4	361.9	356.9	358.3	360.5	357.9	
Manufacturing industries	390.1	400.2	395.7	390.1	386.1	388.5	383.9	377.6	374.4	368.9	362.7	364.1	366.3	363.2	
Construction	278.7	282.7	283.5	282.0	277.6	279.9	276.3	276.3	276.4	279.7	283.6	284.4	287.0	287.7	
Crude fuel	931.3	928.4	932.6	940.2	953.1	937.6	935.9	934.0	929.8	916.6	931.7	913.0	911.8	943.9	
Manufacturing industries	1,092.2	1,088.1	1,094.5	1,103.5	1,120.1	1,100.0	1,097.6	1,095.1	1,089.7	1,072.2	1,091.8	1,067.3	1,065.8	1,108.9	
Nonmanufacturing industries	818.1	816.1	818.4	825.1	835.1	823.3	822.1	820.7	817.3	807.5	819.2	804.9	804.1	827.5	
SPECIAL GROUPINGS															
Finished goods excluding foods	294.8	295.3	295.4	295.7	294.8	292.7	296.1	296.9	295.8	296.3	295.9	296.2	297.8	300.1	
Finished consumer goods excluding foods	294.1	294.9	294.9	295.0	293.8	291.7	295.0	295.9	294.8	294.3	293.6	293.7	295.8	299.1	
Finished consumer goods less energy	257.8	257.1	256.7	258.9	258.5	257.2	258.2	258.9	259.3	260.5	261.7	261.3	261.0	260.4	
Intermediate materials less foods and feeds	325.0	325.4	326.4	326.7	326.3	325.7	325.8	326.1	325.6	325.4	324.6	324.7	325.6	326.4	
Intermediate materials less energy	303.8	304.6	304.7	304.7	304.7	304.2	304.1	304.3	304.1	304.2	304.1	303.9	304.4	304.5	
Intermediate foods and feeds	253.1	260.8	257.8	255.3	251.4	248.1	244.0	244.3	243.0	240.7	238.4	236.3	234.8	232.3	
Crude materials less agricultural products	547.0	554.0	552.5	549.8	548.8	546.6	542.4	535.9	532.3	525.4	525.8	521.6	523.0	527.5	
Crude materials less energy	255.5	263.3	257.6	258.5	251.9	249.9	242.6	248.0	247.8	246.2	245.9	240.9	239.1	235.3	

¹Data for January 1985 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

24. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1984	1984								1985				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May
	All commodities	310.3	311.5	311.3	311.9	310.7	309.3	309.4	310.3	309.8	309.7	309.2	308.7	309.3	309.9
	All commodities (1957-59 = 100)	329.2	330.5	330.3	330.9	329.7	328.2	328.3	329.2	328.7	328.6	328.1	327.5	328.2	328.8
	Farm products and processed foods and feeds	262.4	265.8	262.8	264.9	261.4	259.4	255.3	258.1	258.6	257.6	257.8	255.0	253.3	250.6
	Industrial commodities	322.6	323.2	323.8	323.9	323.3	322.3	323.4	323.8	323.0	323.1	322.5	322.6	323.8	325.3
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	255.8	260.8	257.1	258.7	253.3	249.8	240.2	245.7	245.7	243.2	244.6	238.7	236.9	230.4
01-1	Fresh and dried fruits and vegetables	278.1	251.9	273.7	281.9	293.7	290.1	267.3	251.2	252.0	259.0	289.2	277.7	277.8	250.9
01-2	Grains	239.7	256.2	257.8	248.9	236.9	231.4	219.0	219.7	212.5	217.5	217.2	216.1	220.6	214.1
01-3	Livestock	251.8	254.8	250.0	260.1	253.7	244.9	233.9	247.7	252.3	247.4	249.7	236.6	231.3	227.7
01-4	Live poultry	240.6	240.6	227.7	259.2	218.6	239.7	219.2	247.1	231.7	232.7	222.4	215.5	202.3	214.6
01-5	Plant and animal fibers	228.4	259.1	252.7	235.8	211.3	210.3	202.8	201.4	203.0	204.5	200.6	200.4	211.3	202.8
01-6	Fluid milk	278.3	271.7	271.8	273.9	276.8	282.1	286.7	287.6	287.5	284.6	281.0	278.4	271.1	264.9
01-7	Eggs	210.8	201.0	177.9	184.9	181.2	177.6	179.9	176.0	187.5	141.9	161.5	167.6	175.1	150.2
01-8	Hay, hayseeds, and oilseeds	256.3	297.0	272.4	245.8	242.6	228.4	219.1	227.3	227.4	226.2	214.6	212.0	213.8	213.4
01-9	Other farm products	285.6	288.2	279.1	277.4	284.3	296.5	294.0	297.9	293.8	289.4	275.0	285.8	285.3	283.5
02	Processed foods and feeds	265.0	267.5	264.8	267.3	264.8	263.6	262.6	263.8	264.5	264.4	263.9	262.9	261.2	260.6
02-1	Cereal and bakery products	270.5	268.7	271.4	272.3	271.7	271.9	272.7	273.7	273.6	276.6	278.2	277.8	278.2	277.6
02-2	Meats, poultry, and fish	254.4	257.1	247.4	258.7	252.2	249.5	245.5	250.4	255.9	256.6	255.9	252.1	246.3	245.8
02-3	Dairy products	251.7	248.9	249.6	251.4	251.2	255.0	256.4	257.3	255.8	255.3	254.1	253.4	251.4	250.1
02-4	Processed fruits and vegetables	294.3	297.7	298.2	296.2	295.7	291.8	296.8	292.3	293.5	296.6	295.4	300.2	298.7	297.7
02-5	Sugar and confectionery	301.2	303.8	304.1	305.0	303.7	302.4	299.8	297.0	295.7	293.5	290.4	291.6	292.8	293.6
02-6	Beverages and beverage materials	273.1	273.5	272.8	273.9	274.6	274.6	276.1	276.0	275.6	275.9	277.6	277.6	277.2	277.9
02-7	Fats and oils	301.3	328.5	328.1	312.7	305.9	298.5	301.6	311.9	297.6	280.5	286.0	290.7	303.2	296.1
02-8	Miscellaneous processed foods	278.0	276.2	279.9	281.3	280.4	281.1	281.2	280.9	281.0	281.5	280.7	281.0	281.7	283.1
02-9	Prepared animal feeds	220.5	232.3	225.5	216.7	213.9	209.2	202.4	199.7	198.8	198.0	193.7	189.3	185.7	182.6
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	210.0	210.5	210.2	210.5	210.1	210.7	210.4	210.2	210.0	210.3	210.6	210.4	210.5	210.7
03-1	Synthetic fibers (12/75 = 100)	159.6	160.6	160.5	160.1	159.9	159.2	158.2	157.5	157.7	157.6	157.7	156.6	156.8	157.2
03-2	Processed yarns and threads (12/75 = 100)	142.8	144.3	143.8	143.7	142.1	142.2	141.4	140.8	140.8	141.4	141.9	141.4	141.1	141.3
03-3	Gray fabrics (12/75 = 100)	153.7	153.7	154.3	154.5	154.4	154.6	154.8	153.7	154.0	153.8	153.1	152.5	151.8	152.3
03-4	Finished fabrics (12/75 = 100)	126.7	127.3	127.1	126.9	127.1	127.3	126.9	126.6	126.6	126.6	126.9	127.1	127.0	127.0
03-81	Apparel	201.3	201.3	200.8	201.6	201.0	202.2	201.9	202.2	202.1	202.7	202.8	202.7	203.6	203.6
03-82	Textile housefurnishings	238.9	238.8	239.0	239.1	240.0	240.5	241.3	241.4	238.3	239.5	243.1	240.6	241.0	240.9
04	Hides, skins, leather, and related products	286.3	288.5	290.1	288.9	298.7	288.7	287.7	283.8	283.6	283.7	284.8	283.1	285.5	283.6
04-2	Leather	372.3	390.7	387.8	383.2	378.1	371.4	369.3	359.8	354.5	358.1	351.9	348.5	351.6	350.1
04-3	Footwear	251.7	251.5	250.5	250.1	250.9	252.0	252.1	252.4	252.6	252.8	256.6	255.5	255.3	253.9
04-4	Other leather and related products	263.6	259.8	267.9	267.2	267.7	267.6	268.1	267.9	266.9	270.0	273.5	274.5	275.2	271.8
05	Fuels and related products and power	656.8	660.6	665.9	665.0	657.9	652.3	654.4	655.3	648.5	636.8	625.9	625.8	633.6	648.3
05-1	Coal	546.5	547.4	544.3	548.1	550.0	549.1	548.9	548.6	547.7	548.0	550.1	549.3	548.2	547.3
05-2	Coke	436.4	441.6	442.9	441.9	437.3	435.7	432.4	432.8	435.1	439.7	439.8	433.6	430.1	429.2
05-3	Gas fuels ³	1,109.0	1,104.1	1,109.1	1,110.8	1,116.9	1,104.6	1,112.5	1,113.4	1,103.1	1,073.0	1,068.7	1,046.8	1,045.0	1,086.1
05-4	Electric power	439.9	433.1	446.7	453.5	456.7	456.4	445.4	443.0	440.8	446.0	446.4	448.0	449.4	448.2
05-61	Crude petroleum ⁴	669.8	673.9	673.3	672.6	671.1	670.6	669.8	655.8	649.4	631.2	616.0	615.4	618.3	621.5
05-7	Petroleum products, refined ⁵	665.1	677.6	679.7	673.3	654.8	646.5	655.5	661.5	652.3	635.5	615.9	620.7	636.5	657.6
06	Chemicals and allied products	300.8	302.7	302.2	302.6	301.1	300.9	301.3	301.6	300.7	301.6	302.2	302.8	303.6	303.2
06-1	Industrial chemicals ⁶	341.3	345.3	345.4	345.6	340.9	337.7	335.9	334.7	334.8	336.8	336.4	336.8	335.8	335.3
06-21	Prepared paint	272.5	270.0	270.9	274.0	276.4	277.0	277.8	277.1	277.8	278.2	279.0	279.7	280.4	277.8
06-22	Paint materials	329.7	337.6	337.4	334.8	334.3	333.0	332.5	334.3	334.7	332.6	332.9	334.2	336.0	337.4
06-3	Drugs and pharmaceuticals	240.0	240.1	237.3	240.5	240.7	239.7	244.7	246.9	245.0	247.4	251.5	253.2	254.7	257.5
06-4	Fats and oils, inedible	371.4	399.2	414.3	378.8	350.1	359.4	365.1	380.1	376.7	346.2	342.5	343.1	348.9	331.5
06-5	Agricultural chemicals and chemical products	284.8	286.8	286.5	285.0	283.0	285.0	285.5	282.5	282.5	282.7	281.6	282.6	283.0	282.5
06-6	Plastic resins and materials	308.6	310.6	311.1	310.6	310.3	311.8	309.4	309.0	306.2	305.2	306.8	305.5	308.1	306.3
06-7	Other chemicals and allied products	277.5	277.2	275.9	277.3	278.3	279.6	279.7	281.3	280.1	282.0	282.0	282.4	283.4	283.0
07	Rubber plastic products	246.8	247.5	247.6	247.5	247.7	248.3	246.6	246.1	245.9	246.7	246.7	246.6	246.8	246.6
07-1	Rubber and rubber products	266.1	266.3	266.5	266.5	267.6	268.1	264.8	263.9	263.7	264.3	265.7	265.7	265.1	264.8
07-11	Crude rubber	276.8	277.7	277.2	275.6	273.0	273.9	271.2	270.4	272.1	275.5	273.4	270.7	270.4	268.1
07-12	Tires and tubes	242.1	243.2	243.0	243.5	243.7	244.2	239.2	238.3	237.1	238.4	240.8	241.2	239.1	239.6
07-13	Miscellaneous rubber products	290.6	289.3	290.5	290.0	293.7	294.0	292.9	291.8	292.5	291.1	292.3	292.6	294.1	293.3
07-2	Plastic products (6/78 = 100)	139.5	140.2	140.2	140.2	139.7	140.1	140.1	140.0	139.8	140.4	139.6	139.5	140.1	140.0
08	Lumber and wood products	307.4	308.5	307.1	304.4	304.7	303.3	300.3	301.0	303.0	304.4	303.3	303.4	301.7	307.0
08-1	Lumber	349.8	355.6	350.5	342.6	342.3	338.2	334.3	336.6	339.5	343.0	342.9	345.0	340.5	349.9
08-2	Millwork	307.8	304.2	305.3	306.8	307.2	307.4	307.0	309.5	311.6	312.6	311.5	309.9	309.5	310.8
08-3	Plywood	241.6	235.4	236.3	237.2	245.9	243.4	240.1	234.9	234.2	234.2	226.6	223.7	222.7	232.1
08-4	Other wood products	234.5	234.7	235.0	235.2	236.5	235.9	236.6	236.5	237.9	237.9	236.6	238.8	239.1	236.0

See footnotes at end of table.

24. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1984	1984								1985				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May
INDUSTRIAL COMMODITIES—Continued															
09	Pulp, paper, and allied products	†318.5	317.7	318.4	319.8	321.3	322.0	323.1	324.1	324.1	†327.1	326.9	327.0	327.3	327.2
09-1	Pulp, paper, and products, excluding building paper and board	†293.3	292.7	293.3	295.7	296.3	297.5	299.3	299.7	298.9	†298.1	297.4	295.4	294.3	293.3
09-11	Woodpulp	†397.2	407.9	410.3	410.6	410.2	409.1	408.2	397.3	392.1	†381.2	368.4	353.9	347.9	342.4
09-12	Wastepaper	240.1	259.3	257.3	254.7	254.5	249.6	235.6	221.4	206.0	190.8	192.6	170.2	154.4	144.0
09-13	Paper	†302.9	301.3	301.6	307.7	307.0	306.7	306.7	306.9	305.7	†306.3	304.7	303.7	303.6	304.6
09-14	Paperboard	†281.5	277.8	279.1	279.1	285.1	288.6	293.7	294.3	293.4	†287.2	287.8	285.7	284.0	282.1
09-15	Converted paper and paperboard products	†281.2	280.1	280.6	282.1	282.4	284.4	286.9	289.0	289.3	†290.4	291.0	290.4	290.0	288.8
09-2	Building paper and board	†259.0	265.2	265.1	262.9	259.8	259.4	257.7	253.7	253.4	†255.3	256.2	256.3	257.6	258.6
10	Metals and metal products	†316.1	317.4	317.3	316.1	316.2	315.6	316.0	316.4	315.5	†315.0	315.6	315.4	316.9	316.3
10-1	Iron and steel	†356.9	357.3	357.0	357.4	357.4	357.9	358.4	357.7	357.1	†357.1	357.7	358.2	357.8	356.3
10-17	Steel mill products	366.0	364.7	365.4	367.6	368.1	368.1	368.6	368.0	367.9	†367.3	367.2	367.1	367.5	367.3
10-2	Nonferrous metals	†277.1	284.1	282.8	277.0	275.3	271.8	266.8	269.4	266.0	†263.3	265.2	262.9	268.6	268.1
10-3	Metal containers	†350.0	348.0	348.0	348.0	352.0	352.3	357.4	357.4	357.2	†357.4	358.3	357.5	358.0	358.2
10-4	Hardware	†296.9	295.3	296.2	297.1	298.0	299.0	299.9	299.9	300.9	†302.6	302.5	304.0	305.0	304.8
10-5	Plumbing fixtures and brass fittings	†302.7	301.6	302.4	302.8	304.6	304.4	306.2	309.2	309.3	†306.4	307.1	307.9	311.3	312.7
10-6	Heating equipment	†252.9	252.4	252.7	255.2	255.5	255.7	256.2	256.0	256.4	†256.3	257.4	257.3	257.8	258.4
10-7	Fabricated structural metal products	†310.7	310.6	311.2	311.7	312.3	312.1	313.8	312.7	313.2	†313.5	313.3	314.3	314.3	314.7
10-8	Miscellaneous metal products	295.3	293.4	294.3	294.1	295.0	295.8	301.5	301.6	301.8	301.8	301.9	301.9	302.1	301.8
11	Machinery and equipment	293.1	292.6	293.1	294.0	294.1	294.3	294.8	295.3	295.6	†297.9	297.4	298.0	298.3	298.8
11-1	Agricultural machinery and equipment	†336.1	338.2	337.8	338.6	338.8	337.2	337.3	337.0	337.6	†338.5	338.3	339.0	339.0	339.3
11-2	Construction machinery and equipment	†357.0	357.8	358.1	358.3	356.9	357.2	357.5	357.6	357.8	†378.6	361.7	361.8	361.2	362.4
11-3	Metalworking machinery and equipment	†334.0	333.5	333.4	334.2	334.7	335.6	337.1	338.1	338.7	†338.6	339.4	340.6	340.8	341.5
11-4	General purpose machinery and equipment	314.1	313.2	314.0	315.2	315.5	315.9	316.0	316.5	316.9	†318.3	318.5	319.9	320.5	321.1
11-6	Special industry machinery and equipment	†348.7	348.2	348.6	351.9	352.8	351.1	351.5	351.8	352.4	†355.7	356.9	357.2	358.4	359.0
11-7	Electrical machinery and equipment	†248.7	248.1	249.1	249.4	249.4	249.8	250.8	251.5	251.7	†253.0	253.0	253.3	253.2	253.9
11-9	Miscellaneous machinery	†274.4	273.7	273.9	274.2	274.1	274.5	274.4	274.8	274.5	†275.0	276.7	277.0	278.0	277.7
12	Furniture and household durables	†218.7	219.1	219.1	219.2	219.2	219.0	219.2	220.0	220.1	†220.3	220.7	221.1	221.4	221.4
12-1	Household furniture	†242.1	241.5	242.3	242.2	242.7	243.4	244.3	245.1	245.5	†246.9	247.4	247.7	248.2	249.9
12-2	Commercial furniture	†297.1	297.4	297.0	298.1	298.4	297.5	297.3	300.7	299.6	†300.3	302.3	303.5	305.0	305.9
12-3	Floor coverings	†191.2	191.7	192.7	192.7	192.6	192.5	193.0	192.9	193.2	†193.7	191.1	192.1	192.4	190.6
12-4	Household appliances	†211.0	210.8	211.1	211.5	211.9	211.6	211.1	210.9	211.3	†211.2	211.2	211.2	212.3	212.4
12-5	Home electronic equipment	†83.8	84.5	83.9	84.2	83.8	83.1	83.1	83.1	82.7	†80.8	81.8	81.9	80.9	79.9
12-6	Other household durable goods	†318.6	321.6	319.9	318.6	316.8	316.8	317.7	320.5	320.7	†322.5	323.6	324.5	323.6	323.0
13	Nonmetallic mineral products	337.3	337.6	338.3	339.8	340.8	340.5	340.0	339.6	340.1	†341.7	342.7	343.6	344.8	347.1
13-11	Flat glass	†224.5	226.1	226.3	226.3	219.6	219.7	219.9	218.5	218.6	†221.3	220.9	221.2	220.5	221.8
13-2	Concrete ingredients	†325.7	328.0	326.7	327.1	328.4	328.2	327.6	328.5	329.6	†331.0	334.1	335.8	336.7	339.2
13-3	Concrete products	†309.6	309.4	310.0	310.6	311.3	311.7	312.0	311.8	312.2	†314.6	314.3	315.0	316.9	320.2
13-4	Structural clay products, excluding refractories	†286.8	285.6	286.2	286.4	288.2	289.4	289.5	289.6	289.7	†291.3	291.0	291.8	291.7	291.7
13-5	Refractories	†361.2	361.8	361.8	361.8	361.6	361.6	361.6	365.6	365.6	†365.9	367.0	368.0	370.0	372.3
13-6	Asphalt roofing	399.5	398.7	394.2	394.5	408.4	408.0	409.1	410.1	412.1	†409.6	408.3	404.6	414.3	414.4
13-7	Gypsum products	†346.7	360.9	360.3	359.7	359.5	355.4	339.0	334.4	330.6	†328.6	330.2	320.9	317.8	317.5
13-8	Glass containers	360.7	361.9	365.0	366.3	366.1	364.6	364.9	364.2	364.2	†363.7	364.2	370.7	371.4	372.3
13-9	Other nonmetallic minerals	†500.1	494.9	499.2	507.1	511.4	509.8	508.9	505.8	507.3	†514.2	513.3	513.9	518.3	522.7
14	Transportation equipment (12/68 = 100)	†262.7	262.5	262.2	262.5	262.3	257.8	265.0	265.7	265.0	†266.8	268.1	268.0	268.5	268.4
14-1	Motor vehicles and equipment	†261.5	261.5	261.1	261.4	261.1	255.2	263.8	264.3	263.5	†265.2	266.7	266.6	266.6	266.5
14-4	Railroad equipment	†355.6	354.4	354.4	356.5	357.7	357.6	358.8	358.9	358.9	†359.9	361.7	362.7	364.0	362.6
15	Miscellaneous products	†295.9	294.3	295.7	297.3	298.2	296.7	296.5	296.5	296.7	†299.2	300.7	300.5	301.7	301.1
15-1	Toys, sporting goods, small arms, ammunition	227.1	228.8	226.5	226.5	226.5	227.0	227.4	227.6	227.7	†228.0	231.8	231.3	231.2	230.2
15-2	Tobacco products	†398.4	390.6	400.2	408.7	406.7	406.7	402.3	402.7	402.9	†420.1	420.4	420.6	420.7	420.7
15-3	Notions	283.2	283.9	283.9	283.9	283.9	283.9	283.5	283.5	283.6	283.6	284.1	284.1	285.6	285.6
15-4	Photographic equipment and supplies	†214.6	213.6	213.6	213.8	215.5	215.5	215.6	212.9	213.2	†213.6	213.9	215.9	215.8	215.8
15-5	Mobile homes (12/74 = 100)	163.3	163.7	162.7	162.9	163.2	163.6	163.6	164.4	164.3	†164.3	164.4	164.4	164.5	164.6
15-9	Other miscellaneous products	†350.5	350.4	350.0	350.1	353.2	346.9	348.5	349.6	350.1	†347.2	350.0	347.7	352.2	350.9

¹Data for January 1985 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

⁵Most prices for refined petroleum products are lagged 1 month.

⁶Some prices for industrial chemicals are lagged 1 month.

²Not available.

³Prices for natural gas are lagged 1 month.

⁴Includes only domestic production.

r = revised.

25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1984	1984									1985				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May	
All commodities—less farm products	313.8	314.7	314.8	315.3	314.4	313.3	314.2	314.7	314.1	314.2	313.6	313.5	314.3	315.5	
All foods	269.2	268.9	267.5	271.7	269.6	268.6	266.6	267.3	268.5	267.8	269.6	268.4	267.1	264.3	
Processed foods	269.8	271.4	269.0	272.8	270.0	269.1	268.3	270.3	271.2	271.1	270.7	269.9	268.4	267.6	
Industrial commodities less fuels	287.6	287.8	288.0	288.2	288.3	287.6	288.7	289.1	288.9	290.2	290.6	290.7	291.3	291.4	
Selected textile mill products (Dec. 1975 = 100)	142.2	142.7	142.7	142.7	142.9	143.0	142.9	142.8	142.3	142.3	143.0	142.6	142.5	142.3	
Hosiery	147.6	147.4	147.4	147.9	148.0	148.0	148.1	148.1	148.0	148.1	148.6	148.6	148.7	148.7	
Underwear and nightwear	230.0	230.9	228.8	230.2	230.3	230.6	230.6	230.5	230.3	232.5	231.9	232.3	234.7	234.9	
Chemicals and allied products, including synthetic rubber and fibers and yarns	289.7	291.1	290.5	291.3	290.2	289.9	290.0	290.0	289.4	290.6	291.2	291.5	292.2	292.0	
Pharmaceutical preparations	243.1	241.9	240.6	244.6	245.1	243.9	249.7	251.9	250.0	253.4	257.3	259.5	260.6	263.6	
Lumber and wood products, excluding millwork	318.5	320.4	317.2	312.2	315.0	311.4	307.6	307.4	309.6	311.5	308.8	309.2	305.8	315.4	
Steel mill products, including fabricated wire products	363.7	362.4	363.1	365.2	365.8	365.9	366.5	365.9	365.8	365.2	365.1	365.1	365.5	365.5	
Finished steel mill products, excluding fabricated wire products	365.5	364.1	364.8	367.0	367.5	367.5	368.1	367.5	367.4	366.8	366.7	366.6	367.0	366.8	
Finished steel mill products, including fabricated wire products	363.0	361.6	362.4	364.4	365.0	365.1	365.7	365.2	365.1	364.5	364.4	364.3	364.8	364.8	
Special metals and metal products	300.0	300.8	300.6	300.0	299.9	297.2	301.0	301.3	300.5	300.9	301.9	301.8	302.7	302.3	
Fabricated metal products	304.1	302.9	303.6	303.9	305.0	305.4	308.7	308.5	308.9	309.1	309.2	309.6	310.0	310.1	
Copper and copper products	186.0	191.8	189.5	184.4	183.3	182.5	178.1	183.0	180.1	179.3	184.9	182.2	189.0	188.8	
Machinery and motive products	286.3	285.9	286.1	286.8	286.8	284.8	288.4	289.0	288.8	291.0	291.3	291.6	292.0	292.2	
Machinery and equipment, except electrical	319.3	318.8	319.2	320.3	320.6	320.6	320.9	321.3	321.6	324.5	323.8	324.5	325.0	325.4	
Agricultural machinery, including tractors	353.6	357.0	356.5	357.2	357.5	355.2	354.8	354.0	354.8	355.9	355.5	356.5	356.6	357.0	
Metalworking machinery	364.9	363.2	363.3	364.6	365.1	366.6	368.8	370.4	371.4	370.3	371.9	374.9	374.6	375.1	
Total tractors	381.5	386.8	386.7	386.9	385.7	382.6	381.0	379.5	379.7	385.2	383.8	384.2	384.4	385.2	
Agricultural machinery and equipment less parts	341.0	343.6	343.0	344.0	344.3	342.3	342.0	341.5	342.3	343.3	343.1	343.9	343.9	344.4	
Farm and garden tractors less parts	360.4	365.8	365.7	366.0	367.0	362.3	359.9	357.6	358.0	360.4	359.0	359.6	360.0	360.3	
Agricultural machinery, excluding tractors less parts	348.5	350.1	349.2	350.4	350.1	349.8	350.8	351.3	352.5	352.4	353.0	354.2	354.0	354.6	
Construction materials	306.4	306.2	306.3	306.7	307.6	307.2	307.2	307.0	307.7	308.5	308.1	308.1	308.6	310.6	

¹Data for January 1985 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

26. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1984	1984									1985				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May	
Total durable goods	293.6	293.8	293.8	293.8	293.9	292.7	294.4	294.9	294.8	295.8	296.3	296.4	297.1	297.5	
Total nondurable goods	323.3	325.3	324.9	326.0	323.7	322.3	320.9	322.1	321.3	320.1	318.9	317.9	318.4	319.2	
Total manufactures	302.9	303.8	303.9	304.3	303.3	302.2	303.2	303.9	303.5	303.9	303.2	303.3	304.1	305.0	
Durable	293.9	293.9	294.0	294.2	294.5	293.2	295.1	295.6	295.5	296.5	296.9	297.0	297.7	298.2	
Nondurable	312.3	314.1	314.2	314.8	312.6	311.7	311.6	312.5	311.7	311.4	309.6	309.8	310.7	312.0	
Total raw or slightly processed goods	346.6	350.1	348.0	349.6	346.9	344.4	339.1	341.0	339.8	336.7	337.4	333.3	332.7	331.2	
Durable	266.7	277.9	273.3	264.5	259.6	260.6	255.9	254.2	252.2	256.0	259.6	261.1	262.2	255.6	
Nondurable	351.4	354.3	352.3	354.7	352.2	349.4	344.2	346.3	345.1	341.5	342.0	337.5	336.8	335.7	

¹Data for January 1985 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

27. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1984	1984								1985				
			May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ¹	Feb.	Mar.	Apr.	May
MINING															
1092	Mercury ores (12/75 = 100)	264.3	273.7	271.6	264.6	249.1	257.1	271.6	276.6	267.9	264.1	262.1	262.1	260.0	243.7
1311	Crude petroleum and natural gas	913.7	914.1	918.4	921.6	928.3	918.2	916.2	906.2	901.6	880.3	879.2	866.8	868.6	891.6
MANUFACTURING															
2074	Cottonseed oil mills	209.2	245.3	243.1	223.2	210.2	205.0	172.9	166.9	177.7	166.4	169.1	163.2	164.8	165.0
2083	Malt	240.4	241.6	241.6	241.6	241.6	241.6	241.6	234.5	234.5	226.5	226.5	226.5	226.5	226.5
2098	Macaroni and spaghetti	261.6	261.9	261.9	261.9	261.9	261.9	261.9	261.9	258.6	258.6	258.6	261.9	258.6	258.6
2298	Cordage and twine (12/77 = 100)	138.9	139.4	139.4	138.6	138.5	138.5	138.5	138.5	138.5	138.5	138.5	138.5	138.5	138.5
2381	Fabric dress and work gloves	310.5	315.6	315.6	315.6	315.6	315.6	315.6	315.6	315.6	313.5	314.9	314.9	314.9	314.9
2394	Canvas and related products (12/77 = 100)	151.1	150.6	150.6	150.6	150.6	152.1	152.1	152.1	152.1	152.1	152.9	152.9	152.5	152.5
2448	Wood pallets and skids (12/75 = 100)	164.2	165.1	165.4	168.6	168.6	168.7	168.3	168.2	168.5	169.0	169.3	169.4	170.1	170.1
2521	Wood office furniture	290.4	289.2	289.2	289.1	289.2	291.1	291.2	295.1	298.6	299.8	301.0	301.0	303.1	303.2
2654	Sanitary food containers	279.1	280.6	280.7	280.6	280.7	281.3	281.4	281.5	281.4	283.9	288.3	289.7	289.8	288.6
2655	Fiber cans, drums, and similar products (12/75 = 100)	193.7	193.1	193.1	194.7	194.7	194.8	194.8	197.8	197.8	199.1	200.0	200.0	200.0	199.9
2911	Petroleum refining (6/76 = 100)	244.2	248.1	248.8	246.5	240.1	237.5	240.9	242.7	239.4	233.2	225.4	226.7	232.7	240.9
3253	Ceramic wall and floor tile (12/75 = 100)	151.2	149.6	149.6	149.6	153.4	153.4	153.4	153.4	153.4	153.4	150.5	150.5	150.5	150.5
3255	Clay refractories	371.9	371.5	371.7	371.6	371.4	371.4	371.4	378.8	378.8	379.4	381.5	383.3	387.3	391.7
3259	Structural clay products, n.e.c.	232.6	232.4	232.4	232.4	232.3	232.4	232.4	232.4	232.5	237.1	237.6	237.5	237.6	237.7
3261	Vitreous plumbing fixtures	292.7	290.8	292.5	293.1	293.9	295.6	297.7	297.6	298.1	297.9	298.8	298.1	299.3	302.7
3263	Fine earthenware food utensils	377.5	376.5	372.1	373.3	374.0	374.8	375.9	378.2	379.4	382.3	395.2	385.5	369.5	373.7
3269	Pottery products, n.e.c. (12/75 = 100)	192.1	192.2	186.3	187.6	187.6	197.7	195.2	195.3	195.3	198.8	199.4	199.4	198.9	199.0
3274	Lime (12/75 = 100)	183.0	184.1	183.3	180.3	179.6	187.2	180.5	182.1	183.0	187.4	185.2	185.2	182.3	182.5
3297	Nonclay refractories (12/74 = 100)	219.2	220.1	220.1	219.9	219.9	220.3	219.9	220.2	220.2	220.5	220.4	220.4	220.4	220.5
3482	Small arms ammunition (12/75 = 100)	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	195.9	205.5	205.5	205.5	205.5
3648	Lighting equipment, n.e.c. (12/75 = 100)	186.6	185.6	185.7	186.3	188.1	188.2	194.4	196.9	196.9	196.9	197.4	196.1	195.5	195.7
3671	Electron tubes, receiving type	497.2	490.9	491.3	491.6	491.6	491.8	492.0	527.2	527.2	546.9	547.0	547.0	547.0	547.1
3942	Dolls (12/75 = 100)	134.4	133.4	133.6	133.6	133.6	133.6	133.6	133.6	133.6	134.6	134.4	134.5	134.5	134.5
3944	Games, toys, and children's vehicles	239.5	239.1	239.2	239.2	239.1	239.3	239.4	239.4	239.4	240.9	241.6	243.1	242.9	242.9
3955	Carbon paper and inked ribbons (12/75 = 100)	145.7	149.1	149.1	146.7	146.7	146.7	139.7	139.7	139.7	139.7	139.4	129.5	128.6	126.3
3996	Hard surface floor coverings (12/75 = 100)	167.5	166.4	166.4	168.7	168.8	168.8	169.7	169.7	169.7	172.1	171.4	172.1	172.1	172.1

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r = revised.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from measures of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross product produced by the particular sector. **Output per hour of all persons** (labor productivity) measures the value of goods and services in constant prices produced per hour of labor. **Output per unit of capital services** (capital productivity) measures the value of goods and services in constant dollars per unit of capital services input.

Multifactor productivity measures the output per unit of combined labor and capital input. The traditional measure of output per hour reflects changes in capital per hour and a combination of other factors—such as, changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. The multifactor productivity measure differs from the familiar BLS measure of output per hour of all persons in that it excludes the effects of the substitution of capital for labor.

Compensation per hour includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor costs measure the labor compensation costs required to produce a unit of output and is 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 gross product and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and the value of inventory adjustments per unit of output.

The **implicit price deflator** is the price index for the gross product of the sector reported. It is derived by dividing the current dollar gross product by the constant dollar figures.

Hours of all persons measures the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all employee**

hour describes labor productivity in nonfinancial corporations where there are no self-employed. The **capital services** input index used in the multifactor productivity computation is developed by BLS 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 input** are computed by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital 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

In the business sector and the nonfarm business sector, the output measure employed in the computation of output per hour is constructed from Gross Domestic Product rather than Gross National Product. Multifactor productivity measures (table 28) for the *private* business and *private* nonfarm business sectors differ from the business and nonfarm business sector measures used in the traditional labor productivity indexes (tables 29–32) in that they exclude the activities of government enterprises. There is no difference in the sector definition for manufacturing.

Output measures for the business sectors are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in the tables describe the relationship between output in real terms and the labor time and capital services 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; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force. For a more complete description of the methodology underlying the multifactor productivity measures, see Bulletin 2178, "Trends in Multifactor Productivity, 1948–81" (September 1983).

28. Annual indexes of multifactor productivity and related measures, selected years, 1950-83

[1977 = 100]

Item	1950	1960	1970	1973	1974	1975	1976	1978	1979	1980	1981	1982	1983
PRIVATE BUSINESS SECTOR													
Productivity:													
Output per hour of all persons	49.7	64.8	86.1	94.8	92.5	94.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7
Output per unit of capital services	98.6	98.5	98.5	103.0	96.5	92.0	96.1	101.8	100.3	95.6	94.1	89.6	92.3
Multifactor productivity	63.6	75.4	90.2	97.5	93.8	93.6	97.1	101.0	99.7	97.6	98.3	96.8	99.6
Output	39.5	53.3	78.3	91.8	89.9	88.0	93.7	105.5	107.9	106.4	109.2	106.3	111.1
Inputs:													
Hours of all persons	79.4	82.2	90.8	96.8	97.2	93.1	95.9	105.0	108.6	107.8	108.5	105.4	107.2
Capital services	40.1	54.1	79.4	89.1	93.1	95.7	97.5	103.6	107.5	111.4	116.0	118.7	120.3
Combined units of labor and capital input	62.1	70.7	86.7	94.1	95.8	94.0	96.5	104.5	108.2	109.0	111.0	109.8	111.5
Capital per hour of all persons	50.4	65.8	87.4	92.0	95.9	102.8	101.6	98.7	98.9	103.3	106.9	112.6	112.3
PRIVATE NONFARM BUSINESS SECTOR													
Productivity:													
Output per hour of all persons	55.6	68.0	86.8	95.3	92.9	94.8	97.8	100.6	99.0	98.2	99.6	99.9	103.5
Output per unit of capital services	98.2	98.4	98.6	103.2	96.5	91.7	96.1	101.9	100.1	95.2	93.2	88.7	91.9
Multifactor productivity	68.1	77.6	90.7	97.9	94.1	93.6	97.2	101.0	99.4	97.2	97.4	95.9	99.3
Output	38.3	52.3	77.8	91.7	89.7	87.6	93.6	105.7	108.0	106.4	108.7	105.9	111.3
Inputs:													
Hours of all persons	69.0	77.0	89.7	96.2	96.5	92.4	95.7	105.1	109.1	108.4	109.1	106.0	107.6
Capital services	39.0	53.2	78.9	88.8	93.0	95.6	97.4	103.7	107.9	111.7	116.6	119.4	121.2
Combined units of labor and capital input	56.2	67.4	85.9	93.6	95.3	93.5	96.3	104.6	108.7	109.5	111.6	110.4	112.0
Capital per hour of all persons	56.6	69.1	88.0	92.4	96.3	103.4	101.8	98.7	98.9	103.1	106.8	112.6	112.6
MANUFACTURING													
Productivity:													
Output per hour of all persons	49.4	60.0	79.2	93.0	90.8	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6
Output per unit of capital services	94.5	88.0	91.8	108.2	99.6	89.4	96.1	101.5	99.5	90.7	89.9	82.9	87.6
Multifactor productivity	59.9	67.0	82.3	96.8	93.1	92.2	97.1	101.1	101.0	98.8	100.8	100.3	104.9
Output	38.6	50.7	77.0	95.9	91.9	85.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4
Inputs:													
Hours of all persons	78.2	84.4	97.3	103.1	101.2	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5
Capital services	40.9	57.5	83.9	88.6	92.2	95.5	97.4	103.8	108.8	114.1	118.0	119.8	119.2
Combined units of labor and capital input	64.5	75.6	93.5	99.0	98.7	92.6	96.3	104.2	107.1	104.8	105.2	99.0	99.5
Capital per hour of all persons	52.3	68.2	86.2	85.9	91.1	104.5	101.6	99.4	102.1	112.2	116.7	129.2	127.5

29. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950-84

[1977 = 100]

Item	1950	1955	1960	1965	1970	1975	1978	1979	1980	1981	1982	1983	1984
Business sector:													
Output per hour of all persons	50.4	58.3	65.2	78.3	86.2	94.6	100.5	99.3	98.8	100.7	100.9	103.7	107.0
Compensation per hour	20.0	26.4	33.9	41.7	58.2	85.6	108.5	118.7	131.1	143.4	155.0	161.7	168.6
Real compensation per hour	50.5	59.7	69.5	80.1	90.8	96.4	100.8	99.1	96.4	95.5	97.3	98.4	98.4
Unit labor costs	39.8	45.2	52.1	53.3	67.5	90.5	108.0	119.5	132.6	142.4	153.6	156.0	157.6
Unit nonlabor payments	43.4	47.6	50.6	57.6	63.2	90.4	106.7	112.8	119.3	136.7	136.8	145.5	157.0
Implicit price deflator	41.0	46.0	51.6	54.7	66.0	90.4	107.5	117.2	128.1	140.4	147.9	152.4	157.4
Nonfarm business sector:													
Output per hour of all persons	56.3	62.8	68.3	80.5	86.8	94.8	100.6	99.0	98.3	99.8	100.0	103.4	106.2
Compensation per hour	21.9	28.3	35.7	42.8	58.7	86.1	108.6	118.4	130.6	143.1	154.5	162.0	168.7
Real compensation per hour	55.1	64.0	73.1	82.3	91.5	96.9	100.8	98.8	96.0	95.3	97.0	98.6	98.4
Unit labor costs	38.8	45.1	52.3	53.2	67.6	90.8	108.0	119.5	132.8	143.5	154.5	156.6	158.8
Unit nonlabor payments	42.7	47.8	50.4	58.0	63.8	88.5	105.3	110.4	118.6	135.0	136.9	147.0	156.9
Implicit price deflator	40.1	46.0	51.6	54.8	66.3	90.0	107.1	116.5	128.1	140.6	148.6	153.4	158.2
Nonfinancial corporations:													
Output per hour of all persons	(1)	(1)	68.0	82.0	87.4	95.5	100.8	100.6	99.7	101.6	102.6	106.1	108.5
Compensation per hour	(1)	(1)	37.0	43.9	59.4	86.1	108.4	118.6	130.8	143.1	154.6	161.0	166.6
Real compensation per hour	(1)	(1)	75.8	84.3	92.7	97.0	100.7	99.0	96.2	95.3	97.0	97.9	97.2
Unit labor costs	(1)	(1)	54.4	53.5	68.0	90.2	107.5	117.8	131.2	140.9	150.6	151.8	153.6
Unit nonlabor payments	(1)	(1)	54.6	60.8	63.1	90.8	104.2	106.9	117.4	135.1	138.1	149.1	158.8
Implicit price deflator	(1)	(1)	54.5	56.1	66.3	90.4	106.4	114.1	126.4	138.9	146.3	150.9	155.4
Manufacturing:													
Output per hour of all persons	49.4	56.4	60.0	74.6	79.2	93.4	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Compensation per hour	21.5	28.8	36.7	42.8	57.6	85.5	108.3	118.8	132.7	145.2	158.0	163.4	169.4
Real compensation per hour	54.0	65.1	75.1	82.3	89.8	96.2	100.6	99.2	97.6	96.8	99.2	99.4	98.8
Unit labor costs	43.4	51.0	61.1	57.5	72.7	91.5	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Unit nonlabor payments	54.3	58.6	61.1	69.4	65.1	87.3	102.7	99.9	97.9	111.6	110.5	128.8	P140.3
Implicit price deflator	46.6	53.2	61.1	61.0	70.5	90.3	106.0	112.0	120.9	130.6	136.7	141.2	P144.7

¹ Not available.

p = preliminary.

30. Annual changes in productivity, hourly compensation, unit costs, and prices, 1974-84

Item	Year											Annual rate of change	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1950-84	1974-84
Business sector:													
Output per hour of all persons	-2.4	2.2	3.3	2.4	0.5	-1.2	-0.5	1.9	0.2	2.7	3.2	2.2	1.5
Compensation per hour	9.4	9.6	8.5	7.7	8.5	9.4	10.4	9.4	8.1	4.3	4.2	6.5	8.0
Real compensation per hour	-1.4	0.5	2.6	1.2	0.8	-1.7	-2.7	-0.9	1.9	1.1	0.0	2.0	0.3
Unit labor costs	12.1	7.3	5.1	5.1	8.0	10.7	11.0	7.3	7.9	1.6	1.0	4.1	6.4
Unit nonlabor payments	4.4	15.1	4.0	6.4	6.7	5.8	5.7	14.6	0.1	6.3	7.9	3.9	7.2
Implicit price deflator	9.5	9.8	4.7	5.6	7.5	9.0	9.3	9.6	5.3	3.0	3.2	4.0	6.7
Nonfarm business sector:													
Output per hour of all persons	-2.5	2.0	3.2	2.2	0.6	-1.5	-0.7	1.5	0.2	3.5	2.7	1.9	1.3
Compensation per hour	9.4	9.6	8.1	7.5	8.6	9.0	10.3	9.6	8.0	4.9	4.1	6.2	8.0
Real compensation per hour	-1.4	0.4	2.2	1.0	0.8	-2.0	-2.8	-0.7	1.7	1.6	-0.1	1.7	0.2
Unit labor costs	12.2	7.5	4.7	5.2	8.0	10.7	11.1	8.0	7.7	1.4	1.4	4.2	6.5
Unit nonlabor payments	5.9	16.7	5.7	6.9	5.3	4.8	7.4	13.8	1.4	7.4	6.7	3.9	7.5
Implicit price deflator	10.2	10.3	5.1	5.7	7.1	8.8	10.0	9.8	5.7	3.2	3.1	4.1	6.8
Nonfinancial corporations:													
Output per hour of all employees	-3.7	2.9	2.9	1.8	0.8	-0.2	-0.9	1.9	1.0	3.3	2.3	(1)	1.5
Compensation per hour	9.4	9.6	7.9	7.6	8.4	9.4	10.3	9.4	8.0	4.2	3.5	(1)	8.3
Real compensation per hour	-1.5	0.4	2.0	1.1	0.7	-1.7	-2.8	-0.9	1.8	0.9	-0.8	(1)	0.2
Unit labor costs	13.6	6.5	4.9	5.7	7.5	9.6	11.3	7.4	6.9	0.8	1.1	(1)	6.7
Unit nonlabor payments	7.1	20.1	4.6	5.3	4.2	2.6	9.8	15.1	2.3	7.9	6.5	(1)	7.8
Implicit price deflator	11.4	10.9	4.8	5.6	6.4	7.2	10.8	9.8	5.3	3.1	3.0	(1)	7.1
Manufacturing:													
Output per hour of all persons	-2.4	2.9	4.5	2.5	0.9	0.7	0.2	3.1	2.1	4.3	3.5	2.5	2.4
Compensation per hour	10.6	11.9	8.0	8.3	8.3	9.7	11.7	9.4	8.8	3.4	3.6	6.3	8.3
Real compensation per hour	-0.3	2.5	2.1	1.8	0.6	-1.4	-1.6	-0.9	2.5	0.2	-0.6	1.8	0.3
Unit labor costs	13.3	8.8	3.4	5.7	7.3	9.0	11.5	6.1	6.6	-0.8	-0.1	3.6	5.7
Unit nonlabor payments	-1.8	25.9	7.5	6.5	2.7	-2.6	-2.1	14.1	-1.0	16.5	8.9	2.8	7.3
Implicit price deflator	9.0	13.1	4.6	6.0	6.0	5.7	7.9	8.0	4.7	3.3	2.5	3.4	6.1

¹ Not available.

r = revised.

31. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1977 = 100]

Item	Annual average		Quarterly indexes										
			1982		1983				1984				1985
	1983	1984	III	IV	I	II	III	IV	I	II	III	IV	I
Business sector:													
Output per hour of all persons	103.7	107.0	100.9	101.6	102.2	103.6	104.3	104.7	105.7	107.0	107.2	108.0	(1)107.1
Compensation per hour	161.7	168.6	156.7	158.4	160.2	161.0	161.8	164.2	166.7	167.5	169.3	171.1	(1)173.3
Real compensation per hour	98.4	98.4	97.3	98.0	99.0	98.5	97.9	98.4	98.6	98.2	98.3	98.5	(1)99.0
Unit labor costs	156.0	157.6	155.3	155.9	156.8	155.4	155.1	156.8	157.7	156.5	158.0	158.4	(1)161.9
Unit nonlabor payments	145.5	157.0	135.8	136.5	139.8	144.6	147.9	149.1	151.6	157.2	158.5	160.2	(1)159.5
Implicit price deflator	152.4	157.4	148.7	149.3	151.0	151.7	152.7	154.2	155.6	156.7	158.1	159.0	(1)161.1
Nonfarm business sector:													
Output per hour of all persons	103.4	106.2	100.3	100.5	101.6	103.6	104.1	104.4	105.2	106.6	106.3	106.9	(1)106.2
Compensation per hour	162.0	168.7	156.0	157.9	160.1	161.5	162.4	164.0	166.5	168.0	169.5	171.0	(1)173.3
Real compensation per hour	98.6	98.4	96.8	97.7	99.0	98.8	98.3	98.3	98.4	98.4	98.4	98.5	(1)99.0
Unit labor costs	156.6	158.8	155.6	157.1	157.6	155.9	155.9	157.1	158.3	157.6	159.5	160.0	(1)163.2
Unit nonlabor payments	147.0	156.9	136.8	136.4	140.6	146.4	149.4	151.4	152.2	156.8	158.0	160.3	(1)160.9
Implicit price deflator	153.4	158.2	149.3	150.2	151.9	152.7	153.8	155.2	156.3	157.3	159.0	160.1	(1)162.4
Nonfinancial corporations:													
Output per hour of all employees	106.1	108.5	103.3	103.2	104.0	105.8	107.2	107.2	108.1	108.9	108.2	108.8	(1)108.1
Compensation per hour	161.0	166.6	156.2	157.7	159.2	160.6	161.8	162.6	164.8	165.8	167.1	168.7	(1)170.4
Real compensation per hour	97.9	97.2	97.0	97.5	98.4	98.2	97.9	97.4	97.5	97.2	97.1	97.1	(1)97.3
Total unit costs	155.2	156.4	154.7	157.0	156.7	155.2	154.4	154.7	155.0	155.0	157.5	158.0	(1)160.5
Unit labor costs	151.8	153.6	151.3	152.9	153.1	151.7	150.9	151.7	152.5	152.3	154.5	155.0	(1)157.6
Unit nonlabor costs	164.9	164.3	164.4	168.8	167.0	165.1	164.4	163.3	162.0	162.8	165.9	166.4	(1)168.6
Unit profits	117.2	147.6	86.6	75.6	92.5	111.8	126.6	135.9	143.2	151.1	145.3	147.6	(1)150.3
Implicit price deflator	150.9	155.4	146.9	147.7	149.4	150.2	151.2	152.6	153.6	154.6	156.1	157.1	(1)159.3
Manufacturing:													
Output per hour of all persons	111.6	115.6	108.8	107.9	109.2	110.9	113.4	113.0	114.0	115.0	117.0	116.3	(1)116.5
Compensation per hour	163.4	169.4	159.8	161.0	162.7	163.0	163.5	164.6	167.1	168.3	169.9	172.1	(1)174.5
Real compensation per hour	99.4	98.8	99.2	99.6	100.6	99.6	98.9	98.6	98.8	98.6	98.7	99.1	(1)99.6
Unit labor costs	146.4	146.5	146.9	149.3	149.0	147.0	144.1	145.7	146.6	146.4	145.2	147.9	(1)149.8

r = revised.

p = preliminary.

32. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1983 to IV 1983	IV 1983 to I 1984	I 1984 to II 1984	II 1984 to III 1984	III 1984 to IV 1984	IV 1984 to I 1985	IV 1982 to IV 1983	I 1983 to I 1984	II 1983 to II 1984	III 1983 to III 1984	IV 1983 to IV 1984	I 1984 to I 1985
Business sector:												
Output per hour of all persons	1.4	4.0	4.9	0.6	3.1	-1.9	3.1	3.5	3.3	2.7	3.2	r1.2
Compensation per hour	6.1	6.2	1.9	4.4	4.4	5.7	3.7	4.1	4.0	4.6	4.2	r3.9
Real compensation per hour	1.9	0.8	-1.8	0.7	0.8	2.3	0.4	-0.4	-0.3	0.4	0.1	r0.4
Unit labor costs	4.6	2.1	-2.9	3.7	1.2	7.8	0.6	0.6	0.7	1.9	1.0	r2.7
Unit nonlabor payments	3.1	7.0	15.4	3.4	4.3	-0.7	9.2	8.4	8.7	7.1	7.4	r5.2
Implicit price deflator	4.1	3.7	2.9	3.6	2.2	4.8	3.3	3.0	3.3	3.6	3.1	r3.5
Nonfarm business sector:												
Output per hour of all persons	1.0	2.9	5.5	-1.1	2.2	-1.2	3.9	3.5	2.9	2.1	2.4	r1.0
Compensation per hour	4.1	6.1	3.7	3.6	3.7	6.0	3.9	4.0	4.0	4.4	4.3	r4.1
Real compensation per hour	-0.0	0.7	0.0	0.1	0.1	2.6	0.6	-0.5	-0.3	0.2	0.2	r0.5
Unit labor costs	3.0	3.1	-1.7	4.7	1.4	7.3	0.0	0.4	1.1	2.3	1.9	r3.1
Unit nonlabor payments	5.3	2.3	12.5	3.1	5.9	1.9	10.9	8.3	7.1	5.7	5.9	r5.7
Implicit price deflator	3.7	2.8	2.8	4.2	2.9	5.5	3.3	2.9	3.0	3.4	3.2	r3.9
Nonfinancial corporations:												
Output per hour of all employees	-0.2	3.6	2.8	-2.5	2.5	p-2.8	3.9	4.0	2.9	0.9	1.6	p0.0
Compensation per hour	2.0	5.7	2.4	3.2	3.7	p4.0	3.1	3.6	3.3	3.3	3.8	p3.3
Real compensation per hour	-2.1	0.4	-1.3	-0.4	0.2	p0.7	-0.1	-0.9	-1.0	-0.9	-0.3	p0.2
Total units costs	0.8	0.6	0.2	6.5	1.2	p6.6	-1.5	-1.1	-0.1	2.0	2.1	p3.6
Unit labor costs	2.1	2.0	-0.4	5.9	1.2	p7.0	-0.8	-0.4	0.4	2.4	2.2	p3.4
Unit nonlabor costs	-2.6	-3.2	2.0	8.0	1.1	p5.5	-3.2	-3.0	-1.4	0.9	1.9	p4.1
Unit profits	32.6	23.4	23.8	-14.5	16.0	p-1.3	79.8	54.8	35.2	14.7	10.9	p4.9
Implicit price deflator	3.6	2.7	2.6	3.9	2.7	p5.7	3.3	2.8	2.9	3.2	3.0	p3.7
Manufacturing:												
Output per hour of all persons	-1.4	3.5	3.6	7.1	-2.2	r0.6	4.8	4.4	3.7	3.1	2.9	r2.2
Compensation per hour	2.9	6.2	r2.9	3.7	5.2	r5.8	2.2	2.7	3.3	3.9	4.5	r4.4
Real compensation per hour	-1.2	0.8	-0.8	0.1	1.6	r2.4	-1.0	-1.7	-1.0	-0.3	0.4	r0.8
Unit labor costs	4.3	2.6	-0.6	-3.1	7.6	5.1	-2.4	-1.6	-0.4	0.8	1.5	2.1

r = revised.

p = preliminary.

WAGE AND COMPENSATION DATA

DATA FOR THE EMPLOYMENT COST INDEX are reported to the Bureau of Labor Statistics by a sample of 2,000 private nonfarm establishments and 750 State and local government units selected to represent total employment in those sectors. On average, each reporting unit provides wage and compensation information on five well-specified occupations.

Data on negotiated wage and benefit changes are obtained from contracts on file at the Bureau, direct contact with the parties, and secondary sources.

Definitions

The **Employment Cost Index (ECI)** is a quarterly measure of the average change in the cost of employing labor. The rate of total compensation, which comprises wages, salaries, and employer costs for employee benefits, is collected for workers performing specified tasks. Employment in each occupation is held constant over time for all series produced in the ECI, except those by region, bargaining status, and area. As a consequence, only changes in compensation are measured. Industry and occupational employment data from the 1970 Census of Population are used in deriving constant weights for the ECI. While holding total industry and occupational employment fixed, in the estimation of indexes by region, bargaining status, and area, the employment in those measures is allowed to vary over time in accord with changes in the sample. The rate of change (in percent) is available for wages and salaries, as well as for total compensation. Data are collected for the pay period including the 12th day of the survey months of March, June, September, and December. The statistics are neither annualized nor adjusted for seasonal influence.

Wages and salaries consist of earnings before payroll deductions, excluding premium pay for overtime, work on weekends and holidays, and shift differentials. Production bonuses, incentive earnings, commissions, and cost-of-living adjustments are included; nonproduction bonuses are included with other supplemental pay items in the benefits category; and payments-in-kind, free room and board, and tips are excluded. *Benefits* include supplemental pay, insurance, retirement and savings plans, and hours-related and legally required benefits.

Data on negotiated wage changes apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year* wage or compensation changes refer to average negotiated changes for workers covered by settlements reached in the period

and implemented within the first 12 months after the effective date of the agreement. *Changes over the life of the agreement* refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

Effective wage adjustments reflect all negotiated changes implemented in the reference period, regardless of the settlement date. They include changes from settlements reached during the period, changes deferred from contracts negotiated in an earlier period, and cost-of-living adjustments. The data also reflect contracts providing for no wage adjustment in the period. Effective adjustments and each of their components are prorated over all workers in bargaining units with at least 1,000 workers.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980, to produce a measure of the percent change in employers' cost for employees' total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy.

Data for the broad white-collar, blue-collar, and service worker groups, and the manufacturing, nonmanufacturing, and service industry groups are presented in the ECI. Additional occupation and industry detail are provided for the wages and salaries component of total compensation in the private nonfarm sector. For State and local government units, additional industry detail is shown for both total compensation and its wages and salaries component.

Historical indexes (June 1981 = 100) of the quarterly rates of changes presented in the ECI are also available.

For a more detailed discussion of the ECI, see chapter 11, "The Employment Cost Index," of the *BLS Handbook of Methods* (Bulletin 2134-1), and the *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor,'" July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; and "The Employment Cost Index: recent trends and expansion," May 1982.

Additional data for the ECI and other measures of wage and compensation changes appear in *Current Wage Developments*, a monthly publication of the Bureau.

33. Employment Cost Index, by occupation and industry group

[June 1981 = 100]

Series	1983				1984				1985	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.		March	3 months ended
									March 1985		
Civilian workers¹	113.2	114.5	116.5	117.8	119.8	120.8	122.4	123.9	125.5	1.3	4.8
Workers, by occupational group											
White-collar workers	113.7	114.9	117.6	118.9	120.9	122.1	124.0	125.5	127.3	1.4	5.3
Blue-collar workers	112.3	113.6	114.8	115.8	117.7	118.6	119.6	120.9	122.2	1.1	3.8
Service workers	114.3	115.1	116.7	119.1	122.0	122.1	124.6	126.8	127.8	0.8	4.8
Workers, by industry division											
Manufacturing	112.5	113.5	115.0	116.0	117.9	119.1	120.4	122.0	123.9	1.6	5.1
Nonmanufacturing	113.5	114.9	117.2	118.6	120.7	121.6	123.3	124.8	126.2	1.1	4.6
Services	116.6	117.1	121.1	122.6	125.0	125.5	128.8	130.9	131.9	.8	5.5
Public administration ²	116.2	117.0	119.8	121.4	122.9	123.7	126.9	128.6	130.1	1.2	5.9
Private industry workers	112.6	113.9	115.6	117.0	119.0	120.1	121.1	122.7	124.2	1.2	4.4
Workers, by occupational group											
White-collar workers	112.8	114.2	116.5	117.9	119.9	121.4	122.4	123.9	125.8	1.5	4.9
Blue-collar workers	112.1	113.5	114.6	115.7	117.5	118.4	119.3	120.6	121.9	1.1	3.7
Service workers	113.8	114.6	115.1	117.9	121.5	121.2	123.2	125.7	126.3	.5	4.0
Workers, by industry division											
Manufacturing	112.5	113.5	115.0	116.0	117.9	119.1	120.4	122.0	123.9	1.6	5.1
Nonmanufacturing	112.6	114.2	116.0	117.5	119.6	120.7	121.6	123.1	124.4	1.1	4.0
State and local government workers	116.5	117.1	120.8	122.0	123.9	124.4	128.8	130.1	131.7	1.2	6.3
Workers, by occupational group											
White-collar workers	117.0	117.5	121.5	122.6	124.5	125.0	129.7	131.1	132.5	1.1	6.4
Blue-collar workers	114.9	115.8	118.0	119.2	121.9	122.3	125.0	125.9	128.1	1.7	5.1
Workers, by industry division											
Services	116.8	117.4	121.7	122.6	124.5	125.0	129.9	131.3	132.8	1.1	6.7
Schools	116.6	116.9	121.9	122.6	124.5	124.7	130.6	132.0	133.4	1.1	7.1
Elementary and secondary	117.2	117.4	123.3	123.9	125.4	125.7	132.1	133.5	134.4	.7	7.2
Hospitals and other services ³	117.5	118.8	121.1	122.6	124.4	125.7	127.9	129.2	131.1	1.5	5.4
Public administration ²	116.2	117.0	119.8	121.4	122.9	123.7	126.9	128.6	130.1	1.2	5.9

¹ Excludes farm, household, and Federal workers.

² Consists of legislative, judicial, administrative, and regulatory activities.

³ Includes, for example, library, social, and health services.

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

[June 1981 = 100]

Series	1983				1984				1985	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.		March	3 months ended
									March 1985		March 1985
Civilian workers¹	112.2	113.4	115.3	116.5	117.9	118.8	120.3	121.7	123.1	1.2	4.4
Workers, by occupational group											
White-collar workers	113.0	114.2	116.7	117.9	119.3	120.4	122.2	123.5	125.2	1.4	4.9
Blue-collar workers	110.8	112.0	113.1	114.0	115.3	116.1	117.0	118.2	119.3	0.9	3.5
Service workers	113.2	113.9	115.1	117.4	120.0	119.8	122.3	124.3	124.8	.4	4.0
Workers, by industry division											
Manufacturing	111.0	112.0	113.3	114.5	115.7	116.8	118.0	119.5	121.0	1.3	4.6
Nonmanufacturing	112.7	114.0	116.1	117.4	118.9	119.7	121.3	122.6	123.9	1.1	4.2
Services	115.8	116.3	120.1	121.3	123.3	123.8	127.2	128.9	129.7	.6	5.2
Public administration ²	114.6	115.4	118.2	119.4	120.4	121.3	124.4	125.7	127.0	1.0	5.5
Private industry workers	111.6	112.9	114.5	115.8	117.2	118.2	119.2	120.6	122.0	1.2	4.1
Workers, by occupational group											
White-collar workers	112.2	113.6	115.9	117.2	118.5	119.9	120.9	122.3	124.0	1.4	4.6
Professional and technical workers	114.8	115.9	119.9	120.4	122.2	123.8	125.2	127.3	127.7	.3	4.5
Managers and administrators	112.0	114.0	114.8	115.7	118.0	119.2	121.0	122.2	123.8	1.3	4.9
Salesworkers	105.7	107.1	108.4	111.2	110.2	111.9	110.5	111.6	116.3	4.2	5.5
Clerical workers	113.4	114.6	116.7	118.3	119.8	120.7	122.0	122.9	124.7	1.5	4.1
Blue-collar workers	110.7	111.9	112.9	113.9	115.1	115.9	116.7	118.0	119.1	.9	3.5
Craft and kindred workers	112.2	113.4	114.3	115.4	116.5	117.3	118.0	119.4	120.8	1.2	3.7
Operatives, except transport	110.0	111.1	112.3	113.6	114.9	115.8	116.6	117.9	118.9	.8	3.5
Transport equipment operatives	108.0	110.3	110.7	110.2	111.7	112.7	113.4	114.0	114.5	.4	2.5
Nonfarm laborers	109.0	109.8	110.8	112.1	112.9	114.1	114.7	115.9	116.7	.7	3.4
Service workers	112.9	113.5	113.7	116.5	119.8	119.3	121.2	123.7	123.8	.1	3.3
Workers, by industry division											
Manufacturing	111.0	112.0	113.3	114.5	115.7	116.8	118.0	119.5	121.0	1.3	4.6
Durables	111.1	111.8	112.9	114.4	115.7	116.6	117.7	119.1	120.6	1.3	4.2
Nondurables	110.9	112.3	113.9	114.6	115.8	117.1	118.6	120.2	121.6	1.2	5.0
Nonmanufacturing	112.0	113.4	115.2	116.5	118.0	119.0	119.9	121.2	122.6	1.2	3.9
Construction	110.4	112.1	112.2	112.9	113.3	114.0	114.3	114.4	115.5	1.0	1.9
Transportation and public utilities	112.9	114.7	115.7	116.8	118.5	119.3	119.9	120.7	121.7	.8	2.7
Wholesale and retail trade	108.5	110.8	111.5	112.3	114.3	116.0	116.5	118.1	118.8	.6	3.9
Wholesale trade	111.8	114.1	115.7	116.5	118.2	120.0	120.7	122.9	123.7	.7	4.7
Retail trade	107.2	109.4	109.9	110.6	112.8	114.4	114.9	116.2	116.9	.6	3.6
Finance, insurance, and real estate	110.6	111.1	113.5	116.9	116.1	116.9	115.3	115.8	122.0	5.4	5.1
Services	116.0	116.6	120.4	121.9	124.2	124.7	127.1	129.5	129.9	.3	4.6
State and local government workers	115.1	115.7	119.2	120.0	121.6	122.0	126.1	127.1	128.4	1.0	5.6
Workers, by occupational group											
White-collar workers	115.6	116.1	119.8	120.6	122.2	122.5	127.1	128.0	129.3	1.0	5.8
Blue-collar workers	113.3	114.3	116.4	116.9	119.1	119.6	121.9	122.5	124.2	1.4	4.3
Workers, by industry division											
Services	115.5	115.9	119.8	120.6	122.2	122.5	127.2	128.1	129.4	1.0	5.9
Schools	115.2	115.4	119.9	120.6	122.2	122.3	127.8	128.7	129.9	.9	6.3
Elementary and secondary	115.6	115.8	121.1	121.7	122.9	123.0	129.3	130.2	130.8	.5	6.4
Hospitals and other services ³	116.5	117.7	119.7	120.6	121.9	123.1	125.1	125.9	127.7	1.4	4.8
Public administration ²	114.6	115.4	118.2	119.4	120.4	121.3	124.4	125.7	127.0	1.0	5.5

¹Excludes farm, household, and Federal workers.

²Consists of legislative, judicial, administrative, and regulatory activities.

³Includes, for example, library, social, and health services.

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

[June 1981 = 100]

Series	1983				1984				1985	Percent change	
	March	June	Sept.	Dec.	March	June	Sept.	Dec.		3 months ended	12 months ended
									March 1985		
COMPENSATION											
Workers, by bargaining status ¹											
Union	114.5	116.0	117.8	118.8	120.6	121.7	122.6	123.9	124.8	0.7	3.5
Manufacturing	114.0	114.8	116.3	117.2	119.3	120.5	121.6	123.2	124.2	.8	4.1
Nonmanufacturing	114.9	117.1	119.2	120.4	121.9	122.8	123.6	124.5	125.3	.6	2.8
Nonunion	111.5	112.8	114.4	115.9	118.0	119.2	120.3	121.9	123.8	1.6	4.9
Manufacturing	111.2	112.3	113.8	114.9	116.6	117.9	119.3	120.8	123.6	2.3	6.0
Nonmanufacturing	111.6	113.0	114.7	116.4	118.6	119.8	120.7	122.4	123.9	1.2	4.5
Workers, by region ¹											
Northeast	112.6	114.3	116.0	117.5	118.9	120.7	122.4	123.8	125.1	1.1	5.2
South	112.5	113.5	115.6	117.1	119.7	120.7	122.7	122.2	124.2	1.6	3.8
North Central	110.9	112.5	113.9	114.7	117.2	117.9	119.7	120.8	122.0	1.0	4.1
West	115.4	116.6	118.0	120.0	121.0	122.2	122.5	124.9	126.8	1.5	4.8
Workers, by area size ¹											
Metropolitan areas	112.9	114.2	116.0	117.4	119.4	120.6	121.5	123.2	124.7	1.2	4.4
Other areas	110.8	112.3	113.4	114.5	116.7	117.4	119.0	119.8	121.4	1.3	4.0
WAGES AND SALARIES											
Workers, by bargaining status ¹											
Union	112.9	114.2	116.0	116.9	118.1	119.0	119.8	120.9	121.7	.7	3.0
Manufacturing	111.4	112.3	113.7	114.8	116.1	117.1	118.1	119.5	120.4	.8	3.7
Nonmanufacturing	114.3	116.0	118.3	118.9	120.1	120.7	121.3	122.1	122.8	.6	2.2
Nonunion	110.9	112.2	113.7	115.2	116.7	117.8	118.8	120.4	122.1	1.4	4.6
Manufacturing	110.7	111.8	113.0	114.2	115.4	116.5	117.9	119.5	121.5	1.7	5.3
Nonmanufacturing	111.0	112.4	114.0	115.6	117.2	118.3	119.2	120.7	122.3	1.3	4.4
Workers, by region ¹											
Northeast	112.0	113.6	115.3	116.6	117.4	118.9	120.5	121.9	123.0	.9	4.8
South	111.4	112.5	114.3	115.7	117.9	119.0	119.0	120.2	122.3	1.7	3.7
Midwest (formerly North Central)	110.1	111.5	112.8	113.6	115.5	116.0	117.8	118.7	119.6	.8	3.5
West	114.1	114.9	116.5	118.5	118.8	119.6	120.0	122.5	124.0	1.2	4.4
Workers, by area size ¹											
Metropolitan areas	111.9	113.2	114.9	116.2	117.6	118.6	119.5	121.0	122.4	1.2	4.1
Other areas	110.1	111.4	112.3	113.4	115.1	116.0	117.5	118.3	119.6	1.1	3.9

¹The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see *BLS Handbook of Methods, Bulletin 1910*.

36. Wage and compensation change, major collective bargaining settlements, 1980 to date

[In percent]

Measure	Annual average					Quarterly average									
						1983				1984				1985	
	1980	1981	1982	1983	1984	I	II	III	IV	I	II	III	IV	IP	
Total compensation changes, covering 5,000 workers or more, all industries:															
First year of contract	10.4	10.2	3.2	3.4	3.6	-1.6	4.4	5.0	4.9	5.1	3.5	2.7	3.7	3.6	
Annual rate over life of contract	7.1	8.3	2.8	3.0	2.8	1.4	3.6	4.3	3.1	4.7	3.2	3.1	2.0	3.1	
Wage rate changes covering at least 1,000 workers, all industries:															
First year of contract	9.5	9.8	3.8	2.6	2.4	-1.2	2.7	3.7	4.2	2.8	2.6	2.1	2.3	2.8	
Annual rate over life of contract	7.1	7.9	3.6	2.8	2.4	2.2	2.8	3.6	2.8	3.3	2.7	2.6	1.5	3.0	
Manufacturing:															
First year of contract	7.4	7.2	2.8	0.4	2.3	-3.4	1.3	3.4	2.9	2.5	2.6	2.3	2.2	0.1	
Annual rate over life of contract	5.4	6.1	2.6	2.1	1.5	4.5	.9	3.5	3.1	2.5	2.8	2.5	1.0	1.0	
Nonmanufacturing (excluding construction):															
First year of contract	9.5	9.8	4.3	5.0	3.4	3.3	5.9	5.8	4.8	4.2	4.3	2.0	3.9	5.1	
Annual rate over life of contract	6.6	7.3	4.1	3.7	3.8	5.3	5.2	4.3	2.7	4.8	4.2	2.8	3.8	4.6	
Construction:															
First year of contract	13.6	13.5	6.5	1.5	.5	.7	1.7	1.5	1.1	-3.6	1.1	2.0	-2.8	-1.6	
Annual rate over life of contract	11.5	11.3	6.3	2.4	1.0	2.4	2.1	2.9	2.6	-2.8	1.4	2.1	-.8	.3	

p = preliminary.

37. Effective wage adjustments in collective bargaining units covering 1,000 workers or more, 1980 to date

Measure	Year					Year and quarter									
						1983				1984				1985	
	1980	1981	1982	1983	1984	I	II	III	IV	I	II	III	IV	IP	
Average percent adjustment (including no change):															
All industries	9.9	9.5	6.8	4.0	3.7	0.3	1.3	1.2	1.1	0.9	0.9	1.2	0.7	0.7	
Manufacturing	10.2	9.4	5.2	2.7	4.3	-5	1.1	1.2	.9	1.2	1.0	1.0	1.1	.9	
Nonmanufacturing	9.7	9.5	7.9	4.8	3.3	.9	1.5	1.2	1.2	.7	.9	1.3	.4	.6	
From settlements reached in period	3.6	2.5	1.7	.8	.8	-.2	.3	.2	.6	.1	.1	.2	.3	.1	
Deferred from settlements reached in earlier period	3.5	3.8	3.6	2.5	2.0	.4	1.0	.8	.3	.4	.7	.7	.2	.6	
From cost-of-living clauses	2.8	3.2	1.4	.6	.9	.1	.1	.2	.2	.3	.2	.3	.2	.1	
Total number of workers receiving wage change (in thousands) ¹	—	8,648	7,852	6,530	6,195	2,875	3,061	3,025	2,887	2,694	2,482	2,386	1,850	2,047	
From settlements reached in period	—	2,270	1,907	2,327	1,851	448	561	599	996	295	355	406	911	122	
Deferred from settlements reached in earlier period	—	6,267	4,846	3,260	3,668	812	1,405	1,317	669	984	1,148	1,581	443	1,001	
From cost-of-living clauses	—	4,593	3,830	2,327	2,518	1,938	1,299	1,218	1,290	1,459	1,151	1,215	1,070	1,051	
Number of workers receiving no adjustments (in thousands)	—	145	483	1,187	1,123	4,842	4,656	4,693	4,830	4,624	4,835	4,932	5,467	5,269	

¹ The total number of workers who received adjustments does not equal the sum of workers that received each type of adjustment, because some workers received more than one type of adjustment during the period.

p = preliminary.

WORK STOPPAGE DATA

WORK STOPPAGES include all known strikes or lockouts involving 1,000 workers or more and lasting a full shift or longer. Data are based largely on newspaper accounts and cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

Estimates of days idle as a percent of estimated working time measure only the impact of larger strikes (1,000 workers or more). Formerly, these estimates measured the impact of strikes involving 6 workers or more; that is, the impact of virtually *all* strikes. Due to budget stringencies, collection of data on strikes involving fewer than 1,000 workers was discontinued with the December 1981 data.

38. Work stoppages involving 1,000 workers or more, 1947 to date						
Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (in thousands)	In effect during month (in thousands)	Number (in thousands)	Percent of estimated working time
1947	270		1,629		25,720	—
1948	245		1,435		26,127	.22
1949	262		2,537		43,420	.38
1950	424		1,698		30,390	.26
1951	415		1,462		15,070	.12
1952	470		2,746		48,820	.38
1953	437		1,623		18,130	.14
1954	265		1,075		16,630	.13
1955	363		2,055		21,180	.16
1956	287		1,370		26,840	.20
1957	279		887		10,340	.07
1958	332		1,587		17,900	.13
1959	245		1,381		60,850	.43
1960	222		896		13,260	.09
1961	195		1,031		10,140	.07
1962	211		793		11,760	.08
1963	181		512		10,020	.07
1964	246		1,183		16,220	.11
1965	268		999		15,140	.10
1966	321		1,300		16,000	.10
1967	381		2,192		31,320	.18
1968	392		1,855		35,567	.20
1969	412		1,576		29,397	.16
1970	381		2,468		52,761	.29
1971	298		2,516		35,538	.19
1972	250		975		16,764	.09
1973	317		1,400		16,260	.08
1974	424		1,796		31,809	.16
1975	235		965		17,563	.09
1976	231		1,519		23,962	.12
1977	298		1,212		21,258	.10
1978	219		1,006		23,774	.11
1979	235		1,021		20,409	.09
1980	187		795		20,844	.09
1981	145		729		16,908	.07
1982	96		656		9,061	.04
1983	81		909		17,461	.08
1984	62		376		8,499	.04
1984	January	6	28.0	42.9	505.3	.03
	February	3	9.4	42.4	379.5	.02
	March	2	3.0	16.5	296.3	.01
	April	7	28.5	38.4	657.3	.03
	May	5	8.1	39.2	587.6	.03
	June	5	23.7	45.9	761.1	.04
	July	8	70.8	106.4	1,228.0	.06
	August	5	24.2	103.9	1,634.5	.07
	September	10	107.9	122.9	731.0	.04
	October	4	18.0	39.6	562.1	.03
	November	4	12.0	32.3	500.1	.03
	December	3	42.5	59.0	655.8	.04
1985 ^p	January	2	4.7	16.0	278.3	.01
	February	4	29.3	43.9	259.3	.01
	March	4	15.2	48.2	698.5	.03
	April	3	6.2	14.1	229.5	.01
	May	2	6.9	14.8	203.3	.01

p = preliminary.

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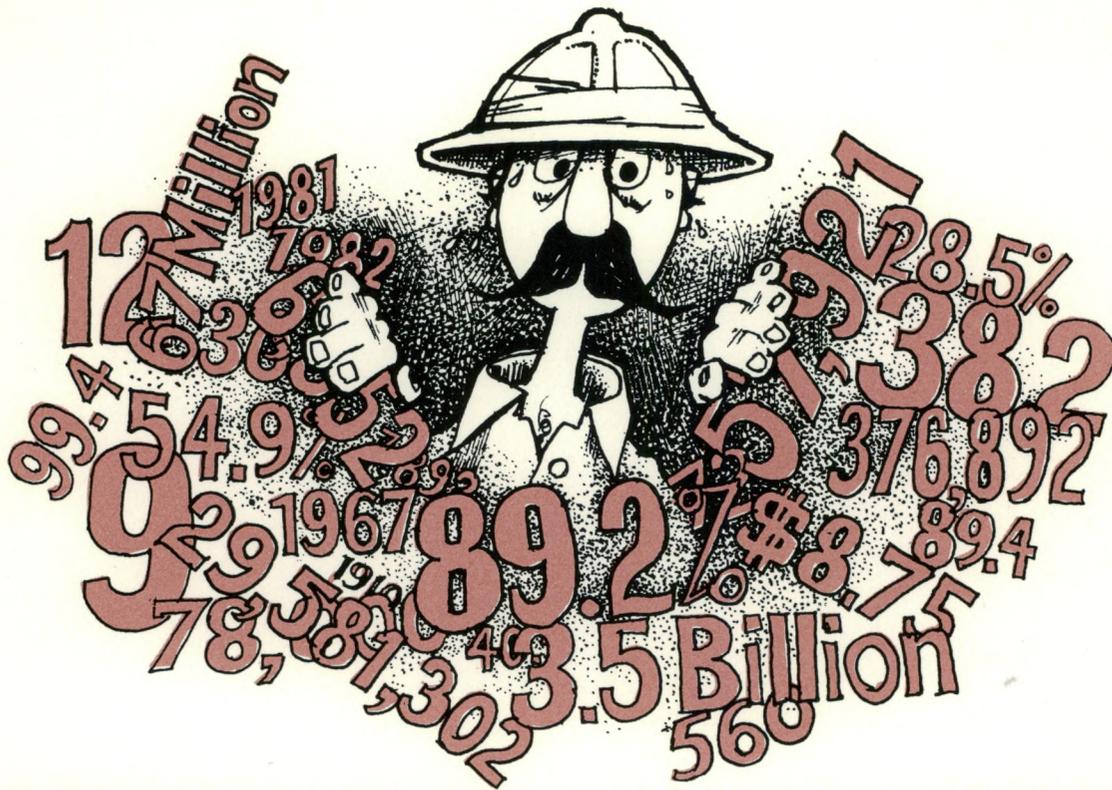
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