MONTHLY LABOR REVIEW
October 1972
U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics

In this issue:
Japan's labor economy

U.S. DEPARTMENT OF LABOR
James D. Hodgson, *Secretary*

BUREAU OF LABOR STATISTICS
Geoffrey H. Moore, *Commissioner*
Ben Burdetsky, *Deputy Commissioner*

The Monthly Labor Review is for sale by
the regional offices of the Bureau of Labor Statistics
and by the Superintendent of Documents,
U.S. Government Printing Office
Washington, D. C. 20402
Subscription price per year —
$9 domestic; $11.25 foreign.
Single copy 75 cents.
Correspondence regarding subscriptions
should be addressed to the Superintendent of Documents.

Communications on editorial matters
should be addressed to the Editor-in-Chief,
Monthly Labor Review, Bureau of Labor Statistics,
Washington, D. C. 20212
Phone: (202) 961-2327.

Use of funds for printing this publication
approved by the Director of the Bureau
of the Budget (October 31, 1967)

October cover:
"Landscape: clam gatherers on the shore,"
by Katsushika Hokusai (1760-1849),
Courtesy of Smithsonian Institution,
Freer Gallery of Art, Washington, D.C.

BUREAU OF LABOR STATISTICS
REGIONAL OFFICES AND DIRECTORS

Region I — Boston: *Wendell D. Macdonald*
1603 JFK Federal Building, Government Center, Boston, Mass. 02203
Phone: (617) 223-6761
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region II — New York: *Herbert Bienstock*
1515 Broadway, New York, N.Y. 10036
Phone: (212) 971-5405
New Jersey
New York
Puerto Rico
Virgin Islands

Region III — Philadelphia: *Frederick W. Mueller*
406 Penn Square Building, 1317 Filbert Street, Philadelphia, Pa. 19107
Phone: (215) 597-7796
Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Region IV — Atlanta: *Brunswick A. Bagdon*
1371 Peachtree Street, N.E., Atlanta, Ga. 30309
Phone: (404) 526-5416
Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region V — Chicago: *William E. Rice*
8th Floor, 300 South Wacker Drive, Chicago, Ill. 60606
Phone: (312) 353-1880
Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region VI — Dallas: *Jack Strickland*
1100 Commerce Street, Room 6B7,
Dallas, Texas 75202
Phone: (214) 749-3516
Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Regions VII and VIII — Kansas City: *Elliott A. Browar*
911 Walnut Street, Kansas City, Mo. 64106
Phone: (816) 374-2481
VII
Iowa
Kansas
Missouri
Nebraska
VIII
Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Regions iX and X — San Francisco: *Charles Roumasset*
450 Golden Gate Avenue, Box 36017, San Francisco, Calif. 94102
Phone: (415) 556-3178
IX
Arizona
California
Hawaii
Nevada
X
Alaska
Idaho
Oregon
Washington

MONTHLY LABOR REVIEW
Editor-in-Chief, Herbert C. Morton
Executive Editor, Henry L. Lowenstern

Robert Evans, Jr. 3 **Japan's labor economy—prospect for the future**
The paternalistic industrial system is not likely to be discarded soon; it affords cost flexibility and employment security

Michael F. Crowley 9 **Professional manpower: the job market turnaround**
Many college graduates starting work in the 1970's may have to change career goals

Kathleen Naughton 16 **Characteristics of jobless engineers**
Unemployment affects mostly the youngest and the oldest, primarily those without much experience or college education

Marc Rosenblum 22 **On the accuracy of labor force projections**
The gap between the projected women's labor force and the actual force is likely to grow

David Winchester 30 **The British coal mine strike of 1972**
The confrontation raised questions about inflation policy and enforcement of the new industrial relations act

Joseph P. Goldberg 37 **Public employee labor relations in other democracies**
Series of 12 monographs presents alternative approaches to a variety of problems confronting governments and their employees

Joseph L. Gastwirth 44 **On the decline of male labor force participation**

Joseph M. Davis 46 **Impact of health on earnings and labor market activity**

Joseph B. Rose 49 **What factors influence union representation elections?**

Leon E. Lunden 52 **International Association of Fire Fighters convention**

Richard R. Nelson 55 **American Federation of Teachers convention**

Edward J. Caramela 57 **Pay relationships in chemical plants unchanged as wages rise**

Edmund Nash 61 **U.S.S.R. economic and labor data for 1971**

Anne Kahl 62 **Romanian earnings data**

DEPARTMENTS

2 Labor month in review
44 Communications
52 Union conventions
57 Research summaries
61 Foreign labor briefs
66 Significant decisions in labor cases
71 Major agreements expiring next month
72 Developments in industrial relations
77 Book review and notes
94 Current labor statistics

OCTOBER 1972 VOLUME 95, NUMBER 10

Labor Month in Review

RAILROAD RETIREMENT: TROUBLE AHEAD. A special study commission reported to the President and the Congress that the 37-year-old railroad retirement system is threatened with bankruptcy. The commission urged both an increase in the tax rates to place financing on a sound, long-range basis and a change in the system's complicated structure. Under the proposed new structure, basic benefits would be paid through the social security system and a supplementary plan, based on railroad service, would augment retirement benefits.

The commission based its recommendations on 18 months of study of the history and future of the railroad industry, including a computerized actuarial model of the railroad retirement system. Here are some of the principal findings, as summarized by Michael S. March, the commission's executive director.

Although the volume of traffic moved by railroads is increasing, it is growing more slowly than the rest of the economy, and the trend of railroad employment is downward because productivity per worker is increasing faster than traffic. In 1920, the peak year, there were about 2 million workers. In the last two decades, average employment has declined from 1.4 million in 1950, to less than 600,000 in early 1972. The Commission projected a decline in average railway employment to 327,00 by the year 2000.

On the other hand, the number of railroad retirement beneficiaries has grown from only a few thousand in 1936 to 451,000 in 1950 and 992,000 individuals in March 1972. The average number of active railroad workers was about 4 per beneficiary in 1950; it was about 0.6 of a worker per beneficiary in 1971. Projections show that the number of beneficiaries will reach a peak in the early 1970's, and that beneficiaries will far exceed active workers until after the year 2000.

The railroad retirement system began in 1935 as a staff retirement system, emphasizing retirement and disability benefits geared to length of service. Now it provides many other benefits as well, including numerous provisions adopted by cross reference from the social security system. In 1941 only 4 percent of individual beneficiaries were survivors of workers; in 1971 nearly 37 percent.

Average railroad retirement benefits have been increasing, largely because (a) the railroad retirement formula has been compounded by successive percentage increases, (b) the formula has been applied to rising wages, and (c) more years of service have been allowed in computing benefits. For a retiree with wife, the average payment was $141 per month in 1951; in 1970 it reached an average of $310 per month for the couple, an increase of 120 percent, including supplemental benefits. There was a further 10-percent increase in 1971, and, in September 1972, about 28 percent of the railroad beneficiaries received an additional 20-percent increase.

The Railroad Retirement Account has never been actuarially fully funded. A sizable reserve was accumulated in the period before 1955, but in subsequent years the system has been increasingly moved toward a pay-as-you-go basis. In fiscal 1971 there was a substantial cash deficit.

The temporary 15-percent increase in benefits in 1970 and the 10-percent increase in 1971 were not covered by increased tax rates. The Commission's projections indicate that the system will run increasing deficits ranging to $1 billion a year by the year 2000, assuming the benefit-wage and tax rates prevailing in 1971. The fund will go broke in 1989 if the temporary 1970 and 1971 increase are continued; and in 1985 if a further 20-percent increase is enacted.

The Report of the Commission on Railroad Retirement, *The Railroad Retirement System: Its Coming Crisis,* $2.50, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Japan's labor economy--prospect for the future

The paternalistic industrial system is not likely to be discarded soon; in today's fast-moving economy, it affords cost flexibility and employment security

ROBERT EVANS, JR.

WRITING IN 1915, Thorstein Veblen saw Japan as a country with a feudal system of social control superimposed upon modern industrial technology. He strongly believed that social changes followed upon changes in technique of production.[1] Consequently he could confidently expect that, as Japan's means of production became more modern, its industrial relations practices would come to resemble those in the West. A similar view of the future course of Japanese industrial relations was held by many of the leading labor organizers associated with foreign labor movements. All were to see their expectations unrealized.

Many Japanese union leaders and scholars came to believe that the lack of success in union organization stemmed from a continuation of family-oriented and somewhat paternalistic management practices, the opposition of the *zaibatsu* (a group of families owning and controlling most of Japan's industry until the end of World War II), and a government which fostered the continuation of a feudal heritage in order to bolster its own political control. When the government's attitude, the feudal heritage, the *zaibatsu,* and so forth were all swept away in the aftermath of the Great Pacific War, these union leaders and labor scholars believed that Japanese unions were about to come into their own. Yet in many ways these expectations, too, were not to be fulfilled despite the fact that, stimulated by the favorable views of General Douglas MacArthur, workers by the thousands swung to the cause of unionism.

The passage of more years, during which the growth of the Japanese economy has been very rapid until it is the third largest in the world, and the emergence of a seeming labor shortage which has accompanied the growth in recent years have again raised the expectations that Japanese industrial relations are about to become much more like those in the West.

Is it possible that these latest expectations will be realized now or in the near future, more than half a century after Veblen wrote? This article sets out the basis upon which the Japanese industrial system has developed, briefly reviews how and why this development has led to the frustration of previous expectations, and examines the prospects for the future.

Japan's industrial relations

The labor-management relationship is fundamentally the association between two groups and, as such, it must be rooted within the traditional structure of relationships in a given society. In Japan, social structure is characterized by its emphasis upon vertical human relationships, as exemplified in the parent-child or superior-subordinate pattern.[2] Such a pattern stands in marked contrast to that found in Western Europe and North America, where primary reliance is upon horizontal relationships.

In the early 18th century a major economic crisis shook Japan. For a number of years the population had been growing, and the increase had been absorbed largely by the expanding land frontier. But when expansion stopped, overpopulation began. This in turn led to the great *Kyoho* and *Temmei* famines of 1732 and 1783, and disastrous floods that came from hillsides denuded by excessive cutting of trees for firewood and construction required by the growing population. Such forces of darkness generated major social changes. The most important of these was the development, over a period of years, of the concept of the *Ie* (family or house). The continued development of the *Ie* clearly depended, in addition to population pressure, upon other factors —geographical, cultural, and historical—many of which were associated with the unique homogeneity which characterized so much of Japan.

Robert Evans, Jr., professor of economics at Brandeis University, currently is at the Institute of Management and Labor Studies, Keio University, Tokyo.

The *Ie* was a perpetual entity independent of the members who constituted it, though in the main they were composed of family members. Human relationships within the *Ie* group transcended mere family status for they were considered more important than all other family relationships. Thus, a daughter-in-law coming into the *Ie* was of incomparably greater importance than a daughter who had married and gone into another household.[3] The success and continuation of the *Ie* came to be regarded as more important than what befell any individual who was a member. This and the fact that *Ies* rested on an established frame of reference made them often the basis of management organization. Hence, the emergence of the *Ie* with its assets and a hereditary and hierarchical system of control provided an institution through which a better control of the Japanese population could be maintained. The *Ie* was a major factor in maintaining and strengthening vertical relationships in the face of pressures which worked in the direction of horizontal ones.

Frustrated expectations

An industrial relations system should be viewed as a mosaic evolving from the complex interplay of numerous factors which can be grouped under three main headings: the inherent demands of modern industrial technology, the cultural attributes of each country, and the particular processes of the country's and the world's historical evolution. Veblen and some modern scholars, who have argued that the "logic of industrialization" will cut through and undermine "traditions" which countries bring to the industrialization process, placed their emphasis upon the demands of industrial technology.

In the case of Japan, however, the key to the pre-World War II experience—roughly the years 1895–1945—lies in the dominance of the vertical social relationships, which, as opposed to lateral relationships, have been the central core of Japanese society. In the years before 1940, the principal industrial relations problems in Japan centered around recruitment as well as the development of skilled workers, and the growth of the labor movement. In the solution of each of them the emphasis was upon vertical relationships. In recruitment, the model of an open labor market with its extensive career and employer mobility was not followed.

In the area of skill development, the vertical relationship of the *oyabun-kobun* (master-learner) pattern was converted by the employers into an apprenticeship system within the individual enterprise. An apprentice was assured of employment with the enterprise as a skilled worker. Even organized relations with employees were usually converted to a vertical relationship. Unions which cut across employer lines were often defeated by combined employer-government intrasigence, suspicion, and hostility. What replaced them, if anything, was either the enterprise union or employer-employee consultations, the *kojo iinkai*. Improvement of working conditions came to depend not upon lateral ties or movements, but upon vertical ties with employers.[4]

Encouragement of American-style unionism in Japan, coupled with the sweeping away of the *zaibatsu* after World War II, might have been expected to lead in time to a horizontally organized industrial relations system. This did not occur because such a system was not responsive to the major problem which faced Japan's economy. *Zaibatsu*, militarism, and antiunionism were not the only things swept away in August of 1945. Most of the economy was also destroyed. Industrial production which had reached a prewar peak of 148 in 1937 (1934–36 = 100) stood at 31 for 1946. Even 5 years after the war, it stood only at 84. In the face of such a depression it was only natural that employees and employers of individual enterprises looked to the well-being of that enterprise as a first requirement. This emphasis was supported by the rapidity of union organization—3 million members in the first 6 months of 1946 and 3 million more in the next 2½ years. Unionization was based on the enterprise pattern of *Sampo*, the wartime government labor front. In the vast majority of cases, the form of the new unions was enterprise in character and inclusive in coverage, with every employee except the president being included.

The joining of white-collar and blue-collar workers into a single enterprise union, a distinctive feature of Japanese industrial relations, encouraged the extension of *nenko jorestsu seido* and *sushin koyo* (age- and seniority-based wage system and lifetime employment) from the white-collar employees, who had experienced it in the prewar period, to all members of the union. Management also favored extension of the application of these concepts since, by linking the fortunes of the individual laborer to the company, they tended to blunt the demands of the unions. The extension of these concepts required that the firms find alternative methods of achieving flexi-

bility in labor cost. They chose to exclude temporary employees and those employed by subcontractors from the union and from the promise of continuous employment and step wage increases.

The course of the future

Dominant in the Japanese industrial relations system has been the surplus of labor, a factor that influenced the development of vertical relationships as exemplified by the *Ie*. It also worked to solidify the enterprise character of unionism and shaped union-management relationships and the labor market in the early years following the Great Pacific War.

The logic of a system rooted in a surplus labor concept suggests that, as surplus shifts toward shortage, the character of the industrial relations system also changes. This is exactly what a number of people have anticipated. Yet despite a continued shortage of workers and some indication of a greater degree of mobility among younger workers, there is little evidence to date that *nenko* is evolving into something else, though some firms do pay part of their wages based upon *shokunokyu* (ability-classified wage elements). The reported shortages are only relative. For example, in October 1968, the ratio of job applicants to openings at the public employment offices was .7, but for workers aged 50–55 it was 2.1 and for all those in the relatively undeveloped northernmost prefecture Aomori (on Honshu) it was 4.9.

If reported labor shortages are only relative, when can an absolute labor shortage be expected? This will depend upon a number of factors, for the labor force reflects the composite influences of population, the labor force participation rate, the number of hours worked per week, and changes in labor productivity.

In 1970, Japan's population of 15 years and over numbered 79.7 million. As projected, this figure will rise to 83 million in 1975 and to 87.5 million by 1980.[5] Labor force participation rate, which in 1965 was about 65.6 percent, is expected to decline to 61.9 percent by 1980. Even at this level they significantly exceed the participation rates of the United States in 1970. Whether these anticipated declines, mostly among women members of the labor force, will be realized is not clear. The decline has not yet begun, the overall 1971 rate being 64.9 percent.

Perhaps the more interesting variable is the number of hours that will be worked. By the United States standards, Japanese employees work long annual hours. It should be recognized that, because much of the Japanese white-collar workers' social life revolves around friends at work, Japanese employees enjoy a greater degree of leisure at their work place than is true in other countries. And the more friends, the more leisure hours that are likely to be reported as work hours since they were spent at the job site. Should there be a major decline in annual hours, Japan would take a long stride toward a true labor shortage. In 1965, the average Japanese man worked 54 hours a week compared with 44 hours for American men in 1965–66.[6] That 10-hour excess is equal to almost 2.5 months of standard 8-hour days. Most of that difference may be explained by differences in vacations and holidays. These totaled about 130 days in the United States and 70 days in Japan. The shorter vacation periods in Japan are partially explained by the widespread practice whereby employees do not take all of the vacation time to which they are entitled.

There is no simple explanation for the fact that the Japanese have worked so diligently. In part it is because, despite the rapid growth of the Japanese economy, the real per capita standard of living is not that high. In 1970, for example, 34 days were required to buy a refrigerator in Japan and only 5 days in West Germany. Further, the savings rate is very high. The anticipated disposal of the 1970 summer bonus which amounted to an average of 1.57 months' salary was 48.8 percent to savings, 19.0 percent to consumer durables, and only 8.9 percent to leisure. The roots of the high savings rate have themselves been the object of much discussion without a clear-cut conclusion.[7] Opinion surveys on the possible use of savings find sickness and accidents predictably high—77.3 percent. Other important purposes of saving were given as providing for old age, 36.5 percent, purchase of land and residences, 34 percent, and the education and marriage of children, 50.8 percent. This combination of inducements to save indicates two things. One, the relatively low levels of social protection and inadequate provisions for retirement compel employees to rely on savings and, consequently, to work long hours. Second, the value placed upon ability to provide for the education and marriage of children, while not unique in Japan, certainly stresses familism—the concern for generational continuity of the family's success, good name, and other attributes. An emphasis on getting children and grandchildren "well established" may be stronger in Japan than in many other countries.

Further, it is possible to cite historical factors—for example, the *Keian* order in 17th century Japan, which urged farmers to get up early in the morning to cut wood, and to make straw mats and shoes late at night after the day's work in the field had been done.[8] The traditional industriousness and thrift of the Japanese people may be the influences behind today's high savings rate.

Recent predictions of Japan's future growth rate have tended to assume that the character of Japanese work habits would not change. However, there are reasons to expect that there will be real changes in the number of work hours in the next 1 or 2 decades. This means that the 5-day week and long summer vacations will become well established. These changes, it is said, may result from comparison of Japan's experience with that of other advanced societies. It would seem, however, that the more crucial consideration is whether the factors which have in the past given rise to a high savings rate will change. Should these factors become weaker—and continued economic growth would seem to imply that they will —a more than modest decline in average hours worked may be expected.

Between 1965 and 1970 the labor force grew at about 1.5 percent a year. During the next decade, the potential labor force (those over the age of 15) will grow at an annual rate of 1.2 percent and the labor force at about 0.9 percent. The projected decline in labor force participation would almost neutralize this growth. A reduction in hours would then lead to a real decline in the available labor supply. It thus appears clear that the labor inputs into the Japanese economy in the 1970's will grow very modestly at best, and at worst may even decline. This decline, in turn, would carry the potential of an increasing labor shortage unless labor productivity can be significantly improved.

Productivity

There are several sources of increasing labor productivity: the development or importation of new technology, a more rapid diffusion of "best practices," the shifting of workers out of low into higher productivity sectors, and an improved quality of labor force. Japan will develop new technologies, and some foreign technologies remain to be imported. Still it seems unlikely that these options in the 1970's and 1980's will be very favorable to Japan. Diffusion of technology has been relatively rapid owing to the growth of economy; a declining rate of growth will probably slow down diffusion in the future. This leaves as the only potential sources for increased productivity the shift of labor out of low productivity areas and an improvement in labor quality.

The chief source of labor for a shift from low to high production in all countries has been agriculture. The movement out of Japanese agriculture has been very rapid, but the potential is far from exhausted. In 1971, 15.1 percent of the labor force was employed in agriculture, a proportion somewhat smaller than that in the United States in 1940. This represented a virtual halving since 1960, but it could be almost halved twice again before it approached the 1970 U.S. rate of 4.4 percent. Indeed, given the United States' comparative advantage in land resources, ultimately Japan should have proportionately fewer employees in agriculture than does the United States. A second potential source of labor for Japan is the self-employed sector of the economy. In 1970, 14.2 percent of Japan's nonagricultural labor force was self-employed and an additional 8.2 percent were unpaid family workers.[9] No general proposition that self-employment involves low productivity can be put forward, but certainly the lack of economies of scale and the degree to which this type of employment expands and contracts with the state of the labor market[10] suggests that additional labor may be found here as well.

The role of the quality of a labor force is difficult to define. In terms of formal education, Japan's labor force is better educated than in any other major industrial country in the world except the United States. The average level of education of men in the Japanese labor force in 1960 was 10.0 years; it was 10.7 years for the United States and 9.7 years for the United Kingdom. Japan's 1960 rate of educational improvement represented an increase of .4 years since 1950. That movement reflects an increased proportion of students going on to high school and college, and the retirement and death of older workers who had lower levels of formal education. Growth in the average level of education may be expected to continue for the next several decades. The relationship of these changes to productivity is still not clear.[11]

A systematic evaluation of the relative importance of all these factors is difficult. The relative size of the various factors does seem to suggest that a genuine labor shortage is at least a decade away. During the

movement toward a true labor shortage, the pseudo shortage characteristic of recent years will continue. Some alterations may be expected in labor-management practices, new corporate alignments, and rationalizations for many workers. These changes will provide dynamic industrial relations during the 1970's. Yet given more than a decade without a true labor shortage, it seems clear that the basic character of the vertically dominated Japanese industrial relations system will not change in these years.

1980 and beyond

In many ways, the more interesting question is not when Japan will experience a true labor shortage, but what, if any, will be its impact upon *nenko* and *sushin koyo* when it comes. A major change, is the answer of a number of writers.[12] To some of them, an increasing competition for labor means a growth in interfirm employee mobility, the development of an occupational wage rate structure, and consequently a labor market organized more and more as in the West. Other writers stress that changes in the environment, in the access to resources, and so on, attendant upon a labor shortage situation will erode the traditional inducements and sanctions that have governed the relationships in the labor market. As a labor shortage become evident, they say, employers will conserve labor and will reemploy retired workers, as well as women returning to the labor force, part-time and part-year workers, those with less desirable characteristics, and those who have worked for several other employers. Many of these individuals will not expect to stay with a firm very long and, thus, will be less subject to former inducements and controls. The willingness of major firms to employ school graduates other than the new ones at wages comparable to those of employees with longer service, when it occurs, will lessen the dependence of employees upon their success with a single employer. The writers of the second group, then, anticipate that such changes will erode the distinctive features of organization of the Japanese labor market. Writers of both groups modify their expectations of change, to a lesser or greater degree, because of Japan's long historical experience with certain distinctive labor market features and the strong cultural values which have supported these features.

My own expectations are for much more modest changes. A true labor shortage will indeed weaken the web of reciprocal obligations which have characterized the Japanese labor market process. The deep and long lasting ties of history and culture, however, mean that these obligations will not be easily replaced. There are other factors which must also be considered and these tend to strengthen the hold of current practices. *Nenko* and *sushin koyo* were satisfactory in earlier eras and cushioned social changes associated with industrialization and the recovery from the Great Pacific War. They also provided many important values to company and workers.

The employer in a dynamic economy needs several types of labor cost flexibility. These include flexibility over the business cycle and under conditions of long term technological change. An occupational wage system in combination with high levels of inter-employer mobility provides reasonable short term flexibility. Workers can be added or laid off to maintain marginal cost in accord with marginal value product. Yet under such a system skilled workers have a reason not to assist in the upgrading of less skilled and inexperienced workers. They also have an incentive to oppose technological change because of its threat to their economic, social, and psychological well-being. The reasons are simple enough to understand: the worker's status and income are tied to a specific occupation.

Alternatively, the Japanese combination of *nenko* and *sushin koyo* provides very little short term or business cycle flexibility. This lack of flexibility is one reason for its generally unfavorable reception by western oriented economists. The Japanese firm, as already indicated, achieves business cycle flexibility by limiting the proportion of workers included within the system. Of much greater importance is the system's impact upon long term flexibility.

Nenko and *sushin koyo*, because they tie status and opportunity to the individual rather than to a job class and promise to cushion most shocks from technological change, greatly facilitate the introduction of new technologies. In addition they allow the firm to reap the full benefits of learning-by-doing. The enterprise nature of the union and the binding ties between economic success of the employee and of the enterprise produce collective bargaining in which effective ritualistic work stoppages are used. This means that, unlike American firms, which have to hedge against the effects of a long strike, Japanese firms are not burdened by high inventory charges. Lastly, the use of *nenko*, because it allows real wage costs to fall as long as the firm is increasing its em-

ployment, increases the potential gains to the firms from expanding production.

In a world in which the business cycle was a powerful factor and technological change was slow and limited in impact upon labor skills, the superiority of the western approach may be almost self-evident. Certainly 19th century England and the United States, where this system developed, would attest to this. In a world of rapid economic growth and major technological change, the many advantages of the system inherited by Japan from an earlier era are equally apparent.

What, then, about the future?

With the government attempting to smooth out business cycles and with technical change proceeding rapidly, it seems reasonable to expect that the positive economic advantages encouraging *nenko-sushin koyo* will more than overcome the limited impact of a true labor shortage. Given these advantages to both workers and management, the expectation should really be that American practices will move in the direction of the Japanese pattern, rather than the other way. □

———*FOOTNOTES*———

ACKNOWLEDGEMENT: The author is indebted to Professors Anne Carter and Haruo Shimada for constructive suggestions.

1 Thorstein Veblen, *Essays in Our Changing Order* (New York, Viking Press, 1934), pp. 255. The article was reprinted from the *Journal of Race Development,* July 1915.

2 Chie Nakane, *Japanese Society* (Berkeley, University of California Press, 1970) pp. 23–25.

3 The importance of population pressure and its role in the development of the concept of the *Ie* was suggested to me in conversations with Professor James Nakamura of Columbia University. Several Japanese scholars have written about these relationships. See Yasuzo Horie, "The Role of the *Ie* in the Economic Modernization of Japan," *The Kyoto University Economic Review,* April 1966, pp. 1–16; also Nakane, op. cit. On the relationship between population movements and the development of the *Ie,* see in particular S. Oishi, *Kinsei Souraku no Kozo to Ie Seido* (Tokyo, Ochanomizu Shobo, 1968).

4 More details are given in Robert Evans, Jr., "Evolution of the Japanese System of Employer-Employee Relations, 1886–1945," *The Business History Review,* Spring 1970, pp. 110–125. See also Koji Taira, "Factory Legislation and Management Modernization During Japan's Industrialization, 1886–1916," in *Business History Review,* Spring 1970, pp. 84–109.

5 Data on expected future populations and labor force participation rates are from Nihon Keizai Chosa Kyogikai, *Showa 40 Nendai no Koyo Mondai* (Tokyo, Daikyo Purinto, 1967), pp. 53–73. The 1970 *Rodo Hakusho* forecasts no real changes in women labor force participation.

6 These are taken from Okamoto Hideaki, "Work and Leisure in Japan," *Japan Labor Bulletin,* October 1971, pp. 5–8. The data on hours were obtained through interviews of workers and are not based upon establishment data.

7 Tuvia Blumenthal, *Savings in Post-War Japan* (Cambridge, Harvard East Asian Monographs, 1970).

8 "Aged farmers can still recall trying to get up very early and into their fields before their neighbors." Nakane, op. cit., p. 89.

9 The 1970 labor force survey as reported in *Japan Labor Bulletin,* July 1971, p. 2.

10 Miyokei Shinohara, "Formation and Transition of the Dual Economy in Japan," *Hitotsubashi Journal of Economics,* February 1968, p. 30.

11 See, for example, Tsunehiko Watanabe, "Improvement of Labor Quality and Economic Growth—Post-War Japan's Experience" (Cambridge, Project for Quantitative Research in Economic Development, Report No. 164, October 1970).

12 Tsune Ono, "The Structure of Japanese Industrial Relations: An Interpretation," *Japan Labor Bulletin,* July 1971, pp. 5–8; Tadashi Hanami Akamatsu, "The Future of Industrial Relations in Japan," a paper presented at the International Institute for Labor Studies, Symposium on Future Industrial Relations Research Project, Geneva, Switzerland, May 11–14, 1971; Robert E. Cole, *Japanese Blue Collar* (Berkeley, University of California Press, 1971); and Robert E. Cole, "The Theory of Institutionalization: Permanent Employment and Tradition in Japan," *Economic Development and Cultural Change,* October 1971, pp. 47–70.

Professional manpower: the job market turnaround

Projections of employment prospects for professionals suggest that many college graduates starting work in the 1970's may have to change career goals

MICHAEL F. CROWLEY

DURING THE PAST few years, manpower shortages in many professional and related occupations have turned into job shortages. Are these shifts short-term phenomena or has there been a job market turnaround for highly educated workers? This article seeks to answer this question by examining the growth of professional manpower in the 1960's, the current situation, and the outlook for the remainder of the 1970's.

Supply during the 1960's

College and university graduates are the major source of supply to professional and technical occupations. Through much of the 1960's, new graduates could barely keep pace with job openings, and in a number of fields there were manpower scarcities. Starting in the 1960's, however, the number of new college graduates started to increase at a rapid rate. Between 1960 and 1970, the number of degrees granted more than doubled, rising to over 1 million; two-thirds of the increase was in the last half of the decade. Growth in the college-age population was an important factor underlying the increasing number of college graduates. But about 60 percent of the growth can be associated with increases in the proportion of young adults enrolled in undergraduate and graduate programs.

Even more dramatic than the growth in the total number of degrees awarded was the increase in the number of advanced degrees, especially at the Ph.D. level. Over the 1960–70 decade, the number of Ph.D.'s awarded rose by over 200 percent and master's degrees by 168 percent. (See table 1.)

Michael F. Crowley is an economist in the Division of Manpower and Occupational Outlook, Bureau of Labor Statistics. Kathleen Naughton, an economist in the same division, assisted.

At each degree level, growth among fields of study was uneven. At the bachelor's and master's levels, natural science and engineering degrees declined relatively while those in social science and humanities increased. At the Ph.D. level, the proportion of degrees granted in natural science and engineering remained unchanged over the decade, primarily because of the substantial increase in the number awarded in engineering. (See table 2.)

Much of the growth in college enrollments over the decade was in publicly supported schools, as the costs of private colleges and universities soared. Over four-fifths of the rise in enrollments through the 1960's took place in public institutions. This tendency can be seen at both the lower and upper end of the academic hierarchy (chart 1).

Moreover, federally financed fellowships and traineeships were a major factor behind growth of the number of advanced degrees. The expansion of federally supported graduate education in technical fields reflected, among other factors, the national commitment to the space program and strengthening of the Nation's scientific capabilities that began in the late 1950's following Sputnik. In addition, the National Defense Education Act of 1958, as amended, provided support to students in fields such as history and modern foreign languages. In 1967–68, when academic support reached its peak, 1 out of every 6 graduate students held a federally sponsored fellowship or traineeship. In addition, the large expansion of Government-financed research and development projects at colleges and universities offered opportunities for many graduate students to finance their education through employment as research assistants.

Growth of employment

Spurred by a growing economy and the growing supply of college graduates, employment of profes-

Table 1. Earned degree awarded by level: United States, 1960 and 1970

Level	Number		Percent change
	1960	1970	
Total, all levels	476,704	1,065,391	123.5
Bachelor's degrees [1]	389,183	827,234	112.6
Master's degrees	77,692	208,291	168.1
Doctor's degrees	9,829	29,866	204.8

[1] Includes first professional degrees such as dentistry, law, and medicine.

SOURCE: U.S. Office of Education, U.S. Department of Health, Education, and Welfare.

sional and technical workers increased more rapidly than any other major occupational group during the 1960's. Over the 1960–70 decade, employment of professional and technical workers increased at an average annual rate of 4.1 percent, compared with an average annual 1.8-percent increase in total employment. In absolute terms, employment of professional and technical workers increased by almost 3.7 million between 1960 and 1970. Although employment increased in every year over the decade, over three-fifths of the increase took place between 1965 and 1970.

Teaching. Approximately one-fourth of the increase was accounted for by teachers—with most of the growth in elementary and secondary schools (table 3). Reductions in pupil-teacher ratios are the major factors underlying this 44-percent growth, since the number of persons aged 5–17 increased by less than 20 percent. Decline in student-teacher ratios resulted from increased Federal grants under the Elementary and Secondary Education Act of 1965 and other new legislation, and a willingness on the part of local school boards to hire additional teachers in order to lower average class size. In addition, special programs for the physically and mentally handicapped, the underprivileged, and the gifted were introduced, and kindergarten and other preschool programs were expanded. In higher education, the teaching staff more than doubled in the 1960's keeping pace with growth in enrollments.

Scientists and engineers. After teachers, growth in scientific and engineering employment accounted for the largest increase.[1] Employment of scientists increased by over 200,000, engineers by over 300,000.

Almost one-half of the increase in the number of scientists took place in colleges and universities, as enrollment grew and Federal support for research and development soared. Federal funds for medical, defense, space, and other research at colleges and universities increased to $1.5 billion by 1970, up about 240 percent over 1960 levels.

Of the remaining increase, almost one-third of the growth in scientific employment was in the Government, primarily Federal, due to increased defense, space, and research and development budgets. Moreover, scientific employment growth in the private sector was also strongly influenced by Federal outlays for these purposes. Significant growth was recorded in commercial research and development labs, nonprofit research organizations, and in the chemical, ordnance, and electronics industries.

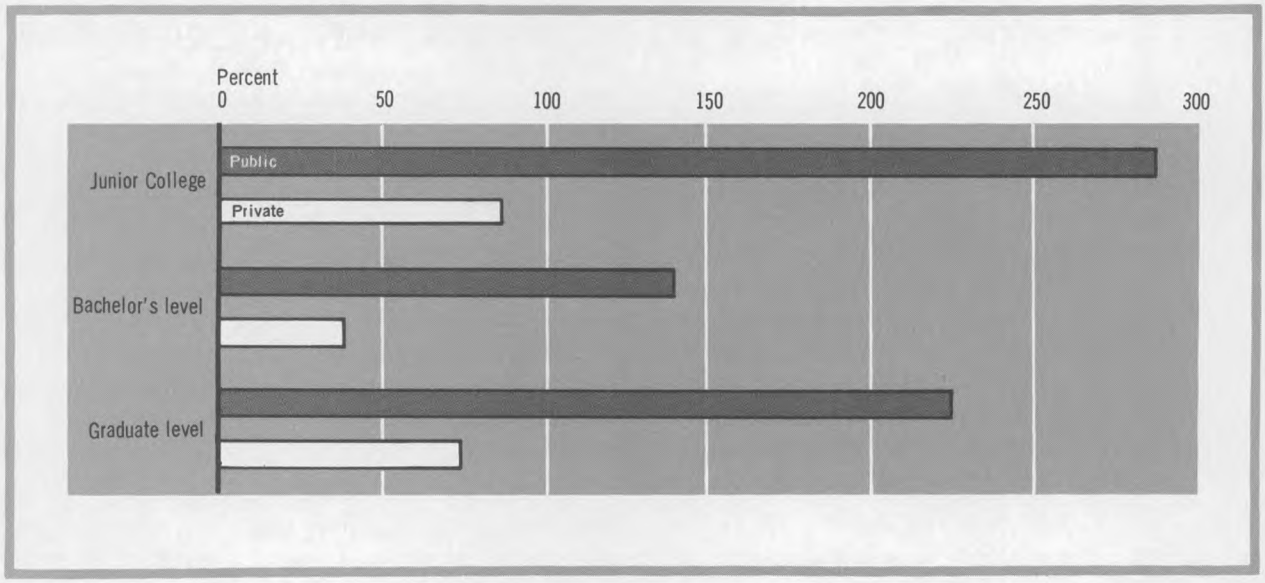
Growth in employment of engineers, who are more widely distributed in the economy than scientists, was not so concentrated in a single sector. As for

Table 2. Percent distribution of earned degrees, by field of study and level, 1960 and 1970

Field	Bachelor's		Master's		Doctor's	
	Academic year		Academic year		Academic year	
	1960–61	1970–71	1960–61	1970–71	1960–61	1970–71
Total, all degrees	100.0	100.0	100.0	100.0	100.0	100.0
Natural science	28.8	21.9	24.8	19.7	47.9	45.8
Engineering	9.0	5.2	10.0	7.0	8.9	11.9
Physical science	3.9	2.5	4.6	2.7	18.8	13.9
Other	15.9	14.2	10.2	10.0	20.0	20.2
Social sciences, humanities, and related professions	71.2	78.1	75.2	80.3	52.1	54.2
Social science	13.2	19.2	7.8	9.2	12.9	12.4
Education	18.7	15.8	37.7	34.5	15.1	19.4
Business and commerce	14.2	13.5	6.6	11.8	1.8	2.4
Other	25.1	29.6	23.1	24.8	22.3	20.0

SOURCE: U.S. Office of Education.

Chart 1. Expansion in college enrollment in public and private institutions, 1960–70



scientists, a significant portion of the increased employment of engineers resulted from Federal policies and programs. Over half the increase in engineering employment took place in defense and space-related work, private and public. By 1970, about 20 percent of all engineers were so employed.[2]

Health occupations. Employment of professional workers in health fields grew almost 450,000 from 1960 to 1970. Professional nurses and other supporting personnel accounted for most of the increase. The number of dentists and physicians grew slowly.

Employment in the health fields was significantly stimulated by increasing health care expenditures from $23.2 billion in 1960 to $58.0 billion in 1970. About three-fifths of this increase is attributable to increases in population and prices, but about two-fifths represented increased per capita health care expenditures. Private expenditures for health care rose significantly with rising incomes and wider use of health insurance plans. But more significant was the increase in public expenditures for health care, especially since the introduction of Medicare and Medicaid in 1966. By 1970, public expenditures for medical care accounted for over 37 percent of all such expenditures, up from 26 percent in 1960.

Other occupations. Growth in the remainder of professional occupations accounted for nearly one-half of the increase in professional employment over the 1960's. This includes hundreds of different occupations including actors, accountants, engineering technicians, lawyers, and computer specialists. For example, employment of accountants and auditors increased by 180,000 between 1960 and 1970, reflecting greater use of accounting information in business management, complex and changing tax systems, the growth in size and number of business corporations required to provide financial reports to stockholders, and the increasing use of accounting services by small business organizations.

The greatly expanded use of computers during the 1960's contributed to the more than 250,000 growth in the employment of programers and systems analysts. Other professional occupations showing significant growth over the 1960's included airplane pilots, draftsmen, librarians, personnel workers, recreation workers, and social scientists. Among the slower growing occupations were clergymen, editors, funeral directors, pharmacists, and photographers.

Job market turnaround

Employment of professional and technical workers continued to increase as the 1970's began, reaching a peak of more than 11.1 million in 1970 and leveling off in 1971. This leveling off of employment coincided with a sharp increase in the number of new graduates seeking to enter the professions. Between 1969 and 1971, a record number of professional and technical workers became unemployed. Although the unemployment rate of professional and technical workers at 2.9 percent in 1971 was considerably below the 5.9 registered for the entire labor

force, it represented a sharper increase. While the total number of unemployed persons increased by 80 percent, unemployment among professionals rose by 125 percent between 1969 and 1971.

The basic reasons for the turnaround in the professional job market go back to basic demand and supply factors resulting in the earlier manpower scarcity and the concurrent changes which took place in several of the most important factors. Leveling off of the school-age population has slowed the rate of growth in demand for elementary and secondary school teachers, the largest of all professions. Moreover, Federal grants to schools have declined, and school boards, pressed for funds, are reluctant to hire new teachers beyond replacement needs. Contraction in government research funds has altered demand for college and university faculty, and changes in the selective service system have helped slow growth of enrollments, thus further dampening demand. The new lottery system gives young men who draw high numbers a reasonable assurance they will not be drafted whether or not they go to college. The proportion of persons age 18–21 enrolled in college peaked at 36 percent in 1969 and has been level since, reflecting a decline in the number and proportion of college-age men enrolled in college. Reduced government expenditures for defense, space, and research and development has undercut demand for scientists and engineers.

Table 3. Growth in employment of professional and technical workers, 1960–70

[Numbers in thousands]

Occupation	Number employed 1970	Increase 1960–70	
		Number	Percent
Total	11,140	3,670	49
Teachers	2,690	930	53
Elementary and secondary school	2,310	710	44
College and university [1]	380	220	144
Natural scientists	500	200	68
Chemists	140	40	39
Physicists	50	20	66
Mathematician	70	40	123
Life scientists	180	80	83
Other	70	30	87
Engineers	1,100	300	37
Health workers	1,740	440	34
Physicians	310	60	24
Dentists	100	10	11
Professional nurses	700	200	39
Technicians	260	120	86
Other	380	50	16
Social scientists	130	70	128
Accountants and auditors	490	180	57
Lawyers	280	80	37
All others	4,210	1,470	54

[1] Full-time instructors only.

NOTE: Numbers are rounded to the nearest 10,000. However, percentages have been calculated on the bases of unrounded data, and may not add to total. In addition, about 6 percent of all scientists and engineers are full-time college teachers. Adjustments were not made to eliminate duplications.

Some of the factors contributing to the slowdown in the growth of professional and technical workers are long term and can be expected to continue—for example, the leveling off of the school-age population. Other factors may be viewed as temporary, resulting from government activities designed to stem inflation and to shift national priorities from defense and aerospace to domestic activities.

The situation for jobless scientists illustrates the impact of the recent turnaround.[3] Unemployment of scientists grew to 2.6 in spring 1971, ranging from 3.9 percent for physicists and 3.0 percent for chemists to 0.9 percent for agricultural scientists. Unemployment rates were highest for those age 24 or less, and most unemployed scientists were under age 40. Scientists with master's degrees had the highest unemployment rate, those with Ph.D.'s the lowest.

As might be expected, in light of changed Federal priorities, nearly three-fifths of unemployed scientists were previously employed in research and development. Approximately 17 percent had been teachers. Another 14 percent had been engaged in university research. (For an analysis of unemployment of engineers, one of the hardest hit occupations, see p. 16, this issue.)

New graduates

Increased joblessness among professional and technical workers has created some problems for new college graduates, which was reflected in reduced recruiting activity on college campuses. Although 1971 and 1972 college graduates faced a "rough" job market, the situation differed by field of study. Those who majored in accounting did the best in the job market, and education majors and graduates with purely academic background fared the worst. A survey by the American Council on Education shows that the demand for school teachers hit a 20-year low in 1971.[4] Almost 300,000 new teachers were available for only 19,100 new positions excluding replacement needs. Oversupplies of teacher applicants for social studies, English, male physical education, elementary school teaching, foreign lan-

guage, business education, home economics, and art were reported. But demand remained strong for elementary school librarians, and teachers of industrial arts, remedial reading and speech correction, and mathematics. Job opportunities for new engineering graduates varied by geographical area and field of specialization, but openings in all areas were well below recent levels.

Despite reports of a general glut of Ph.D.'s in the sciences, for example, recent doctorates in the sciences and engineering are finding employment. Nevertheless, their positions are often in less prestigious academic or private institutions. In mid-1971, 1.6 percent of all 1970 Ph.D. recipients reported they were unemployed or not seeking employment (0.5 percent unemployed and 1.1 percent not seeking employment).[5] An additional 1.2 percent reported they had positions which did not fully utilize their training. While unemployment rates for Ph.D.'s are low compared to the general labor force, they represent serious deterioration over previous years and reflect both tightening of research and development expenditures and the squeeze in academic budgets.

A look at the future

In the short run, an important factor stimulating employment of professional and technical workers will be the pace of a general economic upturn in the economy. The decisions made over the next several years relating to the allocation of resources among national objectives will exert major influences on professional employment levels.

For young people considering the choice of a career for which they need to invest years in specialized education or training, and for educational institutions concerned that the number of persons they prepare for work in the various occupations have a reasonable relation to employment opportunities, it is essential to look ahead to long-term changes in manpower needs. To help in their decisions, the Bureau of Labor Statistics has made projections of the employment prospects for college graduates in the decade ahead. This involves more than a simple comparison between the number of new college graduates and the number of additional professional and technical jobs. For example, these projections indicate demand for professionals will increase by 4.4 million by 1980—twice the rate of demand for all other workers. But not all professional jobs require a college degree. Nor do all college graduates enter the professions. An increasing number are entering other fields, such as management and sales. Similarly, the relationship between graduating from college and entering the labor force is complex. These projections take these factors into account.

Projections of manpower requirements were based on the following specific assumptions: [6]

—The institutional framework of the economy will not change radically through the 1970's.
—There will be full employment in 1980, with an unemployment rate of 3 to 4 percent.
—The international climate will be improved. The United States will no longer be fighting a war, but the still guarded relationship between major powers will permit no major arms reduction. Defense spending, however, will be reduced from the peak levels of the Vietnam conflict.
—Armed Forces strength will return to approximately pre Vietnam level.
—Economic, social, technical, and scientific trends will continue, including values placed on work, education, income, and leisure.
—Fiscal and monetary policies and an active manpower program will achieve a satisfactory balance between low unemployment rates and relative price stability without reducing the long-term economic growth rate.
—All levels of government will unite to meet a wide variety of domestic requirements, but Congress will channel more funds to State and local governments.

In general, these assumptions indicate that the long-term trends in the basic factors underlying the growth and changing characteristics of employment will continue. In any given year over the projection period, however, the economy may be off this long-term trend because of a war, recession, or other far-reaching exogenous factors.

Past experience indicates such projections, while not perfect, are generally in the correct direction and close to the mark.[7] (For example, as early as 1964, Bureau projections indicated an oversupply of teachers by the end of the decade.[8]) Notable misses usually can be traced to some major event, the Vietnam War for example, that had a great impact on employment.

On the basis of the college-age population, and assuming the continuance of recent trends in the proportion of young people going to college, the U.S. Office of Education has projected that U.S. colleges and universities will award a total of 13.6 million degrees through the 1970's. Of these, 9.8 million will be bachelor's, 3.4 million master's, and 475,000 doctorates. These graduates represent potential new

entrants to the labor force. However, not all recipients can be considered part of the effective *new* supply of college-educated workers. For example, most master's and doctor's degree recipients are employed before receiving their advanced degrees and are already considered as part of the existing supply of college-educated workers. Other degree recipients, especially at the bachelor's level, delay entry to the labor force to continue their education, enter the Armed Forces, or become full-time housewives.

Based on past patterns of entry to the labor force, only about 9.2 million of the 13.6 million expected degree recipients will enter the labor force. Those holding bachelor's degrees will represent 8.1 million, master's degrees 1.1 million, and doctorates 22,000. Counting in new entrants graduating before 1970 and college-educated immigrants, there will be a total of 9.8 million additional college graduates in the labor force by 1980.

What will be the demand for these 9.8 million college graduates through the 1970's? Requirements will stem from three sources: growth in employment in those professional and other types of work currently requiring a college degree for entry; the need to replace workers who die, retire, or leave the labor force for other reasons; and rising educational entry requirements or the trend toward hiring college graduates for jobs previously performed by workers with less education.

These three factors indicate a need for roughly 9.6 million college graduates, 5.9 million for growth (including rising entry requirements) and 3.7 million for replacements.[9] Employment expansion would be only 3.3 million rather than 5.9 million if the proportion of jobs filled by college graduates in each occupational group remained at 1970 levels. This is illustrated below:

Source of demand	*Projected demand for new college-educated workers, 1970 to 1980, in millions*
Total	9.6
Employment expansion	3.3
Professional and technical occupations	2.6
Other occupations	.7
Educational upgrading	2.6
Professional and technical occupations	1.3
Other occupations	1.3
Replacement	3.7

These figures indicate supply will roughly balance demand, with rising entry requirements absorbing much of the increase in new college graduates. Without upgrading, there would be 2.6 million fewer jobs for such graduates by 1980.

Recent trends suggest the proportion of college-educated workers in professional and technical occupations will rise from three-fifths in 1970 to about two-thirds by 1980; in managerial occupations, from 20 to 30 percent; in sales, from 12 to 16 percent.

The trend toward rising entry requirements, especially in managerial and sales occupations, has had a significant impact on demand for college graduates. In general, graduates have responded to this trend—and to shortages in openings in professional positions—by accepting the best job available, whether or not that job is considered one of the professions.

Rising entry requirements may simply reflect the greater number of college graduates available for employment as well as a generalized tendency to hire that person who has the highest educational qualification, especially for white-collar jobs. But there may be more substantive reasons for hiring more highly educated workers for jobs not previously requiring a degree. For example, the increasing reliance of business and government on salaried management specialists and the historical decline in the number of self-employed managers help explain the past and anticipated growth of college graduates in managerial occupations. Sales personnel, especially in the computer field and in manufacturing, are increasingly required to have technical knowledge in order to better demonstrate and adequately explain the product or service they are selling. Or perhaps employers would have preferred to hire college graduates but could not successfully compete for them in the past.

The concept of rising entry requirements must be interpreted with caution. Increased employment of college graduates in jobs outside the professions may reflect lack of ability, motivation, opportunity, discrimination, or other factors. A woman, for example, may have to take a job inappropriate to her skills in order to work in a town where her husband is employed. Thus, it may or may not be reasonable to assume that trend in the proportion of college graduates in each occupational group will continue, or even that all jobs now requiring a degree are appropriate for college graduates.

Thus, just what "rising entry requirements" represents is open to speculation. But a sizable proportion of graduates through the 1970's will enter jobs previously performed by persons without a college degree.

The rough balance of supply (9.8 million) with demand (9.6 million) indicates that the general scarcity of professional personnel and intense demand for college graduates which prevailed during most of the 1960's have come to an end. But this does not imply that all manpower imbalances will be eliminated. Skills graduates possess may not necessarily mesh with skills requisite to available jobs.[10]

Implications

College graduates should continue to have a competitive advantage over those with less education in finding suitable employment. The combination of growth in occupational requirements, replacement needs, rising educational entry requirements, and the tendency of college graduates to be able to get better available jobs, whether or not that job requires a college degree for entry, indicates that unemployment among college-educated workers will continue to be significantly below that for all workers, regardless of the level of economic activity.

Problems will center on *under*employment or job dissatisfaction rather than unemployment of college graduates, as many individuals will have to change their desired career goals to obtain the training necessary to enter other occupations where the prospective supply is below requirements or take jobs in which their training might not be fully utilized.

Related to the problem of underemployment is the problem of credentialism. If the *required* educational qualifications for a job rise at a more rapid rate than the *actual* educational requirements for a job, the availability of more college-educated workers will limit advancement of workers with fewer years of schooling. For example, those without a college degree may find themselves locked out of access to occupations such as engineer, accountant, and to high level managerial and sales positions.

The Ph.D.

Indications are that the softened demand for Ph.D.'s which characterized the employment situation in the last few years may not improve as the decade progresses. For example, National Science Foundation projections suggest that the oversupply of Ph.D.'s in the sciences and engineering could range between 15,000 and 60,000 by 1980.[11] Other studies [12] have indicated that the country may produce more Ph.D.'s in all fields than will be required. As with college graduates in general, a surplus of Ph.D.'s available for jobs that have traditionally required the Ph.D. may mean underemployment and dissatisfaction rather than unemployment. However, this does not mean employment problems will not exist. There is some evidence that employers in private industry may not want to employ scientists and engineers with Ph.D.'s in jobs not requiring that level of education.[13] □

FOOTNOTES

[1] About 6 percent of all scientists and engineers are full-time college teachers. Adjustments were not made to eliminate duplication of data for this group.

[2] See Richard Dempsey and Douglas Schmude, "Occupational impact of defense expenditures," *Monthly Labor Review,* December 1971, pp. 12–15.

[3] "Unemployment Rates for Scientists, Spring 1971," *Science Resources Studies Highlights* (Washington National Science Foundation, 1971), NSF 71–72.

[4] *Higher Education and National Affairs* (Washington, American Council on Education, 1971).

[5] See "Employment of New Ph.D.'s and Postdoctorals in 1971," (Washington, National Research Council, Office of Scientific Personnel, 1971).

[6] For a summary report of all 1980 projections with a detailed statement on methodology, see *The U.S. Economy in 1980* (BLS Bulletin 1673, 1970).

[7] For a discussion of the Bureau's 1980 projections that were made in the early 1960's, see Sol Swerdloff, "How good were manpower projections for the 1960's," *Monthly Labor Review,* November 1969, pp. 17–22.

[8] See, for example, Maxine Stewart, "A New Look at Manpower Needs in Teaching," *Occupational Outlook Quarterly,* May 1964, pp. 10–16.

[9] Replacements include only the number needed to replace those who die, retire, or leave the labor force for other reasons. Replacement estimates are computed by applying standard separation rates to the midpoint of the estimated 1970 employment level and the projected 1980 employment requirements.

[10] See *College Educated Workers, 1968–80* (BLS Bulletin 1676, 1970). This bulletin presents a review of the manpower situation for all college graduates as well as for selected individual fields.

[11] *1969 and 1980 Science and Engineering Doctorate Supply and Utilization* (Washington, National Science Foundation, 1971), NSF 71–20.

[12] See, for example, Deal Wolfle and Charles V. Kidd, "The Future Market for Ph.D.'s," *Science,* August 27, 1971, pp. 784–793, and Allan M. Cartter, "Scientific Manpower for 1970–85," *Science,* Apr. 9, 1971, pp. 132–140.

[13] *Ph.D. Scientists and Engineers in Private Industry, 1968–80* (BLS Bulletin 1648, 1970).

Characteristics of jobless engineers

Unemployment among engineers, considered a short-term problem, affects most severely the youngest, oldest, and those with least experience and education

KATHLEEN NAUGHTON

UNEMPLOYMENT AMONG ENGINEERS, rather than shortages of a decade ago, became a major concern as the economy entered the 1970's. Cutbacks in Federal expenditures for defense and space activities and the slower pace of economic progress were its causes. Reports of many unemployed engineers driving taxis for a living, abandoning their mortgaged homes, or living on welfare appeared in numerous professional publications and newspapers. State employment service offices across the country showed shrinking job opportunities for engineers.

Data developed by the Bureau of Labor Statistics as part of its regular program of employment and unemployment analysis confirmed the existence of the problem and indicated its extent. The rate of unemployment in engineering increased fourfold—from 0.7 percent to 2.9 percent,[1] an increase much higher than that recorded for professional occupations as a whole during the 1967–71 period. (See table 1.) An unemployment rate of 2.9 percent, although about half that for all occupations, may alarm a profession that experienced little unemployment in the past except for short periods. In 1971, 30,000 engineers were jobless and 1.1 million employed. But these gross data were not intended to answer some important questions as to what fields of engineering, what geographic areas, what age groups and what educational levels were most affected by the rise in unemployment.

To obtain a more comprehensive picture of the problem, the National Science Foundation commissioned the Engineers Joint Council (EJC) to survey a sample of members of major professional engineering societies,[2] whose combined membership totals about 500,000. It should be stressed, however, that these societies generally require that a member either be a graduate of an accredited engineering school at the bachelor's level or higher, or present evidence of a required minimum number of years of professional experience in engineering. Because of these restrictions, EJC survey probably understated the number of engineers without degrees and of those with degrees in other fields. Roughly, 45 percent of the engineers in the United States fall into these two categories.

The EJC findings were used in this study, along with the data derived from the National Registry of Engineers. This registry was established in

Table 1. Engineers, professional and technical workers, and civilian labor force, number employed and unemployed and annual average unemployment rate, 1967–71

[Numbers in thousands]

Item	1967	1968	1969	1970	1971
ENGINEERS					
Employed	1,161	1,193	1,220	1,183	1,163
Unemployed	8	8	10	27	34
Unemployment rate	.7	.7	.8	2.2	2.9
PROFESSIONAL AND TECHNICAL WORKERS					
Employed	9,879	10,325	10,769	11,140	11,071
Unemployed	133	126	144	227	333
Unemployment rate	1.3	1.2	1.3	2.0	2.9
CIVILIAN LABOR FORCE					
Employed	74,373	75,921	77,902	78,627	79,119
Unemployed	2,977	2,816	2,832	4,088	4,994
Unemployment rate	3.8	3.6	3.5	4.9	5.9

NOTE: Caution should be used in interpreting the unemployment rates, especially those for engineers. The chances are 9 out of 10 that a complete census would show an unemployment rate within 0.5 percentage points of the rates shown for engineers, within 0.2 percentage points for professional and technical workers, and within 0.1 percentage point for the total civilian labor force in 1971.

SOURCE: **Employment and Earnings**, January 1972, Bureau of Labor Statistics. Data pertaining to engineers are not published.

Kathleen Naughton is an economist in the Division of Manpower and Occupational Outlook, Bureau of Labor Statistics.

Sacramento, Calif., by the U.S. Department of Labor to help provide specialized assistance to unemployed engineers and scientists. In April 1971, the first month the registry was in operation, nearly 5,200 engineers were registered. This number more than doubled by the end of 1971.

Despite their limitations, the data from the EJC survey and the registry files provide a view of the unemployment problem by specialization, geographical area, education, age, length of unemployment, and previous income. Neither source has data on all these characteristics, but whatever data are available are used in the analysis that follows.

Specialization

Fluctuations in demand for engineers brought about by new technologies, changes in national goals, and demand for consumer and industrial products affect those in some specialties more than others. Thus, the shift in emphasis by the Federal Government away from space and defense activities, which utilized large numbers of aeronautical (or aerospace), electronics, and mechanical engineers, created the most severe employment problems for these workers.

Table 2 shows the distribution of unemployed engineers in the EJC survey and total engineering employment by specialty. Aerospace engineers are one of the smaller specialty groups (6 percent of the total), yet they had the highest unemployment rate[3]—5.3 percent, approaching double the average for all engineers.

Electrical and electronics engineers combined had an unemployment rate of 3.7 percent. Separately, electronics engineers, who were employed in large numbers in the aerospace industry, had an unemployment rate as high as aerospace engineers (5.3 percent). Electrical engineers, who have had rather stable employment in the power industry, had a rate (2.2 percent) well below the average for all engineers (3.0 percent).

The rate for mechanical engineers, who are also highly concentrated in aerospace and who make up one-fifth of all engineers in the country, was 2.8 percent, slightly below that for all engineers.

The majority of engineers on the National Registry of Engineers (perhaps as high as 90 percent) were formerly employed in aerospace or defense industries. Of the more than 10,000 engineers listed, well above half (29 percent each) were electrical, electronics, and mechanical engineers. Eleven percent were identified as aeronautical or aerospace engineers.

Table 2. Employment of engineers in the United States and unemployment rates of engineers in EJC survey, by specialty

Field of engineering	Employed engineers, U.S. total	EJC survey, June–July 1971	
		Unemployment rates	Percent of unemployment
Total	1,100,000	3.0	100
Aerospace (aeronautical)	60,000	5.3	12
Electrical and electronics	235,000	3.7	20
Mechanical	220,000	2.8	9
Chemical	50,000	1.9	2
Civil	185,000	1.2	4
All others	350,000		53

SOURCE: "Employment of engineers, U.S. total," **Occupational Outlook Quarterly**, Spring 1972. EJC survey results: **Science Resources Studies Highlights**, National Science Foundation, Sept. 23, 1971.

Many engineers employed in aerospace industries, regardless of their educational background, became known as "aerospace engineers." They were adversely affected by mass layoffs within the industry, a poor job market, and employers' reluctance toward aerospace engineers because of their alleged narrow specialization and high pay expectations.

A much higher ratio of engineers and scientists to total employment existed in aerospace and defense than in other manufacturing industries because of the numbers required for research and development, and the complex products of these industries. Thus, when government contracts were cancelled or expired, relatively large numbers of these workers were affected.

The task of finding employment for those laid off beginning in late 1969 was further compounded by a generally sluggish job market, as evidenced by sharply rising unemployment rates for professional and technical workers and the total civilian labor force, as shown in table 1.

Employers' disinclination to hire aerospace engineers also appeared to have affected reemployment possibilities. For example, a commonly heard term in connection with these engineers is "overspecialization." What could a "nose cone recovery expert" do outside of the aerospace industry? Many employers also thought they were not cost-conscious because many had not worked within strict budget limitations. Others felt if they hired an aerospace engineer, he would leave as soon as an opening oc-

curred in aerospace. Furthermore, because aerospace companies were laying off engineers all over the country, moving to another area could not solve the unemployment problem of engineers in this industry as it had during past cutbacks.

Engineering specialties not closely related to aerospace and defense activities generally had the lowest unemployment rates. Of these groups, civil engineers, who are employed in generally stable sectors, had a relatively low unemployment rate of 1.2 percent. They are employed in public works projects by Federal, State, and local governments, and in the construction industry which was not severely affected by cutbacks or the general state of the economy. Chemical engineers also had a low rate—1.9 percent—while chemists, according to another survey,[4] had a much higher one (3.0 percent). This may reflect the closer association of chemical engineers with the production process rather than with research and development.

Geographic areas

As one would expect to find, centers of former aerospace activities showed the highest unemployment, according to the EJC survey. Washington, California, and New York together totaled 40 percent of all the unemployed survey respondents and 51 percent of all engineers on the national registry.

Washington had the highest unemployment rate (7.3 percent) despite the fact it represented only 2 percent of the survey universe and a very small proportion of total private industry employment.[5] Most of the unemployment was in the Seattle area, which was severely affected both by the loss of aerospace contracts and reduced orders for civilian aircraft.

California had the next highest rate (5.3 percent); a substantial percentage of engineers making up the survey universe and employed in private industry were the State's residents. It also had the largest number of unemployed engineers—one-fourth of the jobless in the survey group—because many aerospace companies are located in this State. Other States with relatively high unemployment rates were Connecticut, 4.4 percent; Massachusetts, 4.3 percent; Florida, 4.1 percent; New Jersey, 3.4 percent; and New York, 3.2 percent. (See table 3.)

The U.S. Department of Labor surveyed the 24 areas most severely affected by these cutbacks. In table 4, unemployment rates for engineers are compared with the rates for all workers in the 14 areas[6] identified as having the greatest number of unemployed scientists, engineers, and technicians.

Table 3. Percent of unemployed engineers among EJC respondents and in private industry, by selected States

State	EJC survey respondents (June–July 1971)			Percent of all engineers employed in private industry (1969)
	Unemployment rate	Percent of all unemployment	Percent of survey universe	
Washington	7.3	5	2	2
California	5.3	25	14	16
New York	3.2	10	9	12
Connecticut	4.4	4	2	3
Massachusetts	4.3	6	4	4
Florida	4.1	3	3	2
New Jersey	3.4	6	5	5

SOURCE: Original data from the **National Survey of Engineering Employment, 1971** (New York, Engineers Joint Council, 1971); **Scientific and Technical Personnel in Industry, 1969** (BLS Bulletin 1723, 1971).

Table 4. Unemployment rates for engineers and for all workers in 14 impacted areas

Area	Unemployment rates (percent)	
	Engineers	All workers
Seattle, Wash.	9.0	14.1
Orange County, Calif.	7.4	7.4
Wichita, Kans.	7.1	10.7
Los Angeles–Long Beach, Calif.	6.6	7.5
Cape Kennedy, Fla.	6.6	----
San Diego, Calif.	5.8	6.2
Boston, Mass.	4.5	6.2
Philadelphia, Pa.	3.8	6.2
New York, N.Y.	3.7	5.1
San Jose, Calif.	3.5	6.5
Dallas–Fort Worth, Tex.	3.0	----
Huntsville, Ala.	2.7	5.2
St. Louis, Mo.	2.2	6.4
Atlanta, Ga.	1.5	3.7

NOTE: Unemployment rates for engineers were developed from data obtained by the Engineers Joint Council for the National Science Foundation during June–July 1971. Second quarter 1971 unemployment rates (not seasonally adjusted) for all workers were developed by the Department of Labor. Dashes indicate data are not available for Dallas-Fort Worth, Tex., and Cape Kennedy, Fla.

SOURCE: **Science Resources Studies Highlights,** National Science Foundation, July 2, 1971; **Area Trends in Employment and Unemployment** (U.S. Department of Labor, Manpower Administration, 1971).

Age and educational attainment

In the EJC survey, the highest unemployment rates occurred among engineers 24 years old and under, and those over 60, as shown in table 5. The situation among those 24 years and under, however, may

not be as severe as their unemployment rate implies. Many in this age group indicated on the EJC survey questionnaire that they were still in school, either full time or nearly full time. They would therefore be considered "students" rather than unemployed engineers. In addition, the survey was made just prior to graduation, a period when it is not unusual for students to be unemployed. This age group constituted only a small proportion (2 percent) of the total survey universe, which is not a very representative sample of newly graduated engineers. There are other reasons for believing the rate for this age group may not be as high as indicated. Young engineers generally have an easier time finding reemployment than older engineers, and many new graduates do not seek employment immediately after receiving their diplomas.

There was an inverse relationship between age and unemployment in the age group of 25 to 39 years, but at 40 the rates began to increase with age. Older engineers may be considered by many potential employers to be less adaptable or too specialized. Also, when the layoffs occurred, the younger, less experienced engineers were laid off first. These workers looked for jobs and by the time RIF's (reduction in force) hit the older, more experienced engineers, most of the better engineering positions had already been filled.

Unemployment among engineers varied considerably according to their educational attainment. Table 6 ranks unemployment according to degree level.

Table 5. Unemployment rates and percent distribution of EJC survey respondents, by age group, June–July 1971

Age group	Unemployment rate	Unemployed EJC survey respondents	EJC survey sample universe
Total	3.0	100	100
24 years and under	5.5	4	2
25 to 29	3.3	12	10
30 to 34	2.2	10	13
35 to 39	2.2	10	13
40 to 44	2.7	14	14
45 to 49	2.8	16	16
50 to 54	3.3	14	12
55 to 59	4.1	11	8
60 to 64	4.2	6	5
65 and over	3.4	2	6
No report	2.4	1	1

SOURCE: Original data from the **National Survey of Engineering Employment, 1971** (New York, Engineers Joint Council, 1971).

Table 6. Unemployment rates and percent distribution of EJC survey respondents, by educational attainment, June–July 1971

Degree level	Unemployment rate, EJC survey	Percent of all unemployed	Percent of sample universe
Total	3.0	100	100
Less than bachelor	4.4	16	11
Bachelor	2.8	51	56
Master	3.2	26	24
Ph. D	1.9	5	9

SOURCE: Original data from the **National Survey of Engineering Employment, 1971** (New York, Engineers Joint Council, 1971).

Engineers with a Ph. D. suffered the least unemployment, while those below the baccalaureate level experienced the most. Engineers with less than a bachelor's degree made up a substantial portion of the unemployed in the EJC survey and of those on the national registry—16 and 17 percent, respectively. The fact that these engineers represent just a small group among registered engineers and yet had such a high unemployment rate is significant. Many engineers without even a bachelor's degree were hired during shortage periods. They performed similar functions as the graduate professionals and called themselves engineers, yet were not considered such by many engineering societies.

Next to the doctorate, those with the bachelor's degree fared best. Their unemployment rate was below the average for all engineers, although they represented more than half the unemployed in the survey group and formed the bulk of those listed on the national registry (61 percent).

The unemployment rate for holders of a master's degree was 3.2 percent—above the average for all engineers. They totaled more than a quarter of the unemployed engineers in the EJC survey and accounted for almost a fifth of those on the national registry.

Length of unemployment

Engineers generally seemed to have remained unemployed for a longer period of time than most other professional workers. The average length of joblessness for all professional and managerial workers during 1971 was 14 weeks[7]; 15 percent of them were out of work 27 weeks or longer. Engineers surveyed by the EJC during June-July 1971 were unemployed an average of 30 weeks. Between April 1971 and February 1972, the number of engineers

on the national registry unemployed over 24 weeks increased from 43 percent to 79 percent of the total.

A period of lengthy unemployment, or of stopgap jobs in fields unrelated to engineering, may be compounding the difficulties of jobseeking for many engineers. An engineer already handicapped by age, educational, and specialty considerations and by lack of opportunity in his geographic area may also encounter more difficulty in finding a position as time passes and his experience becomes less current.

Previous incomes

Table 7 shows the income ranges of engineers on the national registry and of those employed in manufacturing, as reported in a salary survey taken by the Engineers Joint Council during 1970.[8] Salaries from the two sources are not directly comparable because the registry group does not constitute a scientific sample, and the time period of the previous salaries and comparability of positions (supervisory and nonsupervisory) for them are not known. However, since registry data are the only information available on incomes of unemployed engineers and the majority (about 90 percent) of the registrants had previous aerospace experience (aerospace engineers are characterized as highly paid), it is interesting to look at their incomes and those of engineers in all manufacturing.

The table shows that the annual incomes of engineers on the registry were not as high as those calculated for all engineers in manufacturing. A much larger proportion of the registry engineers earned $10,800 or less, and a smaller percentage earned $16,800 and over, compared with all engineers in these ranges. The cause of disparity may be the high representation of engineers without degrees (17 percent) on the registry, who perhaps earn lower salaries than graduate engineers.

Table 7. Percent distribution of engineers on national registry and all engineers in manufacturing, by income range

Annual income	Registrants in National Registry of Engineers	All engineers in manufacturing
$10,800 and under	15	5
$10,801–$13,200	23	21
$13,201–$16,800	33	34
$16,801–$21,600	23	28
$21,601 and over	6	12

SOURCE: **Professional Income of Engineers, 1970** (New York, Engineers Joint Council, 1970). Data from the National Registry of Engineers are not published.

Conclusion and outlook

Among unemployed engineers, those formerly in aerospace work, regardless of their specialty, are having the most difficulty in finding suitable employment. This is especially true for those who have had no previous engineering experience outside of the aerospace industry. Older engineers and those with less than a bachelor's degree also are experiencing hardships.

Engineers engaged in aerospace activities were hurt by many factors, such as mass layoffs, a slower economy and a corollary slow hiring in other industries, and stigmas attached to aerospace engineering. Also, it is thought that many engineers accepted marginal jobs because they believed aerospace activities would be revived, and they were willing to wait for the resurgence of hiring. By the time they realized this would not happen, the opportunities for better jobs were gone.

Many of the engineers previously employed in connection with aerospace and defense activities have specialized skills that may not be transferred to other sectors of the economy. To help assimilate these engineers into the labor force, the U.S. Department of Labor sponsored a study[9] which identified as many as 55,000 opportunities for professional jobs for unemployed aerospace and defense engineers, scientists, and technicians that could be filled through 1975. The study cites 14 major areas of work: food, health care, transportation, wood products, power resources, pollution control, security systems/criminal justice, ocean engineering/oceanography, banking/finance, solid waste, petroleum/chemical, education technology, public service, and occupational safety.

The current unemployment situation for engineers appears to be a short-term problem. There are indications that the trend is reversing. For example, the number of engineers on the national registry has declined 6 percent during the first 2 months of 1972. Also, engineer's unemployment rate in the second quarter of 1972 was 1.9 percent, compared with the average of 2.9 percent a year earlier.

Projections based on specific economic and demographic assumptions, developed by the Bureau of Labor Statistics, indicate there will be an increase

in demand for engineers between now and 1980, hence, also greater job opportunities in the long run.[10] □

———*FOOTNOTES*———

[1] The engineers' unemployment rate should be interpreted with caution since it is based on a sample survey. For instance, there is a 90-percent chance that the rate for the first quarter of 1971 could be as high as 3.7 percent or as low as 2.7 percent.

[2] *Science Resources Studies Highlights,* National Science Foundation, Sept. 23, 1971. The survey, conducted in June–July 1971, included about 100,000 members of engineering societies. A response rate of 65 percent (59,200 respondents) was achieved.

[3] The unemployment rate was computed by dividing the number of unemployed engineers seeking work by the total engineering population, which includes all engineers employed in engineering- and nonengineering-related jobs plus the unemployed. This is basically the same procedure used by the Department of Labor in computing unemployment rates.

[4] *Science Resources Studies Highlights,* National Science Foundation, July 2, 1971.

[5] *Scientific and Technical Personnel in Industry, 1969* (BLS Bulletin 1723, 1971).

[6] The other 10 areas of substantial unemployment are Hartford, Conn.; Chicago, Ill.; Crane, Ind.; New Orleans, La.; Baltimore, Md.; Columbus, Ohio; McAlester, Okla.; Philadelphia, Pa.; Houston, Tex.; and Texarkana, Tex.

[7] *Employment and Earnings,* January 1972, p. 128.

[8] *Professional Income of Engineers* (New York, Engineers Joint Council, 1970), p. 16. Registry data reported in February 1972 refer to salaries earned during 1970 and 1971.

[9] *Studies of Conversion of Aerospace and Defense Industrial Professionals,* National Society of Professional Engineers, 1972.

[10] These projections and underlying assumptions are contained in *College Educated Workers, 1968–80* (BLS Bulletin 1676, 1970).

Oversupply vs. shrinking demand

The Engineer Scientist Demand Index maintained by Deutsch, Shea and Evans, Inc. shows a continuing upward trend which in June reached 67.2, the highest level in 27 months. A DS&E spokesman says that 'though overall demand still remains relatively low, this sustained upturn is encouraging evidence that the employment market for technical people has turned a corner.'

Engineer/Scientist Demand Index
(1961 = 100)

	Jan.	Feb.	Mar.	Apr.	May	June
1962	138.0	134.7	131.2	140.0	141.6	120.2
1967	170.7	152.8	133.1	158.2	155.4	140.7
1971	37.4	43.1	42.7	39.2	42.5	37.3
1972	46.4	56.7	55.6	65.6	58.5	67.2

Manpower Comments
Published by the Scientific Manpower Commission
in cooperation with
the Engineering Manpower Commission
September 1972

On the accuracy of labor force projections

Analysis of results for 1960, 1965, and 1970, and more recent data presage a growing gap between the projected female labor force and its actual size

MARC ROSENBLUM

PROJECTIONS of the female labor force by the Bureau of Labor Statistics proved to be correct for 1965 but were low for 1970.

Will they be back on target for 1975?

The analysis in this article, covering BLS projections for 1960, 1965, and 1970, suggests (1) that the 1975 projections may also turn out to be low, and (2) that the implications of this possibility merit examination because of the wide circulation of the projections and their utilization in public and economic planning. The implications of the underestimate for planners and policymakers are consistent with the findings of T. Aldrich Finegan, recently reported in the *Review,* that a return to full employment "will require larger absolute and percentage increases in employment than those recorded in any previous postwar recovery." [1]

Role of labor force projections

Why are labor force projections important? Or, to put it another way, from what perspective is their analysis useful?

Labor force projections estimate the total number of persons of working age who will be employed, unemployed, or out of the labor force in a target year. Since 1967, this population has been defined as 16 years old and over; before that, it was defined as 14 years old and over. The forecasts are derived from projections of demographic characteristics and participation rates of each subgroup, and then summed.

Each set of projections yields:

1. Estimates of the labor force stock for a target year.

2. The net labor force change between two such years, or over a specified period.

3. Data on specific subgroups that also can be used for other manpower analysis.

Marc Rosenblum is assistant professor of economics, John Jay College, City University of New York.

This provides a basis for evaluating the proportion of the relevant population who will participate in labor force activity under stated conditions. Considering national concern with the achievement and maintenance of full employment, projections provide insights and clues to emerging problems and their likely magnitudes.

Current manpower problems are dealt with on the basis of existing labor supply as a "given." This approach cannot be applied to questions dealing with moderate-range to longrange labor supply, primarily due to the changing demographic character of the labor force.

Furthermore, aggregate labor force projections derived from forecasts of gross national product are of the demand for labor at stated real wage rates (based on a desired rate of growth combined with given assumptions about the behavior of productivity and hours) without consideration of potential supply. Differences between projected labor requirements and supply result in a potential problem being uncovered, if both sets of forecasts are compared.

This problem can be viewed from either the demand or supply side. From a demand standpoint, the rate of economic growth used in forecasting gross national product may be insufficient to maximize potential output. A full-employment gap can develop. Where the utilization of national manpower resources is of primary concern, an aggregate supply surplus means either unemployment or reduced participation by persons unable to find employment at given wage rates.

To recapitulate the utility of labor force projections: they can serve as input to other economic models and provide indications of labor requirements necessary for a target growth rate that would clear potential supply given the rate of real wage growth. Alternately, if national economic growth projections are made separately, the extent of a pos-

sible full-employment gap is more clearly outlined.

Knowledge of the gap between actual performance in the base period and projected performance at full-employment levels is a first step in determining policies to deal with the differences. These manpower policies cannot function effectively in isolation, but must be implemented as part of a broader program to promote vigorous and stable national economic growth.

On a disaggregated level, projections by age and sex can be used in connection with possible improvement of efficiency in labor markets. Efficiency of labor markets, or the degree to which their operation has been hampered by imperfections, also bear on the economic growth rate.

A detailed study of the nature of labor market imperfections is clearly beyond the scope of this article. By way of illustration, however, even imperfections discovered by forecasters may prove beyond solution. Unemployment throughout the 1960's was increased by a steady stream of teenage entrants, a development foreseen by Labor Department analysts. The lack of demand for young unskilled workers in such large numbers resulted (despite manpower program efforts) in an average unemployment rate for persons aged 16 to 19 of 14.6 percent for the 11-year period, 1960–70.

Labor force projections, either disaggregated or in sum, do not solve manpower problems. They direct attention to possible imbalances which, if the underlying assumptions of the forecast hold up, may occur. These imbalances can be considered the outer limits within which likely alternatives may develop.

If imbalances illustrate the negative, or corrective, function of labor force projections, feasibility studies represent a more positive utilization. While most questions of this nature deal with occupational requirements and the correspondence of potential supply, broad national objectives can be set in terms of aggregate labor force projections. An example of this type of measurement would be to gage the hypothetical impact on the civilian labor force of mobilizing 15 million men into the armed forces in 1975.

Information of that type, alone, is insufficient for occupational planning or other specific manpower uses. Manpower programs and policies clearly are determined on additional or other bases. The broad outline of such programs, or aggregate constraints within which these policies can be formulated, however, is delineated by labor force projections. This is their primary importance, and the perspective from which to judge their usefulness and contribution to our understanding of labor force behavior.

Findings

The findings dealt with in this study may be divided into those bearing on current labor force projections and those summarizing two decades of Labor Department research. The former, with more topical implications, is presented first.

Current 1975 projections. By 1975 the female U.S. labor force could approach 36 million, exceeding government projections by about 2 million women. That would represent an underprediction of approximately 6 percent, the Bureau of Labor Statistics having projected 33.9 million women in the 1975 labor market.

A similar underestimation occurred in 1970, when the female labor force surpassed BLS projections by nearly 6 percent despite a situation of less than full employment. This underprediction suggests that major changes in participation rate patterns have taken place since 1965 (when the accuracy of female projections was satisfactory), and that growth of the female labor force attributable to positive changes in the participation rate since 1966 has been well beyond a level explainable by economic factors alone.

The Bureau first anticipated a tapering off of growth in the female participation rate in the late 1960's, a pattern now expected for the upcoming years. If this tapering off fails to occur in the 1970's —a distinct possibility—and if projections of the male labor force are accurate, the total labor force would reach around 95 million persons by 1975.

Systematic comparison of the reported actual labor force size and participation rates against their projections also suggests that more accurate estimates could be made if economic environments of less than full employment also were used to make projections. This finding lends empirical support to past criticism of BLS projections when they were subjected to detailed analysis.[2] Disagreement with the Bureau's methodology focused on its policy of issuing a single projection for each target year based on an assumption of full employment.[3]

The author constructed a hypothetical 1970 labor force with 4.0 percent unemployment (rather than the actual 4.9 percent) which was closer in size to the government labor force projection for men,

while accenting the Bureau's misestimation of trends in female participation rates. Comparison of both the hypothetical and actual labor force figures with the projected figures also permitted distribution of projection error by source of influence on participation rates, as part of the overall evaluation of national labor force projections.[4]

A careful reading of the pattern of errors in past projections may permit reassessment of current forecasts in a new light. This assumes that the reasons for these over and underestimations, systematically identified, can provide needed insights.

Patterns of accuracy for 1965 and 1960 were similar, but unlike 1970 mostly in terms of magnitude of the average error for women. (This outcome is not unreasonable, since the 1970 projection set included 6 of 7 forecasts made prior to 1966. After that year, female participation rates deviated sufficiently from previous trends to cause projections for later years to miss by a wide margin.)

This shift in participation patterns has been well beyond a level explainable by economic factors, that is, increased demand and wage levels, alone. The magnitude of the shift suggests the influence of social and psychological factors in addition to the economic ones, and to an interaction among them.

Some of these factors reflect the changing role of women in society: growing work aspirations (backed up by statutory safeguards to prevent sex discrimination), greater willingness of mothers and employers to use child-care facilities, the need for more than one household paycheck, caused both by inflationary pressures and the steadily rising American standard of living, plus the postponing or foregoing of traditional family and childbearing responsibilities by many young women. While there may be asymptotic limits to growth in participation rates, these and additional factors hint that females, age 20–54, have not reached them yet.

In this light, the 1975 projections are examined. As table 1 indicates, in 4 of the 5 subgroups to age 54, actual female labor force participation rates in 1970 were already at the level projected by BLS for 1975, and 0.1 percent below for the fifth.

The participation rates of every subgroup (with the exception of the age 65 and over group) was projected below the participation rate suggested by carrying forward data for the period after 1955—a linear extrapolation. Thus, it appears that if the actual trend of female labor force participation does not shift downward, the accuracy of 1975 BLS labor force projections may suffer a fate similar to the 1970 set.

This implies an underestimation of labor force size for the years immediately ahead, especially during periods of expanding employment opportunity. Or, conversely, a more vigorous expansion of employment will be needed to accommodate the larger-than-projected labor force these figures suggest.

Female participation patterns. The mean female labor force projection error of 8.72 percent for 1970, indicative of the increased overall trend of female participation, is even better understood in the context of the other target years. If the earliest (1952) projection is dropped from consideration, the mean female error falls to 0.70 percent in 1960 and 0.71 percent for 1965. This is an interesting finding, although caused in part by the difficulty of drawing statistical averages from small samples.

What it also suggests, however, is that except for the first post-World War II effort (based on trends in participation rates between 1920 and 1951), female labor force behavior was rather accurately forecast, too—a fact submerged by the 1970 experience in the overall averages.

While some measure of improvement in mean error can be obtained by dropping the earliest forecast from each target year's set, on the other hand, the average error by sex masks two countertrends which work in favor of the forecaster. The strong upward influence on overall female participation comes from younger women, mostly 20 to 34 years old but to some extent in the 35- to 44-year-old subgroup, too. Participation rates of older women,

Table 1. Comparison of projected 1975 labor force participation rates of women with actual 1970 rates

Age group	1975 projections by year of BLS forecast			1975 trend[4]	1970 actual[5]
	1962[1]	1964[2]	1970[3]		
16–19	38.8	39.4	41.2	42.5	43.7
20–24	46.5	50.3	56.9	59.1	57.5
25–34	38.0	38.6	44.4	46.2	44.8
35–44	47.9	47.5	51.0	52.1	50.9
45–54	56.0	55.3	53.9	56.8	54.0
55–64	42.5	43.8	44.3	47.1	42.5
65 and over	10.5	9.8	8.8	8.6	9.3
16 and over	39.5	40.5	42.5	44.0	42.8

[1] Special Labor Force Report No. 24.
[2] Special Labor Force Report No. 49.
[3] Special Labor Force Report No. 119.
[4] Linear trend extrapolation for 1975 computed from 1955–70 base.
[5] 1971 Manpower Report of the President, table E–2.

however, were overpredicted for 1970 set in all subgroups above 45 years of age.

What happened suggests a relative displacement of older women by younger ones due to differing growth in participation rates within the female labor force beginning in the late 1950's, preceding and leading to relative displacement some years later of male workers by women. Of course, this does not imply that displacement is direct, on a one-to-one basis. More likely, it operates with some time lag, replete with several levels of bumping the less skilled.

It is this phenomenon of differential rates and directions *within* the female labor force that is not immediately apparent. Since the two errors were offsetting, the mean misestimation for each projection and for the whole set of projections covering each target year was understated in terms of the individual subgroups.[5]

Hypothetical labor force. Had the economy operated at a full employment level during 1970, the male labor force would have been overpredicted by a smaller amount, as more men would have worked or sought jobs. The magnitude of error with respect to women would have been even greater, however, because women were already underpredicted.

To determine how accurate the 1970 projections would have been if full employment had prevailed, the author constructed a hypothetical full employment labor force for 1970.[6] Using an assumption of 4.0 percent unemployment to represent a full employment economy, it was estimated that an additional 593,000 persons of both sexes would be added to the civilian labor force. (The armed forces were held constant at actual levels.) The effect this had on labor force projection error is shown in table 2.

The differences shown in table 2 are defined as *induced* by the elasticity of labor supply in response to the increased economic activity that would have been required to reduce unemployment from 4.9 percent to 4.0 percent in 1970. We also define as *autonomous* projection error that which is attributable to misestimation of participation rates due to all other factors, quasi-economic and noneconomic.

Projection error, the difference between projections and actual results, can be distributed between population and labor force participation, proportionally. Comparison of both the hypothetical and actual labor force in 1970 against projected figures then permits calculation of projection error attributable to the various sources, as shown in table 3.

Table 2. Comparison of the average actual error in projecting the 1970 labor force with the hypothetical error [1]

[Numbers in thousands]

Sex	Actual outcome		Hypothetical outcome		Difference	
	Number	Percent	Number	Percent	Number	Percent
Male	−817	−1.50	−499	−.91	318	.59
Female	2,130	6.75	2,405	7.55	275	.80
Both sexes	1,313	1.53	1,906	2.20	593	.67

[1] The hypothetical labor force was constructed using the revised definition of labor force. Inferential measures could not be applied to the differences, since in this instance the outcome of the actual projections is not statistically independent.

SOURCE: Computed by the author, using actual projections for 1970 made in 1962, 1964, and 1968 (the only ones for which a 16-year-and-over labor force could be calculated).

Read another way, if economic activity had been at the full employment levels assumed in the projections, the error attributable to the induced participation rate would drop out altogether, and the autonomous error would be the participation rate total. The same interpretation evolves from this data as from table 2: male projection would have been even more accurate and female projections would have been even more inaccurate had the full employment assumption been met. Although forecasters cannot hope to fully control all influences, their classification in this manner more clearly identifies magnitudes from past experience.

Alternate projections. While BLS, for the most part, has declined to make alternate projections, one recent experiment was made along these lines. In retrospect, it proved to be more accurate than the basic projection.[7] In the basic projection it was assumed that rates of change in labor force participation would slacken off from trends developed in the postwar period, 1947 to 1963. The alternate set extended these trends through to 1970.

This result further illustrated the hazards of manpower projections. Not only must a wide variety of noneconomic factors be considered that affect labor force behavior,[8] but selection of the base period or benchmark from which to extrapolate trends in relation to past performance can also influence the outcome.

The main impact of the alternate projection was on rates of labor force participation for women, which led to an increase of 905,000 more women (16 years and over) in the labor force than the number in the basic projection. In fact, even this higher figure, however, was 998,000 fewer than the

actual total for 1970. Since then, no alternate projections have been made. (See table 4.)

Accuracy of basic projections

What assessment can be made of the basic projections, the 16 separate forecasts made for the 3 target years? Without reference to findings disaggregated by sex and year, the overall pattern (except for female, 1970) was one of generally acceptable results.

This may be tempered somewhat by the fact that 1960 and 1965, the other target years, were characterized by less than full employment. Had that occurred, the shortfall in the projection of the female labor force would have increased in both years. Conversely, the overly high forecast for men would have diminished, and for 1960, would have been all but eliminated.

As reported, projections of the total labor force averaged from approximately 1 percent too high to 2 percent too low, in most cases. These aggregate totals failed, however, to reflect wide differences in terms of sex and between groups of projections (based on actual economic conditions in each target year), and were dependent on the projection's timespan. These figures are summarized in table 5.

Primary and secondary. Projections of the primary labor force have been more accurate than those of the secondary labor force. (The primary labor force is defined as males between 25 and 54 years of age. Since most household heads are in this category, this force is considered to have more uniform and stable participation patterns, and to be highly inelastic and insensitive to changes in demand for labor.) While this would seem likely in view of the findings above, separate measures were applied to confirm the distinction. The following tabulation combines all projections in this category and shows the average percentage error in projecting the primary and secondary labor forces in the 16 projections made for 1960, 1965, and 1970:

	Primary	*Secondary*
Mean error	—.74	1.18
Standard deviation	(.69)	(2.68)

The low, positive error for the secondary labor force results from offsetting errors, with young and old men overpredicted and the female labor force underpredicted. That pattern explains the deviation around the average secondary labor force, more than twice the size of the error itself.

Time. Projections made closer to the target date tend, of course, to be nearer to the actual outcome than those made further back in time. The correlation coefficient of mean error and timespan of projection was rather clear when taken for the entire set of forecasts: for the male labor force, $r = .79$, and for females, $r = .80$. This would suggest that BLS forecasters made use of feedback from changes in participation rates during the interim years between some projections.

Color. The question of comparing labor force projections on the basis of color cannot, as yet, be fully answered. Special difficulties preclude anything but a preliminary review of the results.[9] The main problems are (1) the recognized census undercount of per-

Table 3. Distribution of the 1970 labor force projection error [1]

Sex	Average error in projecting the labor force		Factors to which error can be attributed			
			Population	Labor force participation rate		
	Number	Percent		Total	Autonomous	Induced
Male	817	−1.50	−.01	−1.49	−1.07	− .42
Female	2,130	6.75	.45	6.30	7.31	−1.00
Both sexes	1,313	1.53	.23	1.30	3.08	−1.78

[1] Computed on 1962, 1964, and 1968 projections only.

Table 4. Comparison of 1970 labor force projection error, basic and alternate 1964 projections

[Percent]

Sex	Projections			t-value
	Basic (actual)	Alternate (actual)	Difference	
Male	−1.14 [1] (.22)	−.89 (.37)	.25	1.42
Female	6.03 (.20)	3.16 (.42)	2.87	[2] 15.11
Both sexes	1.50 (.34)	.60 (.95)	.90	[3] 2.18

[1] Figures in parentheses represent standard deviations calculated on the error within each of the 7 subgroups for each sex. Difference in means taken between groups.
[2] Significant at the .025 level.
[3] Significant beyond the .0005 level.

SOURCE: Computed from data in Sophia Cooper (Travis) and Denis Johnston "The Outlook for Labor Force at Mid-Decade," Op. cit., and **1971 Manpower Report of the President.**

sons other than white, which affects estimates of employment, unemployment, and labor force size; and (2) only a single projection for 1970 made during the timespan considered in this study. Nevertheless, in view of the strong and continuing interest in the employment problems of nonwhites, some comments are in order.

While generalizations should not be drawn from a single observation, the projection of white men was more accurate for 1970 than that for Negro men. For women, the reverse was true.[10] Interpretation of these findings should probably be deferred until more data is available for review.

Statements regarding the accuracy of Bureau of Labor Statistics labor force projections must take into account the purpose and timespan of potential users. Where a forecast of labor force stock is the desired end result (as input for GNP projections) past forecasts of total labor force have had a mean error of 0.45 percent with standard deviation of 1.44 percent.

Submerged in this figure, however, are distinct and wide differences: between sex, between each set of projections, and within the projections for a target year dependent on the timespan remaining. And, most important, the differences in the outcomes of projections by sex have been of an offsetting nature, so that the total labor force figures are more accurate than the components from which they are constructed.

Where manpower considerations are involved and the labor force status of persons in specific age, sex, and color categories is under discussion, the results of past projections are even more varied. Nevertheless, if these magnitudes of error in projections by these categories are within a range of acceptable outcomes for users, the BLS projections are a highly useful source of information on future labor force size and composition.[11]

Table 5. Average labor force projection error, by sex and year

[Numbers in thousands]

Year	Male		Female	
	Number	Percent	Number	Percent
All years	−1,107	−2.09	1,525	5.02
	(521.24)	(.97)	(1,382.81)	(4.46)
1960	−521	−1.05	537	2.28
	(171.1)	(.40)	(658.9)	(3.22)
1965	−1,283	−2.49	545	2.05
	(344.6)	(.74)	(731.2)	(3.07)
1970	−1,316	−2.40	2,783	8.72
	(507.3)	(.98)	(948.9)	(3.15)

NOTE: Figures in parentheses represent standard deviations calculated on the error within each of the 7 subgroups for each sex. Difference in means taken between groups.

Implications for research

The finding that major changes in participation rate patterns have taken place over the past several years has implications for labor force research. In effect, analysis and projections of the U.S. labor force will have to weigh the 1965–70 period more heavily, omitting results of the pre-Korean War period (and possibly pre-1955), and considering careful use of nonlinear participation functions for those subgroups where they may be warranted, at least in the shortrun.

Ideally, additional research dealing with labor force projections should be conducted simultaneously by both academicians and the Bureau of Labor Statistics. Within the Department of Labor, however, projection research and manpower forecasting cannot be considered priority activities.

In fact, absence of the immediacy and topical interest enjoyed by some Departmental programs has precluded all but a modest investment of resources into projecting labor force. Therefore, further possible improvement in projection accuracy remains conjectural as long as more work in the evaluation of forecasts is not reported for comparison by the academic community.

Some suggestions. The relative lack of research interest in labor force and participation rate projections may stem, in part, from the limited manner in which they have been used to date. Further development and application of social systems theory could include manpower information systems linking expected aggregative behavior and actual results. Discrepancies could serve as immediate indicators that projected normative conditions were not being realized. Proper interpretation of these discrepancies could provide quantitative data on the direction of flow as well as the labor force stock—at a point in time or anywhere from that point to a target date beyond. These data would be available on the aggregate labor force, and could be disaggregated along each dimension for which projections are made—sex, age, color, primary-secondary labor force, or any other breakout that may become appropriate or useful.

Specifically, some limited but additional steps can be taken:

1. A survey of labor force and participation rate projections made by other industrial nations, including measurement of their accuracy. Comparison of the outcomes and explanation of differences in accuracy associated with various factors could also be included.

2. A continued assessment of Labor Department activity in this field. A larger set of projections will be available for 1975, 1980, and beyond. Although the numbers will still be small compared with large sample survey research, the impact of a single wild result on central tendencies in the projections will steadily diminish. The recent expansion of available data to include participation on both total and non-institutional bases will permit consistency without converting the published series (as has thus far been necessary).

3. As additional studies are made of productivity, hours, full-time and part-time employment patterns, and reasons for nonparticipation, the results can be utilized to refine projection research. Given forecasting methodology, all factors similar to those already discussed that influence decisions to participate in the labor force are expressed in the participation rate for each subgroup. As all the contributory elements of the employment nexus get to be understood in greater detail, this rate could reflect the research advances being made in labor force studies. □

———*FOOTNOTES*———

[1] T. Aldrich Finegan, "Labor force growth and the return to full employment," *Monthly Labor Review,* February 1972, pp. 29–39. Finegan used 4.5 percent to define full employment; this report, the traditional 4 percent. See also Joseph L. Gastwirth's communication in this issue (October 1972), pp. 44–46.

[2] The manpower projections program has been going on since the early 1950's and the techniques employed have remained relatively constant. Projections have been published at about 3-year intervals although no formal schedule is observed. The projections are made for 5-year intervals to about 15 years in the future.

In line with the Gordon Report (President's Committee to Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment,* U.S. Government Printing Office, 1962), the definition of the labor force was changed in 1967 to raise the minimum age from 14 to 16 and to drop from the labor force count, persons previously considered unemployed who had given up the job search. Otherwise, the concept of participation in the labor force developed in the late 1930's remained in effect.

[3] The most frequent assumptions in Bureau of Labor Statistics manpower projections are (1) full-employment (4-percent unemployment), (2) no significant change in the size of the armed forces, (3) social and political stability, (4) continuation in education trends. These assumptions are essentially normative, reflecting Government policy goals. Critics have focused chiefly on the assumption of full employment. While a fully productive economy is the goal of every administration, the American experience has not followed that course, but has manifested alternating periods of labor market tightness and slack.

To the extent that any of the assumptions are not met during the target year, participation rates, and therefore labor force size, will vary from projected levels. Obviously some events are random and unforseen. Critics of the BLS single-assumption framework stressed the limited utility of these projections to users, unless their model contained assumptions similar to the Labor Department's stated conditions. The absence of any alternate assumptions contrasts with census population projections.

The need for multiple sets of projections has been called for by Richard A. Easterlin, "Discussion of Sophia Cooper and Denis F. Johnston, 'The Outlook for Labor Force at Mid-Decade.'" *1964 Proceedings of the Business and Economics Statistics Section* (Washington, American Statistical Association, 1965), pp. 387–392. Also, W. Lee Hansen, "Labor Force and Occupational Projections," *Proceedings of the 18th Annual Winter Meeting, 1965* (Madison, Industrial Relations Research Association, 1966), pp. 10–20.

[4] In the BLS projection program labor force size is obtained by multiplying the participation rate times the population projection for each age-sex subgroup. The total is a summation of subgroups. Participation rates are obtained by dividing the number of persons pursuing labor force activity by the number in each subgroup. Projection of future year rates involves a combination of objective calculation (primarily linear trend extrapolation) and subjective modification by the forecaster where it is believed that a straight linear relationship will not operate over time. It should be emphasized that all economic and noneconomic factors influencing people's decisions to seek employment are reflected in the participation rate. Forecasters must consider a multiplicity of these factors, some conflicting, in projecting a rate for each subgroup.

[5] For example, the most recent (1968) projection of female labor force for 1970 had an average underestimation of 5.85 percent. This masked a 10.78 percent underestimate of women aged 16–44, and a 2.50 percent overestimate of those 45 and over. Furthermore, the proportion of women below age 45 in the labor force will rise, according to the latest BLS projections, from 62.8 percent in 1970 to 63.6 percent in 1975.

[6] This was done by combining the elasticity of labor supply coefficients developed by Alfred Tella with the difference between actual 1970 unemployment and the number who would have been unemployed at full employment. For the coefficients, see Tella, "Labor Force Sensitivity to Employment by Age, Sex," *Industrial Relations,* February 1965, pp. 69–83. The difference between actual and hypothetical unemployment is added to the labor force, but in such a way that persons in that age-sex subgroup also seek jobs (in

some ratio representing the group elasticity). A reduction in unemployment due to increased labor demand thus brings back into the labor force some discouraged workers who had dropped out, and (in certain age subgroups) attracts new entrants who had not sought jobs in the belief that none were available.

[7] Sophia Cooper (Travis) and Denis F. Johnston, "The Outlook for Labor Force at Mid-Decade," *1964 Proceedings of the Business and Economics Statistics Section* (Washington, American Statistical Association, 1965), pp. 367–386. Also published, without the alternate projections, as "Labor Force Projections for 1970–80," *Monthly Labor Review,* February 1965, pp. 129–140; reprinted as Special Labor Force Report No. 49.

[8] For an illuminating discussion of future labor force participation modes, refer to Denis F. Johnston, "The future of work: three possible alternatives," *Monthly Labor Review,* February 1972, pp. 3–11.

[9] Not until the mid-1960's did the special labor force problems of minority group members lead to the creation of separate records. The first published study was Sophia Cooper (Travis) and Denis F. Johnston, "Labor Force Projections by Color, 1970–1980," *Monthly Labor Review,* September 1966, pp. 965–972; reprinted as Special Labor Force Report No. 73. Because the projections by color were made under the old labor force age definition of 14 years and over, all data used in this comparison has been adjusted to 16 years and over. The effect of this change is to increase the percent error for the total labor force (disregarding color) from 1.5 to 1.6 percent; for males from −1.14 to −1.18 percent; and for females from 6.0 to 6.3 percent.

[10] The added difficulty in projecting the labor force of males other than white is attributed to "irregular work patterns and discouragement." Sophia C. Travis, "The U.S. labor force: Projections to 1985," *Monthly Labor Review,* May 1970, pp. 3–12; reprinted as Special Labor Force Report No. 119. On one effect of the census undercount see Denis F. Johnston and James R. Wetzel, "Effect of the Census Undercount on Labor Force Statistics," *Monthly Labor Review,* March 1969, pp. 3–13; reprinted as Special Labor Force Report No. 105.

[11] This article is based on research completed while the author was a fellow of the University of Minnesota's Industrial Relations Center, with additional financial support by the University's Research Coordinating Unit and Computer Center. Helpful comments were obtained from H. G. Heneman, Jr., George Seltzer, Thomas A. Mahoney, and N. J. Simler of the university. The views are the author's.

Projections of population of the United States, 1970 to 2020

The national population projections given [here] are consistent with the April 1, 1970, census of population and take account of 1970 census data on age and sex. The four regular projection series, B, C, D, and E, differ only according to the assumptions for fertility; all four series use the same assumptions of mortality and immigration.

* * * * *

The projections of total population including Armed Forces overseas for the year 2000 range from 322 million in Series B to 271 million in Series E. Series B assumes that women who have not yet entered the childbearing ages . . . will have an average of 3.10 children per woman, while Series E assumes that these women will average 2.11 children. Thus a difference of about one child per woman means a difference of about 50 million in national population by the year 2000.

All four series project a continued increase in population over the next three decades, although Series D and E project a decline in the *rate* of population growth for the 1970's as compared to the 1960's. The projected number of births increases in the next two decades, even in Series E which assumes a decrease in fertility rates. This is due to the large numbers of females now entering the childbearing ages. . . .

. . . the percent increase in the total population and in the population under age 30 between 1970 and 2000 varies considerably under the four series. Under Series B, the total population would increase by 57 percent and the population under age 15 would increase by 65 percent. Under Series E, the total population would increase by 32 percent and the population under age 15 would increase by only 7 percent. The percent increase in the population age 30 and over is the same under all four series, because persons in these ages were already born by July 1, 1970. . . .

—*Projections of the Population of the United States, by Age and Sex: 1970 to 2020.* Current Population Reports, Series P–25, No. 470 (Washington, U.S. Bureau of the Census, 1971).

The British coal mine strike of 1972

The confrontation between coal miners, Coal Board, and Government raised questions about inflation policy and the enforcement of the new industrial relations act

DAVID WINCHESTER

DURING JANUARY AND FEBRUARY OF 1972, more than a quarter million British coal miners were on strike in what was probably the greatest confrontation between trade unions, employers, and the Government since the 1926 General Strike. The strike had crucial implications for the Government's attempts to control wage inflation, the current controversy over the role of labor legislation, and a wide range of other industrial relations issues. This article attempts to analyze the factors that led to the dispute and its settlement and to assess its impact on British industry.

That a major national strike took place in coal mining is not surprising, since in both 1969 and 1970 national negotiations had been difficult and large-scale unofficial (wildcat) strikes had broken out in many areas. Indeed, in 1970, the National Union of Mineworkers' executive board had recommended strike action and received 55.5 percent support in a pit-head ballot. At this time, however, the union's rules required a two-thirds majority before the board could authorize a national strike. This rule was amended to 55 percent at the union's July 1971 convention and a resolution calling for massive wage increases was passed, adding that the executive board should consult members on the issue of industrial action if no satisfactory offer was made by the National Coal Board, which has been operating the coal industry since its nationalization in 1946.

In September, demands for a weekly increase of £8 for surface workers, £9 for underground workers, and £5 for face workers (then earning £18, £19, and £30 a week, respectively) was formally submitted to the National Coal Board, which offered an increase of £1.80 in October. The union rejected the offer and embarked on an overtime ban beginning Nov. 1, 1971, and polled the union later that month, securing a 58.8-percent vote in favor of strike action.

The executive board unanimously agreed to call a national stoppage for January 9 and rejected marginal improvements in the Coal Board's wage offers on two occasions prior to this date. At this time, the union made informal approaches to the Trades Union Congress and transport unions to discuss union coordination and support in the event of a strike. The press focused attention on coal stocks being much higher than in previous years. Due to mild weather in the autumn and early winter, the Central Electricity Generating Board claimed to have coal stocks equivalent to 9 weeks consumption at average winter levels, in spite of the 2-month-old overtime ban.

Five days before the strike was due to start, the possibility of a settlement seemed to emerge. After informal talks with the Coal Board, the president of the miners' union hinted that they were "a lot nearer to a pay increase figure which would produce a settlement than was generally believed." [1] Negotiations continued the next day, the board offering a £1.90 to £2 a week increase, 5 additional rest days, and a productivity bonus scheme. The union executive board rejected this offer almost unanimously and agreed that the strike go ahead. This rejection seemed to surprise the Coal Board's Chairman, who 2 days later announced that the board had withdrawn all offers made during negotiations and that any future settlement would not be retroactive to Nov. 1, 1971 (terminal date of the previous agreement). This announcement caused widespread resentment and may have influenced the decision of many miners to refuse, against the advice of their union, to carry out essential safety duties as the strike began.

David Winchester is a lecturer in industrial relations, London School of Economics and Political Science.

The strike

When the strike began January 9, there seemed virtual unanimity among labor journalists, politicians, and academics that the miners would lose. It was apparent that the Government was as closely involved in the dispute as the two main parties; the last offer of an 8-percent increase in pay plus fringe benefits was at the upper limit of the 7- to 8-percent "norm" to which the Government was attempting to limit pay increases in the public sector. The last major group to challenge this policy—the postal workers—had suffered a humiliating defeat the previous year. However, in the first week of the strike, the solidarity of the miners became apparent and most other unions instructed their members not to cross picket lines. This instruction was not in itself surprising; but the location and persistence of pickets, which later became critical, was.

Miners were soon found many miles from their coalfields, picketing all coal-distribution centers, power stations, and docks. Little coal was transferred between power stations and a minimum of coke allowed into steelworks, and oil and chemical supplies to power stations were largely prevented. Nine days after the strike began, its political implications were manifested in a stormy debate in the House of Commons. Government spokesmen showed no intention of intervening in the dispute, but supported the offer made by the Coal Board, underlined the importance of restraining public sector pay awards, and seemed confident that no major damage to the economy would be incurred for several weeks.

But when the strike entered its fourth week, fears of massive disruption began to be expressed. Up to this point, picketing had been strengthened and widespread union cooperation consolidated by the involvement of the Trades Union Congress. By the beginning of February, a few firms had suspended guaranteed pay agreements and laid off workers, and there were growing problems in the supply of domestic fuels, with small voltage reductions being made in electricity supply. The growing bitterness of the dispute was exacerbated when a miner was killed by a lorry while on picket duty. Outside the largest coke depot still operating, more than 1,000 miners and 500 police faced each other. After many arrests and a strike of 40,000 workers in nearby Birmingham, the police advised that the coke depot should be closed. At the same time, with very little maintenance and safety work being performed in the pits, fears grew that many coal faces would never reopen.

On February 9, the Government declared a State of Emergency, relieving the Electricity Board of its statutory obligations to supply power on an uninterrupted basis.[2] Even at this point, Government spokesmen stated that extensive power cuts would not be necessary if an immediate settlement occurred. The next day, the Employment Minister met both sides, after which further talks took place under the auspices of the Government's conciliation officers. The National Coal Board made an increased pay offer of £2.75–£3.50 a week, but the offer would operate from the date of resumption of work and would last 18 months from then; in effect, the new offer amounted to an 8-percent annual increase, as before. This was rejected by the union executive board, and the next day the union said that it would accept increases of £4–£7 retroactive to November 1971. The Coal Board and the Government stated that they were unable to contemplate a settlement that size, negotiations broke down, and the Government announced that it would set up a Court of Inquiry to investigate the dispute.[3]

Settlement reached

Before the inquiry team met, the British people discovered for the first time the full extent of the power crisis. It was announced in a tense and angry House of Commons that British industry would have to be put on 3-day workweeks. No part of the community was to escape the power restrictions: householders would be subject to power cuts up to 9 hours every other day; schools would have no heating or lights; and shops, offices, and recreational facilities would be banned from using power for heating. Only essential services and industries—hospitals, ports, broadcasting, sewage, food services, and so forth—were exempt from the restrictions. Elsewhere, industrial production would be severely reduced. Apart from shorter workweeks, more than 1.6 million employees were laid off within a week of the announcement. One month earlier, the level of unemployment in Britain had exceeded 1 million for the first time in 30 years, so the extent of the crisis was not in doubt. The relative complacency of the Government and public 1 week earlier made clear that serious miscalculations had been made.

In this atmosphere of crisis, the Court of Inquiry chaired by Lord Wilberforce, a senior judge, was appointed on February 11. Within 4 days, it heard

evidence and took written submissions from the parties, and made its report on February 18.[4] The terms of reference of the Court had been "to inquire into the causes and circumstances of the present dispute." The Wilberforce Report recommended increases of £4.50, £5, and £6 on basic rates (table 1) to be retroactive to November 1971 and to be effective for 16 months. The Secretary of State for Employment presented the report to each side at separate meetings, after which they consulted with leaders of the Trades Union Congress and the Confederation of British Industries. Initially, and to many people astonishingly, the Mineworkers leaders rejected these recommendations—a reflection of the extent to which their position had hardened during the dispute. Negotiations continued throughout the day and evening, a breakdown being averted only by the intervention of the Prime Minister. The talks continued in Downing Street. By 1 a.m. the following morning, the Mineworkers negotiators had won further concessions on overtime pay, holidays, pensions, juvenile rates, and other increases estimated to add another £32 million to the wage bill. One week later, the settlement was endorsed by 96 percent of union members voting. The following Monday, almost all miners returned to work and the most onerous power restrictions were eased. A week later, 600,000 men were still laid off, domestic power supplies were still drastically cut, and a stunned nation was trying to assess the implications of the 7-week strike.

A special case?

The Wilberforce Report drew attention to many factors explaining why the miners forced a massive confrontation with the Government and why, with almost unprecedented public sympathy, they "won." Coalminers in Britain often live in poor housing in isolated communities and remain intensely loyal to each other. With a secular decline in the demand for coal and the introduction of highly mechanized production methods, the number of collieries has fallen from over 800 to less than 300 since 1957, and the number of miners has been reduced from over 700,000 to fewer than 290,000. The miners and their union cooperated with these developments in spite of enormous social and economic dislocation. At the same time, coal mining's traditional hazards and danger remained. In 1970–71, 92 miners died at work, 598 received serious injuries, and nearly 4,000 new cases of diseases in the coal mines were reported. In particular, it is becoming apparent that mechanization has increased the incidence of pneumoconiosis because of the difficulties of dust-suppression.

The last 16 years have also seen a complete restructuring of the coal industry's wage payment system. A day wage system of national rates has now replaced the previous system of local piece rates and regional differentials. This had created difficult problems for the industry—geological conditions often destroyed any rational link between pay and effort, required almost continuous bargaining and resulted in gross inequities in earnings, uncontrolled wage drift, and hundreds of work stoppages each year.[5] By 1970, the basic rates comprised more than 80 percent of total pay for underground workers; the average for all production industries was 67 percent and in several sectors less than 50 percent. This reform allowed management much more effective control of wage costs and a more equitable distribution of earnings as far as the union was concerned. However, in reaching this desirable position, the relative pay of mineworkers compared with those in manufacturing industries declined considerably. The extent of this decline varied according to the base date and statistical series used, but in the 4 years ending in April 1971, miners' pay fell from 107 percent to 93 percent of average weekly earnings in manufacturing industries. Furthermore, the wage structure reform resulted in problems of pay distribution within mining. By using the highest existing district rates as a level to which all face workers would be raised in a 5-year phased program, the National Power Loading Agreement of 1966 resulted in absolute, as well as relative, reductions in pay for some workers in coal

Table 1. Chronology of union demands, coal board offers, and estimated annual cost of the offers, 1971–72
[In U.S. dollars]

Date	Type of worker						Estimated annual cost of offer (millions)
	Surface		Underground		Face		
	Demand	Offer	Demand	Offer	Demand	Offer	
Sept. 1971	20.85	3.91	23.45	4.56	13.03	4.56	65
Feb. 10, 1972	15.63	7.82	18.24	9.12	10.42	7.17	83
Feb. 19, 1972 (Wilberforce Report)	13.03		15.63		11.72		221

NOTE: Pounds converted at official exchange rate of $2.6057 set as part of the Smithsonian Agreements December 1971. On June 23, 1972, after the coal settlement, the British pound was floated; it stood at $2.4468 on August 22, 1972.

mining.

Accepting that the miners had a "special case" for very large pay increases, the Court of Inquiry had to confront the extremely complex issue of the National Coal Board's ability to pay. Financing the settlement out of large price increases would lead inevitably to a severe contraction of the industry, as almost half of Britain's miners work in pits that are unprofitable. However, an assessment of a nationalized industry's financial position depends on unraveling its statutory obligations and financial objectives (set by the Treasury), pricing policies, import controls, taxes on competing products, capital structure, interest repayments on Government loans, and so on. All these ingredients in the accounting of nationalized industries are subject to changing political decisions. Thus, while it has been argued that the economic and financial position of the coal industry scarcely justified a pay increase of the unofficial "norm," 8 percent,[6] it was argued by the union that, in the 10 years following nationalization, the industry could have earned surpluses exceeding £2,000 million, had it not been prevented from so doing by Government fuel policies and price constraints. In any event, Wilberforce believed that if the exceptional pay increase "cannot be paid for out of the National Coal Board's revenue account . . . we think that the public, through the Government, should accept the charge." [7]

Inflation and public pay policy

Though the terms of reference of the inquiry excluded any mention of incomes policy or the national interest, the recommendations and the reasoning on which they were based inevitably had a crucial impact on the debate. The report justified its recommendations by distinguishing two elements in the pay increase. First, *periodic increases,* "designed to take account of the cost of living and other considerations," and second, an *adjustment factor,* implying special treatment. It is apparent, the report said, that there are times "when a definite and substantial adjustment in wage levels is called for." [8] The report argued that the enormous gap between the Coal Board's offers and the Mine Union's demands could be explained by these two separate factors. By isolating many of the unique features of the coalmining industry (discussed earlier), the report offered the Government and the rest of British industry a rather flimsy escape route in countering later wage demands that would be influenced by the miners' settlement. A settlement of up to 25 percent in the face of a government policy to limit public sector awards to an unofficial "norm" of 8 percent clearly demanded a "special case" explanation. But how effective was it likely to be?

First, the means by which the dispute was resolved raises several questions. As *The Economist* bluntly stated: "The money was delivered in the way that was most dangerous for the whole future of society—by calling in a high court judge to write quite incredible economic nonsense, so that a prime minister at midnight, and apparently a whole people thereafter, can kid themselves that they are performing an act of social justice when they know they are really surrendering to brute force." [9]

Eschewing any formal incomes policy machinery on taking office—no National Board for Prices and Incomes, no statutory controls, no criteria for wage increases—the Conservative Government has relied on influencing public sector pay agreements in its fight against the largely inherited problem of wage inflation. As more than 6 million employees work in the public sector, this policy could have a significant impact on collective bargaining in Britain. Unfortunately, however, the policy also has severe defects. In the first place, by attempting to de-escalate successive pay settlements, the merits or justice of individual claims became subordinate to their arbitrary position in the round of wage negotiations. This predictably incensed trade union leaders and their members. Second, this sense of injustice was exacerbated by the absence of a policy of wage restraint other than political exhortation. Also, the policy depended upon the acquiescence of management negotiators and the kind of control open to Government officials. The public sector in Britain is not homogeneous. The nationalized industries, civil service, and local authorities can be influenced in varying degrees by Government financial measures, but such intervention entails differing political consequences.

Perhaps most crucial of all, because negotiations are highly centralized in most parts of the public sector, any resistance by unions to Government restraint on pay can give rise to very large confrontations. In the last 2 years, national strike action has taken place in the postal service, local authorities, and coal mining, and industrial action causing widespread disruption has occurred in electricity supply and railways. These five instances of industrial action have involved more than 1.5 million workers. With the

exception of the railways dispute, they have also all given rise to courts or committees of inquiry. In the mining strike, as soon as the inquiry was announced, the union claimed victory. As the strike continued during the inquiry, the court's role was seen as largely a political exercise for making recommendations that would lead to a return to work. In the other four instances cited, the reports have done little more than provide a public facade for rewarding effective industrial action. The exceptional Government "victory" occurred in the case of the postal workers, where the committee's report recommended a 9-percent increase—virtually the Post Office's last offer before the 7-week strike. The other three reports granted pay increases approaching or exceeding 20 percent.

The need for a more permanent and consistent means of resolving potential confrontations between the Government and public sector trade unions is apparent to most observers in Britain. Given the present Government's decision to abandon the National Board for Prices and Incomes, clear solutions are not in sight. In addition, trade unions have viewed both the Department of Employment's conciliation and arbitration services and the private and voluntary arbitration clauses in many public sector bargaining arrangements with increasing suspicion in recent years. In both the coal mining and railways disputes this year, the unions have refused to submit their demands to the arbitration tribunals that form the last stage of the dispute procedures. As in many other public negotiation procedures, the arbitration stage is not compulsory, but the unions' refusal indicates a growing unease that tribunal chairmen cannot be independent or "neutral" in the context of public sector pay restraint policies. The Trades Union Congress, the Confederation of British Industries, and the Government discussed ways to develop a new system of independent conciliation and arbitration services, but prospects of agreement on far-reaching changes do not appear great.

Labor law and industrial action

The miners' strike raises a number of complex legal and political issues in the context of the radical changes in British labor law arising from the Industrial Relations Act of 1971. Some parts of the act became operative on the day the miners returned to work (February 28), while other sections—for example, the emergency procedure provisions for dealing with strikes—had been effective from December 1971. Two issues in particular were raised by the strike—the legality of its picketing and the availability of the emergency procedures in the act.

The impact of the coal miners' picketing was crucial to the course and outcome of the dispute. Was it lawful? The definition of lawful picketing, previously found in the Trade Disputes Act of 1906, and now set out in section 134 of the Industrial Relations Act, states that pickets may peacefully obtain or communicate information and persuade a person not to work. Any picketing that goes beyond such peaceful activity may constitute crimes, civil wrongs (torts), or one or a number of the new "unfair industrial practices" established by the Industrial Relations Act. Given this fairly restrictive and narrow definition of peaceful picketing, it is almost certainly the case that some of the miners' actions were unlawful. Most allegations made during the strike concerned criminal, rather than civil, liabilities. Enforcing this part of the law is a matter for the police and, during the strike, more than 250 pickets were arrested. As in most disputes, the police and pickets usually came to arrangements most likely to allow several objectives to be fulfilled: to allow peaceful picketing to take place, to ensure that those who wished to work were able to do so, and, of course, to preserve the peace. These objectives are rarely easy to reconcile, even less so in a protracted and bitter dispute of the scale of the miners' strike. The law of picketing is extremely difficult to interpret, but the more important issue, perhaps, concerns the role of the police and the advisability of bringing criminal charges against pickets. Changing the law is unlikely to ease the problem, as it seems evident that in preserving peace, British police have frequently made the law of picketing appear less restrictive than it is. The effectiveness of the miners' picketing owed far more to the solidarity of other trade unionists and public sympathy than it did to isolated examples of unlawful intimidation.

Given the almost perennial unease and confusion surrounding the picketing law, the new emergency procedures are perhaps more central to a discussion of the miners' strike. Since last December, it has been possible for the Secretary of State to apply to the new National Industrial Relations Court for an order against the leaders of strikes that precipitate a national emergency, to defer or discontinue the strike if such an order appeared to be conducive to a settlement. This "cooling-off" order could not exceed 60

days. Second, it has been possible for the Secretary of State to apply for an order requiring a union referendum if, in an emergency situation, there was doubt in his mind that the workers actually favored a strike. These sections of the Industrial Relation Act (s. 138-s. 145) relating to cooling-off periods and compulsory strike balloting are derived from the Taft-Hartley Act, though there are important differences in their detailed provisions.

Why did the Government not apply for either order during the miners' dispute? Certainly, the strike met the criteria of national emergency as set out in the act. However, the miners had already voted by 59 percent for the strike, so it would have been difficult to argue that rank-and-file miners did not support the action of their leadership and to call for a compulsory strike ballot. It would have been difficult, but by no means impossible, as it only has to "appear" to the Secretary of State that there are "reasons for doubting" the wishes of the workers. These may have changed since the original ballot and marginally increased pay offers of the Coal Board. An order for a union referendum was successfully obtained 2 months later in the railways dispute, though railway men voted by 6 to 1 to take further industrial action. The "cooling-off period" seemed a more plausible proposition in the miners' dispute. The Secretary of State might easily have believed that if the strike were discontinued "it would be conducive to a settlement of it by negotiation, conciliation, or arbitration." [10] The industrial relations court would only have had to be satisfied that the Secretary of State was not acting in bad faith and that he understood the law. These conditions were satisfied in the railways dispute where a "cooling-off" order of 14 days was granted by the court.

Two possibilities could have arisen had the emergency procedures been used in the miners' strike. The ballot or the "cooling-off period," or both, may have been ordered by the court and obeyed by the miners. If so, would this legal intervention have weakened the union's bargaining position? After the experience of the railway dispute, many would argue in the negative. In this case, the 14-day "cooling-off" order generated only a total of 4 hours of negotiations and led to further industrial action. The ballot order led to a massive vote in favor of a strike which did not occur, because the unions successfully negotiated an increase in the Railway Board's last offer. Few observers are currently arguing that experience with the emergency procedures in the railways dispute was favorable to the Government. However, the second possibility—that miners may have flagrantly disobeyed either or both of the emergency orders—seems more likely and dangerous. Few would wish to test, during a strike of coal miners, the widely held belief that British people are always law-abiding.

Lessons

Before drawing conclusions about the coal mining strike, it is worth noting two other issues that have given rise to some comment in Britain. First, the major figures in the dispute were relatively inexperienced in conducting national negotiations. The president of the miners had won a close election only 6 months before the strike, and the chairman of the Coal Board had been appointed a month later. The dispute might have followed a similar course with leaders more experienced in their relationships with each other and within their organizations, but a plausible argument can be made that it would not have.

A second issue concerns the financing of strikes. Had the miners been required to pay its members on strike, it would have paid out $10 million. Strike pay and hardship allowances varied regionally, but most payment was made only to cover the expenses of pickets and not to support the strikers. This was partly explained by the availability of other sources of finance. For every week on strike, British workers can claim income tax refunds. In addition, strikers can claim supplementary benefits for their families. This arises from the social security legislation that attempts to estimate a subsistence level of family requirements that is paid independent of contributions and in a variety of circumstances; unemployment, sickness, and so on.

In the case of average or larger families, these sources of finance could add up to half their average weekly earnings, or even more. Also, because supplementary benefits are reduced if strike pay is received, unions have little incentive to provide realistic levels of strike pay. Predictably, political controversy over the current arrangements breaks out during any major dispute: "Should the Welfare State finance strikes that damage the national interest?" Or, on the other hand, "Should we starve strikers and their families into submission?" A less emotional consideration is whether such sources of finance, now claimed by many more strikers than in the past, has encouraged longer strikes. Alternatively, unions may move away from "all-out" strike

tactics to more selective action within the particular bargaining unit without reducing the impact of the strike, yet minimizing financial hardship for their members and defending their (often meager) union funds. The local authorities' strike of 1970 was a uniquely successful example of selective strike tactics, while the total stoppage of postal workers 6 months later was disastrous for the union.

The major lessons of the miners' strike, however, must center around Government policies and tactics in dealing with public sector wage disputes. Few are unaware of the potentially terrifying social costs of power bargaining in key industries and services in Britain. For the past 2 years, the Government has emphasized the importance of resisting "unreasonable, inflationary" pay demands—by example in the public sector, it has sought to encourage equal resolve by private employers. However, by accepting the logic of confrontation, if not actively seeking it, the Government depended on the wholehearted support of public sector executives and the British public for success in resisting union demands. This has not been forthcoming. By giving priority to an attack on what it believed to be the main source of inflation, the Government implicitly accepted the likelihood of damaging strikes, in the belief that if they were seen to be expensive for the workers involved and the community at large, others might be deterred. In local authorities, electricity supply, the railways and, most dramatically of all, in coal mining, the Government accepted disruption and yet in the end conceded highly inflationary settlements. By setting its face against pay concessions to *avoid* strikes (and deriding the previous government's predilection for last-minute compromises), the Government has undoubtedly been forced to concede significantly higher concessions to *end* protracted strikes. Stated another way, by a commentator, "the Government has elevated attrition to a way of life," and attrition may have proved more costly, in short-run economic and political terms, to the Government than to the unions.

The last 2 years have underlined that lengthy national strikes are "learning experiences" with important political consequences for those involved, and not satisfactorily explained by a rational economic calculus. This applies as much to changing public opinion towards strikes that involve widespread public inconvenience and hardship as it does to the expectations of strikers before, during, and after disputes. In this sense, though labor statisticians will soon be telling us of the immediate effects of the miners' settlement on pay rates elsewhere, we must await the social and political historians' judgment of the full impact of the strike. □

FOOTNOTES

[1] *London Times,* Apr. 1, 1972.

[2] Under the Emergency Powers Act of 1920, the Government may proclaim a State of Emergency and govern with special powers by Regulation to ensure essential supplies. The powers are extensive, but they expressly exclude "industrial conscription" to break strikes and do not make strike activity itself unlawful. Since June 1970, there have been three declarations of a State of Emergency, arising out of the dock strike and the industrial action of electricity supply workers in 1970 and the miners' strike this year.

[3] Under the Industrial Courts Act of 1919, the Employment Secretary has the power to appoint a Court of Inquiry to investigate disputes. Such a step would not be taken unless earlier attempts at conciliation had failed. The consent of the parties is not necessary, neither can the Court make binding settlements or awards. In practice, however, a public examination of the underlying issues affecting major disputes and recommendations from the Court have usually provided a basis on which the parties have settled.

[4] *Report of a Court of Inquiry into a Dispute between the National Coal Board and the National Union of Mineworkers under the Chairmanship of the Rt. Hon. Lord Wilberforce.* (London, Her Majesty's Stationery Office, 1972), Cmnd. 4903.

[5] In 1957, there were 2,224 stoppages in coalmining and 635 in the rest of industry. In 1971, there were 135 in coalmining and 2,093 elsewhere. (Source: Department of Employment.)

[6] *The Economist,* Feb. 26, 1972.

[7] Wilberforce report, para. 42.

[8] Ibid., paras. 36–38.

[9] *The Economist,* Feb. 26, 1972.

[10] Industrial Relations Act (1971), section 138(1)(c).

Public employee labor relations in other democracies —a review essay

Series of 12 monographs presents alternative approaches to a variety of problems confronting governments

JOSEPH P. GOLDBERG

MANY OF THE western democracies have had long-established relations with public employee unions. These relationships, of course, have been influenced by a diversity of legal traditions, political systems, and ideological and religious factors. These are not all of the influences and, as listed, are hardly more than labels. Take the political structure in a given country. It influences public employee relations through the nature of the party system and the possible political orientation of the unions, the financial relations between the executive and the legislative, the degree of national financing of local services, and accompanying standards affecting public employees.

Such a backdrop suggests that any thought of direct transplant of one nation's institutional arrangements to a foreign setting would be unrealistic. But perspectives on the more recent developments in the United States can be gained by examining other national arrangements, particularly the recent paralleling of "militancy" among public employee organizations in many nations.

An important set of sources for comparative analysis of national systems of public-sector labor relations is a 12-monograph series edited by Professors Russell A. Smith and Charles M. Rehmus of the University of Michigan. European systems naturally receive the bulk of attention, including the United Kingdom, West Germany, Belgium, Sweden, and France. But the scope is intercontinental and includes Israel, Australia, Canada, and Japan.[1] The following is a brief look at the content and is intended to suggest some of the elements of comparative analysis.

United Kingdom. The early concessions and encouragement received by unions in the United Kingdom were utilized particularly by white-collar and professional employees, but industrial employees have lagged in organizing. Only 30 percent of the latter are organized, compared with 75 percent of the former—the reverse of the situation in the private sector. There was remarkable similarity of bargaining rights and arrangements for public and private employees, with virtually no restriction on the right to strike. As B. A. Hepple and P. O'Higgins describe it, organization grew because of the acceptance by the executive of the role of the unions and collective bargaining, without formal legislation. The view of government as "model employer" in setting wage and working conditions anteceded the establishment of Whitley Councils in 1919 for government employees at national, regional, and local levels. These joint industrial councils negotiated national standards for pay and working conditions, as did those for private industry. However, government standards tended to be uniform, while the private standards negotiated nationally were viewed as minima, subject to further adjustments in local bargaining. Arbitration of pay and working conditions became part of the government machinery, with a bipartite board to protect the joint character of the Council. From the establishment of arbitration in 1925, the results were viewed as binding on the government, according to R. Loveridge. But in the 1960's the system fell in the shadow of incomes policies. With ministerial intervention to delay or veto awards, recourse to arbitration declined, mutual confidence was reduced, and militancy increased.

The government has increasingly sought to apply general incomes policies in the public sector. The result has been that remuneration has followed private trends of wage setting—increasingly, direct comparison of industry-agreement pay levels was replaced by tighter application of incomes policies than

Joseph P. Goldberg is Special Assistant to the Commissioner, Bureau of Labor Statistics.

in private industry. The concern of ministers with the effects of increased costs through central bargaining was especially apparent in the case of teachers and health service personnel. The teachers' success in obtaining arbitration by statute in 1965, to reduce the intervention of the Minister of Education, as described by H. M. Levinson, proved a poorly timed triumph when subsequent awards upheld management claims under incomes policies. The result was a new union cooperation, militancy by formerly quiescent unions, and strikes and slowdowns and other direct pressures in place of arbitration. Government employees are now covered by the new Industrial Relations Law, but with the Whitley Councils for well-organized government employees at all levels, basic public employment relations will undoubtedly remain unchanged.[2]

West Germany. West Germany's Constitution provides for recognition of public employee unions and allows for their participation in negotiations or legislation affecting them. Such arrangements are universally observed by government agencies. W. H. McPherson ascribes the special status of civil servants in part to the traditional view of them as the embodiment of the State and its sovereignty. (Almost 50 percent of the public employees at all levels —Federal, State, and local—are civil servants.) These officials tend to be conservatives. Strikes are so inconceivable that public law does not deal with the matter.

While civil servants do not have the right to negotiate with agencies, their unions have ample opportunity to present views," McPherson says. He indicates further that working conditions parallel those of other public employees who enjoy the right to negotiate agreements and to strike in the event of a deadlock. Here, too, public employee organization runs high, 75 percent compared with 26 percent in the private sector. Negotiations for public employees are highly centralized. On the Federal level, separate negotiations are conducted with the railway, postal, and all other wage earners, respectively. Salaried employees of both the Federal and State Governments are covered in one agreement. Federal legislation largely controls State laws, which in turn cover county and municipal civil servants. The 11 States negotiated through an association for 20 years, but more recently some individual States have dealt directly with unions. Similarly, a federation of local governments has negotiated uniform conditions for wage and salaried workers. Public pay is more uniform than private, for which national agreements set minima. Demands for higher municipal pay resulted in wildcat strikes in 1969 and 1970, but government penalties were not applied.

Sweden. The transition from the application of administrative law to essentially private sector labor law for Sweden's public employees is analyzed in two monographs. The right of public employees to belong to unions was acknowledged early, as detailed by S. Jägerskiöld, and the right of consultation had been acknowledged in all Scandinavian countries. But until World War II, the authorities made unilateral determinations. After the war, with the organization of new federations of salaried and professional workers, centralized consultation between the four top Swedish public employee organizations and the government evolved into de facto bargaining on annual salary adjustments, with understandings incorporated in royal orders, as under the former ad-

Titles in the series

The 12 monographs on public employee labor relations were published by the University of Michigan—Wayne State University, Institute of Labor and Industrial Relations, Ann Arbor, Mich., in 1971 and 1972. 12 vols., $75, cloth; $37.50, paper; individual studies at various rates.

B. A. Hepple and Paul O'Higgins, *Public Employee Trade Unionism in the United Kingdom: The Legal Framework.*

Raymond Loveridge, *Collective Bargaining by National Employees in the United Kingdom.*

Harold M. Levinson, *Collective Bargaining by British Local Authority Employees.*

William H. McPherson, *Public Employee Relations in West Germany.*

Roger Blanpain, *Public Employee Unionism in Belgium.*

Stig Jägerskiöld, *Collective Bargaining Rights of State Officials in Sweden.*

Harold M. Levinson, *Collective Bargaining by Public Employees in Sweden.*

Jerome Lefkowitz, *Public Employee Unionism in Israel.*

Frederic Meyers, *The State and Government Employee Unions in France.*

Gerald E. Caiden, *Public Employment Compulsory Arbitration in Australia.*

H. W. Arthurs, *Collective Bargaining by Public Employees in Canada: Five Models.*

Alice H. Cook, Solomon B. Levine, Tadashi Mitsufuji, *Public Employee Labor Relations in Japan: Three Aspects.*

ministrative system, and with no right to strike.

With more than 80 percent of civil service "officials," and manual public "workers" virtually completely, organized in a country in which labor has been closely associated with the dominant political party, private-employee statutes were extended to State and local civil service officials in 1965. Under the statutes, the right to strike was accorded public officials, agreements binding on the government were authorized, and jural disputes (that is, application or interpretation of existing agreements) were placed under the jurisdiction of the Labor Court. There is no legal restriction on public employee strikes and lockouts over nonagreement on negotiable matters.[3] Instead, reliance is placed on the joint machinery, established by the basic national agreements between State and local authorities and the four federations, to seek to avoid, limit or end strikes or lockouts found to be "socially dangerous." But such findings and recommendations are not binding, and strike action may be taken after a 3-week delay.

Public employee negotiations, under the 1965 statutes, have been as centralized as in the private sector, with the latter setting the pattern on the amount, although not on the distribution of the increases. However, the Confederation of Swedish Trade Unions, dominant in the private sector and influential in the Social Democratic Party, has sought to narrow wage and salary differentials in favor of the lower paid in both the public and private sectors. This has exacerbated antagonisms between it and the organizations of higher paid professional public employees, particularly because the latter were denied compensation for "wage drift" in the private sector, rising prices, and higher taxes. As a result, there were selective strikes and lockouts in 1971, with the prospect of further strife. The Parliament acted to freeze employment conditions for 6 weeks, prohibiting strikes and lockouts. The government proposed a pay increase narrowing the differentials.

Two of the federations accepted, but the other two refused and retained the right to strike. The government has barred retroactive pay to striking members of public employee unions, a sanction upheld by the Labor Court. These developments raise the question, as set forth by H. M. Levinson, "whether the State in its role as an employer should utilize the process of collective bargaining with its own employees as a means of achieving broad social reforms, including a redistribution of income among various socioeconomic groups within the society." [4]

France. French public employees do not have the right to bargain but do have the right to strike. The government retains its right to decision, although there is continuing consultation and discussion with representatives of employee organizations at various levels, particularly regarding salaries and related matters. As F. Meyers sees it, "The system seems deliberately devised to dilute the ability of the unions to get binding commitments." [5] The statutory right to organize was not accorded public employee unions until 1946.

Forty percent of public employees are now members of unions. Meyers attributes civil servant satisfaction with the unions to their role in bipartite consultative committees both at policy levels and in the administrative agency. The French civil servant's "relative place in the hierarchy is a very important symbolic expression. . . ." The day-to-day negotiations in the bipartite bodies on the individual problems of career civil servants and negotiations on adjustments of individual positions within the established salary grid are therefore apparently of greater importance than collective bargaining.

The public-employee system works in cycles, Meyers suggests, with moderate salary increases, followed by a buildup of tensions, with trade unions focusing the discontent, concluding with pressures by demonstration strikes. The French Constitution guarantees the right to strike, with no exception for public employees. A 1963 statute permits public employee strikes if the objectives are related to labor relations, with 5-day notices filed by the most representative union organization, to make preparations for safeguarding health and essential services. While only disciplinary sanctions are provided for participating in illegal strikes, it is questioned whether these have been applied to the many wildcat strikes, especially since 1968. Further centralization and uniformity of salaries and other conditions for both national and communal public employees are in prospect, as well as some legislation which would adapt collective bargaining for public employees to the French public service environment.

Belgium. Public employee relationships in Belgium reflect the sharp difference between theory and practice. In theory, collective bargaining is not available to public employees, and wages and working conditions are determined at the discretion of the government. In practice, these are set by formally negotiated and signed collective agreements, labeled as such.

However, for enforceability, they are put into effect through government regulations, an assured result. In a country with 65 percent of its private work force unionized, the level for public employees is about 80 percent. The basis for recognition of unions in much of the public sector is set forth in a royal decree of 1955, which provided only consultative rights. The decree established advisory bodies, with a top policy consultative status at the level of the prime minister, departmental committees, and service unit personnel committees. The public employee unions participate in the national policy of "social programmation" begun in 1960, by which "social progress is jointly planned by employers and trade unions at the national level." Through agreements with the two major unions, the national government has centralized the setting of wages and working conditions for all levels including municipalities, and for teachers. Until 1968, the agreements were called memoranda; since then they have been formally called collective agreements, with the prime minister a party to them. Strikes of public employees until recently were banned by legal doctrine, but not by statute. Public employee strikes have been rare. Arbitration, either voluntary or compulsory, is almost unknown. Problems and disputes are resolved through continuous contact with the unions. For, as R. Blanpain states, "The social partners meet to settle differences without intervention of third parties."

Israel. Histadrut, Israel's general organization of workers, has been dominant in public employee negotiations in Israel. Histadrut participates in the determination of national wage policy and also determines the structure and policies of the labor unions. It is a socially oriented organization, with close ties to the leading political party, which since 1961 has resulted in subordination of Histadrut's wage policies to what is deemed to be the national interest. Labor-management relations in the public, as in the private sector, are based on custom and tradition rather than on legislation, although there is a legal obligation to bargain. The National Union of Government Employees represents all public employees except teachers, who have their own organization. Because public employee negotiations are crucial as pattern setting for the rest of the economy, they have been more volatile, particularly as severe wage restraints have been applied.

Most strikes occur in the public sector. There are no legal provisions regarding strikes, and while opposed to such recourse, Histadrut has supported the right to strike. Government employees, who hold membership both in the national government employee union and in professional societies have been particularly resentful of Histadrut's egalitarian wage policies. The workers' committees organized by Histadrut at shop levels in government and private enterprise, with separate committees for white-collar and blue-collar workers, administer collective agreements and protect the rights of individual workers. These committees have tended to be militant. As J. Lefkowitz summarizes, "Frustrated in their attempt to obtain better wages by an increase in basic wages, they [the workers at the shop level] seek to improve their conditions by grieving over local conditions that have wage implications." Volatility in the public sector is aggravated by the absence of agreements of fixed term. The result is pressure at the local level for improvement, and brief warning strikes are part of the negotiating process. National negotiations are considered by the Civil Service Commission, or by a committee of ministers when large demands are involved. By tradition, no conditions may be changed without agreement. Changes are promulgated in civil service regulations. The outlook, it is suggested, is for agreements of fixed duration for public employees.

Australia. The Australian industrial relations system has been founded on government regulation and intervention, rather than on industrial self-government.[6] Public employee unionism was encouraged early, with full industrial and political rights, with the exception of the right to strike. As public employee unions succeeded, G. E. Caiden says, they became conservative forces, reluctant to change the industrial relations system, although they have increasingly been disenchanted by more recent alteration of former well-established precedents for wage setting. Caiden's view is that the compulsory arbitration system has generally worked well for public employees. The incidence and duration of strikes in the public sector has declined despite the great growth in public employment. In part, this is because public employees shared in the postwar boom. However, public employees, once the leaders in wage movements, are now the followers, as private employers have made over-award increases to attract scarce labor. Public employee unions charge that these increases are not included in the comparative wage studies; the Public Service Board holds that

public employees are receiving comparable rates.

The situation has been complicated by the battle against inflation in a full employment economy. With linking of public service arbitration into the general commonwealth arbitration, the isolation of the public employee unions was dissipated. Originally sought by the unions, this development has led to a break with past arbitration principles and formulae. Social justice criteria were replaced with economic criteria, including a total wage cost concept and measures of work value, more readily applied in public employment. During peak periods of inflationary pressures, the employing agencies have held up negotiations, taken hard positions in conciliation and arbitration, and on a few occasions appealed against costly arbitration decisions.

In recent national wage cases, the Commonwealth government has intervened to present economic evidence on the ability of the economy to absorb general wage increases. However, once final arbitration determinations have been made, the government has always funded the award. Genuine collective bargaining has been virtually absent in the Commonwealth service, with arbitration serving as a buck-passing mechanism. Increasingly, the Commonwealth arbitrators are seeking to encourage bargaining, generally approving automatically the results of interim agreements. The recent developments have made for an increasing tempo of public service strikes, but the Commonwealth has generally not used legal sanctions. "In significant contrast to the more distant past, recent strikes have been expressions of political wrath and frustration in the face of official intransigence, threatened job displacement, downgrading and private inequality," Caiden comments.

Canada. The study of the Canadian industrial relations system is presented in the form of five case studies, suggestive of variations at respective governmental levels not unlike those in the United States. The Canadian Federal public service now has a system which combines both public and private features. The provincial governments, with the greatest increase in public employment, have moved most slowly in the direction of private sector bargaining, an observation which applies also to the State level employee relations in the United States. Equally comparable is the trend in Canada to the application of private sector legislation to municipal employees in almost every province, but with variations particularly in the regulation of strikes in essential industries.

The Federal Public Service Staff Relations Act of 1965 essentially parallels private sector labor relations, except that strikes are slightly inhibited by considerations of national safety or security. It established a tripartite Public Service Staff Relations Board, virtually independent of employer control, with responsibility over an Arbitration Tribunal to deal with interest disputes, a corps of adjudicators to deal with grievances, and a Pay Research Bureau. Certification of bargaining agents, exclusive representation, and unfair labor practices are provided. Virtually the entire Federal public service has been organized.

On the resolution of impasses, certified agents are permitted to choose between referral to the arbitration board, with binding awards and strike foreclosure, or to the conciliation board, with no conditions precluding strikes. In the latter case, the statute requires, under clearly circumscribed provisions, that "designated employees" be determined whose services are absolutely vital to the safety or security of the public. In the great majority of the agreements, arbitration has been chosen. The matter of "designated employees" has been fairly readily resolved, and the right to strike in other cases has not produced excessive strikes, according to H. W. Arthurs. The experience with Post Office strikes in 1965 and 1968 was as much the result of "poor human relations" in postal operations as of the immediate salary issue.

Police collective bargaining in Ontario is cited as a model of formal public sector relations, with police viewed by the courts as "ministerial officers exercising statutory rights independently of contracts." In practice, police commissioners act as employers and may conduct collective bargaining. However, Arthurs characterizes the commissioners as having "authoritarian administrative attitudes inimical to collectve bargaining." For 25 years, there was virtually no collective bargaining, a situation which has changed radically in the past 5 years under legislation permitting participation in bargaining by professional police representatives and determination by neutral third parties. With employers accused of dragging their feet in negotiations, there was frequent resort to arbitration. A strike of police and firemen in Montreal in 1969, attributed by Arthurs as much to the French-Canadian identity crisis as to an arbitration award failing to place Montreal police on a par with Toronto police, resulted in agreement to a further increase.

The informal public sector model of collective bargaining for public service employees of the Province of Ontario is viewed by Arthurs as being in a transitional stage. The former system of informal consultation has been replaced by formal negotiations and grievance procedures, culminating in neutral adjudication of interest disputes. There are no provisions for bargaining unit determination or for the selection of representatives. Bargaining is separated on the matters of wages, fringe benefits, and other matters, and agreements and arbitration awards are incorporated in amendments to Ontario regulations or directives.

Teacher bargaining represents a professional model, with teachers bargaining through "institutions resembling medieval guilds." Although expressly denied the right to organize and bargain collectively under the provincial Labor Relations Act, teachers have developed an effective collective bargaining system under special legislation relating to their professional organization. Under government legislation the Ontario Teachers Federation has extensive powers to regulate the teaching profession, with compulsory membership and checkoff for all teachers required. School boards have organized for coalition bargaining to counter the strength of the teachers' organization. In the absence of a formal negotiation mechanism established by law, a mélange of practices, precedents and informal agreements has developed. If an "in-dispute" situation develops locally, the Teachers Federation and the Ontario Council of School Board Trustees intervene, with a tripartite special advisory committee appointed to make advisory recommendations if the impasse persists. The procedure has apparently not had much success. More recently, the Toronto Metro School Board and secondary school teachers used an outside mediator with success. Arthurs contrasts the relatively quiet atmosphere in Ontario schools to that in other Canadian and U.S. jurisdictions.

Japan. The situation of Japanese public employees stands in sharp contrast to those described in the other studies. The three Japanese studies do not suggest even a transitional stage toward effective communication with public employee unions, or the formalization of relationships. T. Mitsufuji characterizes the prevailing atmosphere as permeated with contention, and as characteristic of Japan's industrial relations generally. He attributes the lack of mutual confidence and "undisguised and unremitting tenseness" to poor communications deriving from a legal framework which includes the banning of public employee strikes and government disregard and dodging of unions through excessive legalism. The public employee unions, which exert substantial influence as the nucleus of Sohyo, the Socialist-oriented federation, retaliate with militant strike action.

Even resort to intervention by the International Labor Organization and ratification of ILO Convention No. 87, "Freedom of Association and the Right to Organize," did not avoid some retrograde developments, with statutory amendments restricting the scope of membership, the scope of bargaining, and the freedom of full-time officers to take leave from public employment. Methods of settling disputes have been institutionalized, but agreements are not binding on the government if the money is not available. The scope of bargaining is limited wth authorities holding that modernization is a management prerogative and not an issue for collective bargaining or consultation. Delays in governmental implementations of arbitration awards and National Personnel Authority recommendations have contributed to distrust of the government.

Mitsufuji attributes the situation in part to the persistence of industrial patrimony, with the modern concept of labor management relations based on freedom of contract still alien to many. But he assigns responsibility to the unions, too, finding they operate on the basis of a notion of a privileged class. The result, according to the author, has been that the public employee unions have developed an anti-government philosophy and have spearheaded resistance to the government's policy of suppression of the union movement.

A. H. Cook describes the origin of local government in the postwar period, the persistence of national control through subsidy for local government operations, and the influence of the national authority in local annual pay increases. The protests of the local unions against delays in these raises are directed against the national government. The opposition is as much ideological, with socialist orientation of the unions directed against the conservative government, as it is based on inadequate labor-management relationships. In a study of Japanese teacher unionism, S. B. Levine describes the conflict between the teachers' union and the Ministry of Education over the political role of the teacher on local elected school boards. With a change in statute to require prefectural appointment of school boards, the union

shifted to national political action, seeking national collective bargaining, and challenged the government's control of educational policy. Levine suggests that limited opportunities for bargaining may account for the union's political emphasis.

RESEARCHERS AND PRACTITIONERS in the public employee relations field will find these studies of immediate and continuing value. They provide historical background, institutional structural analyses, and implications of recent developments. They suggest further study of such matters as the effect of incomes policies on public employees, salary determination policies and practices, the degree of parallelism of private and public sector law and relationships—to name but a few.[7] The comparative study and the individual monographs are an important and well-integrated contribution. They serve both to provide perspectives on U.S. public employee developments and as an important focus for comparisons of national systems of public employee labor relations. □

——FOOTNOTES——

[1] The analysis of emergency disputes procedure in monographs on Sweden, France, and Canada is cited by Benjamin Aaron. See "How other nations deal with emergency disputes," *Monthly Labor Review,* May 1972, pp. 37–43.

[2] On the Industrial Relations Act of 1971, see N. Robertson and K. I. Sams, "The new legal framework for Britain's industrial relations," *Monthly Labor Review,* March 1972, pp. 48–52.

[3] Under the statutes, negotiable matters are primarily economic terms, such as wage and salary adjustments, fringe benefits, the standard workweek, overtime pay, and related matters. Consultation only by the government is required on changes on other matters, with no right to strike or lockout, such as hiring, layoff, and supervision of personnel, scheduling of hours, and disciplinary action. H. M. Levinson, *Collective Bargaining in Sweden,* op. cit., pp. 46–47.

[4] Ibid., p. 68.

[5] Meyers, op. cit., p. 23.

[6] See also K. Laffer, "Compulsory arbitration: the Australian experience," *Monthly Labor Review,* May 1972, pp. 45–48.

[7] A suggestive comparative analysis is that of E. M. Kassalow, "What happens when everyone organizes?," *Monthly Labor Review,* April 1972, pp. 27–32.

Organized labor in the decades ahead

It seems clear that the United States is moving toward 1990 with a network of laws and regulations devised to meet the problems of earlier days. Technology is vastly different. The patterns of production have changed and will change more drastically still. But the rules governing the association of men in organizing and discharging services remain much the same in many cases. Nearly half a century ago, an American philosopher pointed out that heavy labor had been lifted from the shoulders of men and transferred to the waterfalls. What is being shifted now is the routine.

Labor developments during the next 20 years probably will raise questions that have not hitherto been faced in the relations of government workers with public officials. Teachers, technicians, clerks, sanitary workers, police—possibly even professional soldiers—will be more highly organized, though not necessarily in trade unions as now known. They will gain increasing influence over their wages and working conditions, recruitment, promotion, and pensions. The authority of management in government services probably will be diluted. There will be more experiments in public corporate structures such as that on which the Post Office is now embarked.

—WELDON B. GIBSON,

Executive Vice President, Stanford Research Institute,
at the White House Conference on the Industrial World Ahead,
Washington, February 7–9, 1972.

Communications

ON THE DECLINE OF MALE LABOR FORCE PARTICIPATION

JOSEPH L. GASTWIRTH

IN HIS RECENT article, Professor T. A. Finegan[1] commented briefly on a "mysterious drop" of about 0.8 of a percent in the labor force participation rate of prime age males (25 to 54 years old) from 1965 to 1970. Since this participation rate declined by 1 percent between the economic peaks of 1955–57 and 1968–69, one must look for broad changes in socioeconomic conditions during the 1960's rather than cyclical developments to explain it.

Some reasons for the decline that have been suggested by a variety of analysts are:

1. Liberalized financial resources. In particular, extensions of unemployment insurance, welfare payments, and the change in eligibility requirements for disability benefits that occurred through amendments to the Social Security law in 1956 and 1960.

2. The rapid expansion of full-time graduate student enrollment, partly financed by Federal support.

3. The changes in the definition of labor force status instituted in 1967 by the Bureau of Labor Statistics in response to the Gordon Committee report.

4. The increase in labor force participation of wives.

5. A relatively small increase in the number of men who reject the "work ethic."

We shall concentrate on the first three reasons and attempt to estimate how much of the 1-percent decline of the prime age male participation rate between the 1955–57 and 1968–69 peaks can be "explained" by them.

The change in the disability laws which allowed people under 50 to receive benefits undoubtedly allowed some prime age males to drop out of the labor force.[2] Indeed, in 1960 more than half (54 percent) of the new beneficiaries were under 50.[3]

The basic data underlying an estimate of the effect of disability benefits on labor force participation is presented in tables 1 and 2.[4] The data show that the proportion of men receiving disability benefits rose throughout the 1960's even among the 55- to 64-year olds, who were already eligible. According to Myers and Bayo,[5] this increase is probably due to an increasing knowledge of the program among potential beneficiaries and the 1965 amendment which changed the definition of disability from an expected "permanent" or "long term" basis to an "expected duration of at least 12 months," rather than to an increase in the incidence of disability.[6]

To estimate the number of men in the age range 25–50 who dropped out of the labor force because they received benefits, one might be tempted to subtract all the 267,446 (in 1969) beneficiaries. This would be an exaggeration. The problem is to estimate the labor force behavior of their counterparts before 1960, as some of these men undoubtedly were out of the labor force. The 1966 Survey of the Disabled[7] shows that of the men 18–64 who received

Table 1. Number of men receiving disability benefits, in selected age groups, 1960–70

Year	Age group			
	25–54	25–49	35–44	55–64
1960	100,891	41,677	18,349	255,302
1961	183,835	109,960	51,408	297,755
1962	233,287	144,995	68,815	336,232
1963	262,855	165,335	78,487	365,602
1964	279,246	175,485	83,043	393,962
1965	307,793	194,517	91,822	425,614
1966	337,924	214,243	99,750	469,414
1967	363,510	230,529	105,376	507,012
1968	392,823	249,607	111,245	539,693
1969	417,835	267,446	115,425	573,404
1970	445,387	283,374	119,646	578,444

Joseph L. Gastwirth is a research professor, George Washington University. The work reported here was initiated while he was visiting faculty adviser, U.S. Office of Management and Budget, and completed with the support of Office of Naval Research contract N0014–67–A–0214–0015 at George Washington University. He is now also serving as a consultant to the Bureau of Labor Statistics.

Table 2. Percent of the male population receiving disability benefits, in selected age groups, 1960–70

Year	Age group			
	25–54	25–49	35–44	55–64
1960	0.32	0.15	0.16	3.46
1961	.58	.41	.46	3.98
1962	.73	.53	.60	4.41
1963	.82	.61	.68	4.72
1964	.87	.65	.72	5.00
1965	.95	.71	.80	5.33
1966	1.05	.79	.88	5.79
1967	1.12	.84	.95	6.17
1968	1.19	.90	1.01	6.47
1969	1.26	.95	1.06	6.76
1970	1.32	.99	1.11	6.73

NOTE: Data relate to the civilian noninstitutional male population.

benefits, only 8 percent were in the labor force, while disabled men who received *no public maintenance* had a labor force participation rate of 86.3 percent. It is plausible, therefore, that as many as 78.3 percent of the newly eligible beneficiaries would drop out of the labor force upon receiving benefits. I consider this an upper bound to the "disability effect," as the age group we are concerned with excludes the 55- to 64-year-olds.

In a recent article, Nagi and Hadley[8] report that in a survey of applicants for disability benefits, about 45 percent indicated high motivation to work. While having high motivation is not equivalent to actual labor force participation and as applicants are probably "less disabled" than beneficiaries, it is reasonable to assume that at least 55 percent of the newly eligible beneficiaries dropped out of the labor force. For 1969, this yields an estimate of 137,000 male beneficiaries in the 25–49 age group who would have been in the labor force had the pre-1960 rules been in effect. Moreover, the percent of men in the 50–54 age group who received disability benefits went from 1.26 percent in 1960 to 2.89 percent in 1969. Taking 55 percent of the increase suggests that of the 150,000 males in this age group receiving benefits in 1969, 47,000 would have been in the labor force had the pre-1960 disability laws and standards remained throughout the decade. Hence, it is reasonable to estimate that about 184,000 men were allowed to drop out of the labor force because they now receive disability benefits for which their pre-1960 counterparts were ineligible. As these men form 0.53 percent of the male population 25–55 years old, about half of the observed decline in male participation rates during the 1960's may have resulted from changes in the disability laws.

To assess the effect of the growth in graduate education on the labor force, it should be noted that full-time graduate school enrollment grew from 94,000 in 1955 to 379,000 in 1970.[9] Although not all of these students were out of the labor force, it is reasonable to estimate that at least 50 thousand more men over 24 were in full-time graduate school and out of the labor force in 1970 than in the late 1950's. This estimate is based on an estimate of an increase of 100,000 in full-time male graduate students over age 25 which is derived in the note on graduate students below.

In 1967, following the Gordon Committee's report, the Bureau of Labor Statistics adopted new definitions of employed and unemployed. According to Stein,[10] these had only a minor effect on the overall rates. However, these changes are important for our considerations. In table 10 of the Stein article, we see that the new definition of unemployment, which requires an unemployed worker to be available for work at the time of interview, could have resulted in a drop in the participation rate of male workers (25–54) from 97 percent to 96.7 percent in 1966, which implies a decrease of 100,000 in the labor force.[11]

In summary, if one combines the effects of the new definitions, the increase in graduate school enrollment, and the increase in disability beneficiaries, over 90 percent of the observed decline in male labor force participation can be "explained." Although more study is needed of other socioeconomic factors, especially the effect of increased female labor force participation on the male rate, clearly much of the decline in male labor force participation resulted from government programs and is not attributable to cyclical phenomena or hidden unemployment.

A note on graduate students 25 and over

For several years, the Office of Education has collected data on the number of full-time male graduate students. The data for the years when surveys were made follows:

Year	*Full-time male enrollment*	*Estimated 25 and over*
1959	102,000	55,000
1961	122,000	67,000
1969	252,000	139,000
1970	263,000	145,000
1971	276,000	152,000

To estimate the portion 25 and over, we used the results of a 1965 study, which showed that 33 percent of the full-time male graduate students were over 29 and 45 percent were between 24 and 28. To split the 45 percent within the 5-year span, it seemed conservative to estimate that about half were 25 and over. Thus, we assume that 55 percent of the full-time male graduate students are 25 and over, and the results in the last column above are derived on that basis. □

———*FOOTNOTES*———

[1] See T. Aldrich Finegan, "Labor Force Growth and the Return to Full Employment," *Monthly Labor Review,* February 1972, pp. 29–39. See also Marc Rosenblum's article in this issue (October 1972), pp. 22–29.

It should be noted that this decline appears to be independent of general economic conditions as the participation rate fell from 97.4 percent in 1955–57 to 96.4 percent in 1968–69. This fact was used by A. P. Butler and G. Demopoulos in their study, "Labor Force Behavior in a Full Employment Economy," *Industrial and Labor Relations* April 1971, pp. 375–388.

[2] Both Finegan and Denis Johnston (see the article, "The Labor Market 'Twist,' 1964–69," *Monthly Labor Review,* July 1971, pp. 26–36) mention increased liability as an explanation, but offer no reason for its use during the 1960's. The effect of the eligibility rules was first noted by Sophia C. Travis in "The U.S. Labor Force: Projections to 1985," *Monthly Labor Review,* May 1970, pp. 3–12.

[3] See the article by Phoebe Goff, "Disabled Beneficiary Population, 1957–66," *Social Security Bulletin,* July 1971.

[4] Compiled from the *Social Security Bulletin,* Annual Statistical Supplement, selected issues, 1960–69.

[5] R. J. Myers, and F. Bayo, "Disability Incidence Rates Under OASDI System for Disability Onsets Occurring in 1956–64," Actuarial Note No. 58, August 1969, Social Security Administration.

[6] This may answer the question raised by Denis Johnston, op. cit., who noted that there was no evidence available to explain the increased incidence of disability among older men.

[7] See "Work and Earnings of the Disabled," Report 17 from the *Social Security Survey of the Disabled: 1966,* November 1971, especially table 1B.

[8] S.Z. Nagi and L.W. Hadley, "Disability Behavior Income Change and Motivation to Work," *Industrial and Labor Relations Review,* January 1972.

[9] See *Projections of Educational Statistics to 1979–1980,* especially table 17.

[10] See Robert L. Stein, "New Definitions for Employment and Unemployment," *Employment and Earnings,* February 1967.

[11] Strictly speaking, some of the effects of the rise in graduate school enrollment may have been reflected in the new definition of labor force status instituted in 1967. Since graduate students form such a small fraction of the total population, it is difficult to obtain reliable data concerning their labor force status. Because the change in definitions and the growth in graduate school enrollment (for males over 25) have a larger effect after 1965 than previously, the bulk of the decline of 0.8 of 1 percent in the prime age male participation rate, noted by Professor Finegan, is also explained by the three factors developed in the article.

IMPACT OF HEALTH ON EARNINGS AND LABOR MARKET ACTIVITY

JOSEPH M. DAVIS

HEALTH is a factor in labor market success which is frequently discussed but infrequently tested. *A priori* reasoning and casual observation tell us that an individual's labor market activity will be affected by his health, but no mass of evidence supports this assumption.[1] Our research, using the National Longitudinal Survey of Labor market activity,[2] seeks to provide some answers to the following questions: Do men with "health problems" have lower annual earnings than healthy men? If so, to what extent are they the result of lower hourly wage rates and to what extent are they the result of fewer hours worked?

Plan of analysis

The study, based on interviews obtained in 1966, compares the earnings and the labor market activity of healthy and disabled men 45 to 54 years of age, under the assumption that a disability may adversely affect an individual's annual earnings in either or both of two ways: (1) by limiting the number of hours worked per year, or (2) by reducing hourly wage rates. Because of a known positive association between good health and level of education, and between level of education and earnings, all tabulations include a control for number of years of school completed. If poor health has an independent effect on earnings and labor market activity, the differences between disabled and healthy men should be discernible within educational attainment categories.[3]

Earnings were defined in this study as the respondent's total receipts in 1965 from wages, salaries, commissions, or tips. The respondent's hourly rate of pay was obtained or computed from a direct question. Labor market activity was measured in four

Joseph M. Davis is a graduate research associate at the Ohio State University Center for Human Resource Research.

ways: the number of weeks spent out of the labor force, that is, not working or looking for work; the number of weeks of unemployment experienced; the number of hours usually worked per week; and the total number of hours worked during 1965. Disability was defined as a self-reported limitation on the amount or kind of work a respondent could perform due to a health condition or impairment. Respondents were asked whether their health or physical condition limited the kind or amount of work they could do and were divided by whether or not they claimed a limitation.[4]

The sample consisted of 1,583 white respondents drawn from the civilian, noninstitutional population of men 45 to 54 years of age in 1966. Each respondent in the sample was married and living with his spouse at the time of the interview, was a wage or salary worker in his current or last job, and responded to all the questions needed to obtain the variables employed in this study. Among these men, 305 respondents (19.3 percent) had a health problem which limited the kind or amount of work they could do, but which did not entirely prevent their working. Almost no variation in the percentage of men with disabilities occurred by region of residence (South vs. non-South). Healthy men tended to be substantially better educated than disabled men.[5]

Findings

Earnings. Men who reported limitations on either the amount or kind of work they could do had substantially lower earnings in 1965 than nondisabled men in each of three educational categories. While the difference between healthy and disabled high school dropouts (9 to 11 years of school) is only about half as large as that between healthy and disabled high school and grammar school graduates, the direction and magnitude of difference tend to support the view that a health impairment negatively affects an individual's earnings (table 1).

Healthy men in this sample have higher hourly wage rates than do disabled men. On average, the healthy respondents reported wage rates about 10 percent higher, while healthy grammar school graduates claimed over 20 percent more and healthy high school graduates over 18 percent more. On the other hand, no difference was observed between the two health groups among high school dropouts. Moreover, disabled high school dropouts appear to have a higher hourly wage rate than disabled high school graduates. Although we have no ready explanation for these seemingly anomalous results, the data generally are consistent with the hypothesis that poor health negatively affects an individual's earnings and wage rate.

Table 1. Earnings by highest year of school completed and health status, 1965

Highest year of school completed and health status	Percent in group	Earnings	
		Annual	Hourly
8 years:			
Healthy	17	$6,551	$3.02
Disabled	20	5,172	2.51
Difference		1,379	.51
9–11 years:			
Healthy	20	7,391	3.25
Disabled	24	6,670	3.25
Difference		721	0
12 years:			
Healthy	31	8,238	3.58
Disabled	26	6,713	3.01
Difference		1,525	.57
Total:[1]			
Healthy	100	8,211	3.62
Disabled	100	6,832	3.30
Difference		1,379	.32

[1] Total includes respondents with less than 8 and more than 12 years of education.
NOTE: Earnings are given in arithmetic means.

Labor market activity. To what extent are the lower earnings that are associated with disabilities a function of fewer hours worked annually? The data indicate that, on average, disabled men spent about four times as much time out of the labor force as nondisabled men (2.8 weeks and 0.7 weeks, respectively). Moreover, the differences in labor force participation are in the same direction and of substantial magnitude at each of the three educational levels considered.

Disabled men, as a whole, experienced almost twice as much unemployment in 1965 as nondisabled men (1.7 weeks compared with 0.9 weeks). This difference persisted among both grammar school graduates and high school dropouts. Among high school graduates, though, both disabled and nondisabled men experienced the same amount of unemployment, suggesting that disability had more serious adverse effects on the employment prospects of less educated men. Nevertheless, when weeks unemployed and weeks out of the labor force are summed, it is clear that poor health negatively affects annual weeks worked for persons at all educational levels.

The number of hours worked per week is not so

clearly related to health as is the number of weeks worked annually. On average, disabled men work only 0.7 hours less per week than nondisabled men. Moreover, the difference among those who completed the eighth grade is in the reverse direction. Possible explanations of the findings are that disabled workers attempt to maximize the amount of time they work at any one time to compensate for some of the effects of greater unemployment and more time out of the labor force, or that many work arrangements do not allow for flexibility in number of hours worked per week.

Disabled men work considerably fewer hours per year than their healthy counterparts. The average difference amounts to approximately 3½ full-time workweeks (table 2). The direction of differences between the two health groups is maintained at each of the three educational levels, although there is considerable variation among the categories, with disabled grammar school graduates losing about 1 full-time workweek, disabled high school dropouts falling behind over 5 full-time workweeks, and disabled high school graduates losing almost 4 full-time workweeks.

Conclusions

The examination of the relationship between health and labor market success for middle-aged men indicates that poor health negatively affects annual earnings through both total hours worked and hourly rates of pay.

Table 2. Labor market activity by highest year of school completed and health status, 1965

Highest year of school completed and health status	Percent in group	Weeks out of the labor force	Weeks unemployed	Hours usually worked weekly	Hours worked annually
8 years:					
Healthy	17	1.0	1.2	44.6	2,223
Disabled	20	2.9	2.6	45.9	2,181
Difference		1.9	1.4	−1.3	42
9–11 years:					
Healthy	20	.8	1.1	44.3	2,228
Disabled	24	2.7	2.3	42.7	2,020
Difference		1.9	1.2	1.6	208
12 years:					
Healthy	31	.4	.7	44.9	2,279
Disabled	26	1.8	.7	43.3	2,142
Difference		1.4	0	1.6	137
Total:[1]					
Healthy	100	.7	.9	44.7	2,253
Disabled	100	2.8	1.7	44.0	2,107
Difference		2.1	.8	.7	146

[1] Total includes respondents with less than 8 and more than 12 years of education.

NOTE: Labor market activity is given in arithmetic means.

The effect on total hours worked is primarily a consequence of differences between healthy and unhealthy men in number of weeks worked annually, although differences in number of weekly hours also explain some of the difference. Time spent out of the labor force is somewhat more important than unemployment in explaining differences in the number of weeks worked annually, although the difference between the unemployment experience of disabled and nondisabled men is not inconsequential.

The negative relationship between health and pay rates raises two important policy questions. To the extent that the lower wage rates represent lower productivity among disabled men than healthy men with similar education, policies aimed at retraining individuals following a health impairment are indicated. On the other hand, to the extent that the lower wage rate is the result of discrimination in the labor market, policies aimed at informing employers as to the true effects of various impairments on productivity are needed.

FOOTNOTES

[1] William G. Bowen and T. Aldrich Finegan, *The Economics of Labor Force Participation* (Princeton, N.J., Princeton University Press, 1969), p. 62.

[2] The Ohio State University Center for Human Resource Research, under contract with the U.S. Department of Labor, has undertaken to conduct longitudinal surveys of the labor market experiences of four cohorts of the U.S. population: men 45–59 years of age; women 30–44; young men 14 to 24; and young women 14 to 24. The data are derived from personal interviews with probability samples of the civilian noninstitutional population in the specific age groups. The samples were drawn by the Bureau of the Census from 235 areas of the country. The data used in this study are drawn from the initial study of men 45 to 59 years of age conducted in June 1966. The survey data contain extensive information on the demographic, financial, social, and attitudinal characteristics of the men, as well as detailed histories and measures of their current labor market activity.

[3] In order to test for the statistical significance of differences between means, this study employes one-tailed t-tests. A hypothesis in this study is that the quantity and quality of health services sought and utilized by an individual have a strong positive effect upon his health. Educational levels can be used as proxies for certain kinds of knowledge which influence the seeking out of health services; earnings can be used as a proxy for the ability to pay for health services, which, in turn, has a positive effect upon the seeking out of such services. Since earnings are highly positively correlated with educational attainment, the latter influences the seeking out of health services both directly and indirectly. Consequently, it is not surprising that educational attainment and the incidence of disability are negatively correlated.

[4] An individual's response to a question of this kind involves two types of perceptions: (1) his perception of what constitutes good health, and (2) his perception of his own physical condition. Each of these perceptions may be influenced by cultural factors, such as the amount of medical attention the individual is accustomed to receiving. Saad Z. Nagi has found a high association between subjective health assessments and medical evaluations among disability-compensation applicants. (*Industrial Medicine,* March 1969, p. 35.)

[5] Most studies of the relationship between educational attainment and disability have found a strong negative correlation between the two variables. See, for example, Lawrence D. Haber, "Age and Capacity Devaluation," *Journal of Health and Social Behavior,* Sept. 1970, p. 178.

WHAT FACTORS INFLUENCE UNION REPRESENTATION ELECTIONS?

JOSEPH B. ROSE

LITTLE EMPIRICAL RESEARCH has focused on the factors that determine the outcome of union representation elections, even though these elections are one of the most important processes in the collective bargaining system. Election files of the National Labor Relations Board remain a largely untapped source, despite the fact that they provide an excellent record of the results of union organizing activity.[1]

Two broad categories of factors that may influence the outcome of representation elections are (1) unit-related variables, which include such characteristics as the size and type of unit being organized, the industrial classification of the firm, the union involved and the location of the firm; and (2) prior organizing activity, which denotes whether there has been any attempt in the past to organize workers in the firm, and if so, the locus, character, and outcome of this effort.

The study is based on an examination of 1,000 union petitions filed with the Board between March and September 1966. The data, which are contained on NLRB Statistical Report Form 4666, provide a complete record of prior union organizing activity associated with each employer. Prepared by clerks of the NLRB, the data encompass all prior activity dating back to 1950, and include elections, representation petitions not resulting in elections, and unfair labor practice cases.

Joseph B. Rose is assistant professor of business administration, University of New Brunswick.

The representation cases in this study are neither unique nor unusual in character. Indeed, the scope of union activity in the period under investigation continued to follow established trends in organizing among various units, industries, and geographic areas.[2] The sample was allocated on the basis of a uniform sampling fraction and includes cases from 31 regional offices of the Board.[3] Of the 1,000 petitions filed, 647 resulted in a single-union election, and these constitute the basic source for the discussion that follows.

Unit size. Of the elections included in this study, unions won a higher percentage in smaller units than in larger ones—nearly two-thirds in units with fewer than 10 employees, but barely more than half in units of 50 employees or more. (See table 1.) Furthermore, when smaller units were separated from larger ones at the median (18 employees), smaller units again were more likely to vote for unionization.

Union leaders have often considered the organization of smaller groups of workers to be more difficult because "workers in small units closely identify with their employer or . . . the employer exerts extensive control and surveillance over the group."[4] Conversely, larger units have been characterized as easier to locate, providing a higher return on investment in terms of the number of members gained, and having a more distant worker-management relationship. The incidence of union election success in smaller units indicates that unions are capable of overcoming the obstacles to organizing small groups of workers.

Unit type. Much union organizing activity is in units of production and maintenance workers, which constituted nearly 55 percent of the elections examined. The next most common unit types, truckdrivers and "all others,"[5] made up 25 percent of election activity. Among the other unit designations, white-collar

Table 1. Election outcome by unit size

Number of employees	Number of elections	Union won election		Union lost election	
		Number	Percent of total	Number	Percent of total
Total	647	377	58.3	270	41.7
1–9	183	121	66.1	62	33.9
10–18	143	84	58.7	59	41.3
19–49	181	99	54.7	82	45.3
50–99	61	32	52.5	29	47.5
100 and more	79	41	51.9	38	48.1

workers and professional and/or technical employees were involved in slightly more than 11 percent of the sampled elections.

Table 2 shows that unions won a majority of elections in each type of bargaining unit. The exceptional success of unions in craft units may be explained by the fact that most of these units were in the construction industry, where unions tend to organize the employer rather than the employees and where elections are infrequent and often tend to be one-sided in favor of representation.

Unions were least successful among professional and/or technical employees, but these results must be interpreted cautiously given the small number of observations. Moreover, the Board fails to distinguish among units composed of professionals, technicians, or both. The distinction could be important because there is evidence, among engineers, of resistance on the part of professionals to organizing into a unit that includes nonprofessional or technical employees.[6]

Industrial classification. Election activity was centered in four industrial classifications: manufacturing; wholesale and retail trade; transportation, communication, and utilities; and services. (See table 3.) Unions fared about the same in highly organized sectors, such as manufacturing and transportation, communication, and utilities, and in less well-organized sectors, such as wholesale and retail trade and services. The somewhat higher winning percentage in the transportation, communication, and utilities classification is the result of Teamster organizing activity among small truckdriver units.

Those industries in which unions were most successful—mining, construction, and finance, insurance, and real estate—represent a mere 5 percent of the elections studied, so sampling errors may contribute to the union's high rate of success. Still, unions fared as well in the largely unorganized finance, insurance, and real estate sector as in the highly organized mining and construction industries.

Table 2. Election outcome by type of unit

Type of unit	Number of elections	Union won election		Union lost election	
		Number	Percent of total	Number	Percent of total
Total	[1] 646	377	58.4	269	41.6
Production and maintenance	346	189	54.6	157	45.4
Craft	18	17	94.4	1	5.6
Departmental [2]	39	23	59.0	16	41.0
Truckdrivers	86	56	65.1	30	34.9
Office, clerical, and other white-collar	57	32	56.1	25	43.9
Professional and/or technical	15	8	53.3	7	46.7
All others	85	52	61.2	33	38.8

[1] Excludes one case not specified by unit type.
[2] Departmental units include employees who perform a function which is distinguishable from other employees, e.g., meat departments in grocery stores.

Table 3. Election outcome by industrial classification of the firm

Industry	Number of elections	Union won election		Union lost election	
		Number	Percent of total	Number	Percent of total
Total	647	377	58.3	270	41.7
Mining	9	7	77.8	2	22.2
Construction	16	14	87.5	2	12.5
Manufacturing	352	200	56.8	152	43.2
Transportation, communication, and utilities	58	36	62.1	22	37.9
Wholesale and retail trade	166	92	55.4	74	44.6
Finance, insurance, and real estate	6	5	83.3	1	16.7
Services	40	23	57.5	17	42.5

The unions. An examination of election results by union affiliation does not reveal any marked differences. AFL–CIO affiliates won 56 percent of their elections, national independent unions 62 percent, and local independent unions 61 percent. In general, the organizing activities of independent unions (primarily the Teamsters who accounted for over 26 percent of all the elections) were centered in smaller units in nonmanufacturing industries, whereas efforts by AFL–CIO affiliates were mostly by large industrial unions seeking out production and maintenance workers in manufacturing. Seven unions were engaged in over half of the elections surveyed:

Union	*Elections won*	*Elections lost*	*Percent of all elections in sample*
Total	191	145	51.9
Teamsters	104	67	26.4
Machinists	23	26	7.6
Steelworkers	14	13	4.2
Automobile Workers	13	12	3.9
Operating Engineers	14	8	3.4
Carpenters	13	8	3.2
Meat Cutters	10	11	3.2

Unions tended to be more successful in those industries and types of units in which they have traditionally organized. For example, the degree of election success attained by the Machinists, Steelworkers, and Automobile Workers was higher in those manufacturing industries that represent the largest segment

of their memberships that is, primary metals, fabricated metals, machinery, and transportation equipment, than in other manufacturing industries, while the Teamsters won in the transportation industry and among truckdriver units. There were exceptions, however; the Teamsters were more successful in production and maintenance units in manufacturing than all other unions examined.

Location of the firm. Two measures of location were used: geographic region and Standard Metropolitan Statistical Area classification. Table 4 reveals only slight variations in election results among geographic regions and between metropolitan and nonmetropolitan areas, with even a slightly higher percentage of union triumphs in the South and in nonmetropolitan areas, which union organizers have traditionally characterized as harder to organize.

The NLRB records only those organizing attempts in which a petition for an election or an unfair labor practice charge is filed. As a result, union activities which met with a great deal of resistance are often unrecorded, since most unions will only enter elections they have a reasonable expectation of winning. Nonetheless, examining the relationship between election outcomes and the firm's history of organizing activity reveals some significant results. Only one-third of the elections studied were in firms with prior organizing activity, but unions were more successful in these elections, winning 66.7 percent, than in initial organizing efforts (where they won 54.1 percent). The units with prior activity were generally larger in size—unions won 61.2 percent of the elections in larger units of firms with prior organizing experience, but less than half in larger units of firms without prior experience.

Table 4. Election outcome by location of firm

Region or area	Number of elections	Union won election		Union lost election	
		Number	Percent of total	Number	Percent of total
Total	647	377	58.3	270	41.7
Northeast	137	78	56.9	59	43.1
North Central	225	130	57.8	95	42.2
West	102	60	58.8	42	41.2
South	170	103	60.6	67	39.4
Outlying areas [1]	13	6	46.2	7	53.8
Total	[2] 646	376	58.2	270	41.8
Metropolitan	417	236	56.6	181	43.4
Nonmetropolitan	229	140	61.1	89	38.9

[1] Includes Puerto Rico and the Virgin Islands.
[2] Excludes one case not specified by area.

Union campaigns in firms with previous organizing activity can be divided into two categories: the repeat organizing drive, in which a second successive attempt is being made to organize the same unit, and the nonrepeat organizing drive, which is centered in a different unit of a firm. Unions were successful in both repeat organizing drives (66.4 percent won) and nonrepeat attempts (67.1 percent). In repeat organizing situations, union persistence and the timing of subsequent organizing activities were largely responsible for the reversal of prior setbacks. In nonrepeat elections, overall success was associated with the proximity of other organized employees in the firm.[7] The greater success of unions in firms with prior organizing activity tends to support the view that it is easier to organize in plants where there has been prior election activity.[8] □

FOOTNOTES

[1] John E. Drotning, "An Unused Research Source: A Description and Illustration of NLRB Election Case Files," *The American Behavioral Scientist,* November 1965, pp. 23–25.

[2] National Labor Relations Board, *Annual Reports,* 1950–67.

[3] The sampling fraction f has been defined as the ratio of the sample size to the parent population. Thus $f=n/N$ for a simple random sample. The allocation of the parent population in stratified sampling follows the same principle. The sample fraction for a single stratum (regional office) h_1 is $F_{h1}= n_{h1}/N_{h1}$. Using a Uniform sampling fraction, the sample size for several strata are determined so that $f_{h1} = f_{h2} = f_{h3} \ldots$. The uniform sampling fraction $f=1{,}000/4{,}712 = .212$. Frederick C. Mills, *Statistical Methods* (New York, Henry Holt and Co., 1955), 3d ed., pp. 678–680.

[4] Floyd S. Brandt, Terry D. Kahn, and Gary C. Raffaele, *Union Organizing Results in Texas, January 1962–February 1964,* Studies in Personnel and Management, No. 17 (Austin, Bureau of Business Research, University of Texas, 1966), p. 52.

[5] "All others" is a miscellaneous group designated by the Board. They include mechanics, maintenance and service employees, warehousemen, and other employees.

[6] Archie Kleingartner, "Professionalism and Engineering Unionism," *Industrial Relations,* May 1969, p. 235.

[7] For a further discussion of prior organizing activity, see Joseph B. Rose, "An Analysis of Organizational Union Representation Elections Conducted Under the National Labor Relations Act" (unpublished Ph.D. dissertation, State University of New York at Buffalo, 1971), pp. 195–324.

[8] Edgar R. Czarnecki, "Unions' Record in Repeat Elections," *Labor Law Journal,* November 1969, pp. 705–706.

Union Conventions

INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS CONVENTION

LEON E. LUNDEN

IN SHARP CONTRAST to previous meetings, the 31st annual convention of the International Association of Fire Fighters (AFL–CIO), which took place in Los Angeles, Calif., August 14–18, 1972, was held in a peaceful, unified environment. No longer evident was the acrimony and bitterness that preceded the 1970 convention in the power struggle between the big city and small city locals. Behind it was the agonizing and distress of the 1966 and 1968 convention deliberations that resulted finally in the removal of the constitutional prohibition against strikes. Instead, there was general satisfaction among the 917 delegates with membership growth (to almost 160,000 by April, 1972) and with increased services to locals. There was a tacit consensus that the union was in transition, more dynamic than in the past, and better able to meet the needs of affiliates.

The convention reaffirmed several existing policies fundamental to the union, and moved to adopt new ones necessitated by changed situations. It dealt with elements of the union's structure, per capita taxes, and other policies related to existing and new union programs, including revenue sharing, consolidation, parity, and minority recruitment.

Union structure

Four resolutions dealing with reorganization of the union structure reached the convention floor. Three of the resolutions reallocated States among the vice presidential districts and two required reapportionment of union districts so that union vice presidents would represent about equal numbers of members. On the convention's final day, the four were considered jointly and rejected, with one partial exception—the resolve concerning a study committee was modified, recommended to the delegates, and eventually passed.

Simple as this decision may seem, it was colored somewhat by a week-long effort of West Coast delegates to obtain a full-time office of their own, staffed by international representatives.[1] They argued that the area contained 8,000 unorganized fire fighters whose unionization would more than pay for the office; that other unions—namely, the Teamsters (Ind.) and the Operating Engineers (AFL–CIO)—were already raiding in the jurisdiction; and that West Coast members felt isolated with headquarters 3,000 miles away. Their bid lost, however, on the argument that a West Coast office would be costly, and its creation would generate demands from other areas for such offices.

Having failed, West Coast delegates did not give up. A new resolution was brought up on the last day of the convention, shortly after the resolution on the reorganization study committee had passed. West Coast strategy now was to obtain a study committee of its own on the question of an office. While sponsors of the resolution persuaded a majority of the delegates to vote favorably, it did not get the two-thirds majority constitutionally necessary to pass a late resolution. Defeated again, West Coast delegates then urged that the question be studied as part of the whole reorganization issue, and they received the assurance that it would. Underlying the whole debate over both a West Coast office and reorganization was the delegate conviction that changes were in the wind. In the union's new, dynamic posture, with a growing membership and expanding services, delegates felt it was only a matter of time before some restructuring of the union was accomplished. The study committee was the first rational step in this direction.

Other proposals for structural change seemed to relate to the big city-small city power struggle of the

Leon E. Lunden is project director of collective bargaining studies. Division of Industrial Relations, Bureau of Labor Statistics.

past or to the strong tradition of local autonomy in the IAFF. One, calling for the assignment of an international representative as liaison to big city locals, was quickly defeated as patently discriminatory against small city locals. A group of five resolutions, proposing a referendum to fill vice-presidential vacancies in the interim between conventions, was temporarily derailed in debate over voting rights for State associations and joint councils. Tabled and resubmitted and then debated further, the referendum proposal passed finally, but with voting rights for State associations and joint councils excluded. Very evident beneath the debate was the IAFF's strong tradition of local autonomy under which State associations and joint councils carried out only curtailed functions, largely legislative lobbying.

Considerations of local autonomy were even more evident in the deliberations on eight resolutions—five submitted by State associations—designed to give State associations and joint councils the right to vote proxies of those locals having under 100 members which could not afford to send delegates to the convention. Under the IAFF constitution, such proxies could be voted in the election of officers and on any roll call vote, but only by local unions. Debate was lengthy and heated. Proponents argued that small locals could not get fair representation if there was no nearby larger local to which they could give their proxies, whereas State associations could provide this voting service. Opponents argued that only per capita paying bodies, such as locals, should be able to vote the proxies. The negative arguments and the call to local autonomy swayed the delegates and brought about a second defeat for State associations.

Per capita taxes

The succession of William Howard McClennan to the IAFF presidency in 1968 heralded a change in direction for the International. Described by one union official as a "library" organization in the past which mailed information in response to requests for help from local unions, the International began to inject itself into local situations where it deemed that its assistance was valuable. This action necessitated an expansion of headquarters staff and greater utilization of regional vice presidents. Over the period, the staff of international representatives increased from 2 to 13 and additional recruitment was planned.

To provide these improved services, raises in per capita taxes were sought for the third convention in a row. In 1968, the convention had increased the tax to $1; the 1970 convention raised it an additional 25 cents with 10 cents of this amount earmarked for the IAFF's Emergency Disputes Fund. Still another increase was sought to finance rising costs, further expansion, and the movement of the International to new quarters. The resolution introduced by the Executive Board called for an additional 40 cents. Anticipating resistance, the Board prepared an elaborate defense of its request, but a compromise 25-cent increase was agreed to before the resolution reached the floor. Instead of the expected heated debate, the International heard a series of spontaneous testimonials from locals that had been helped by headquarters personnel, and the raise passed without dissent. However, another resolution, also submitted by the Executive Board, calling for an open-ended per capita adjustment to meet unforeseen expenditures arising out of costly convention actions, was soundly defeated.

Revenue sharing

At the 1968 convention, delegates created an IAFF Committee on Harassment of Fire Fighters. The Committee was a union response to the hazards faced at, and subsequent to, the riots following the assassination of Martin Luther King. The more that the Committee studied the protection of fire fighters who answered calls in inner city areas, the more it found itself engulfed in an array of urban problems.

Consequently, the Committee reconstituted itself as a committee to deal with urban problems in general. Among the matters it studied was the growing financial difficulties of cities. The Committee concluded that the union ought to strongly support responsible revenue sharing. In adopting the Committee's recommendations in March 1971, the IAFF claimed that it was the first union of public employees to offer this kind of support to hard-pressed municipal, county, and State leaders. The 1972 convention in effect endorsed the legislative initiative taken by its officers by calling upon

> . . . . the IAFF (to) use all its powers and influence to gain greater revenue sharing of the Federal Government's resources with the cities that so desperately need it to fulfill their obligations to serve and protect their inhabitants.

Consolidation

In their constant struggle with city finances, municipal leaders have occasionally sought to cut costs

by consolidating police and fire services in whole or in part. The Fire Fighters strongly oppose any effort along these lines. It is, in fact, a deeply emotional issue. Consolidation may involve merger of whole departments or only of certain operations. For example, on certain shifts, there may be a "swing" man who may patrol, like a police officer, but in the event of a fire, will assist fire fighters at the scene. The IAFF's continuing position unequivocably states that only qualified, professional fire fighters ought to fight fires. Other personnel endanger not only themselves, but also professional fire fighters as well. The union exultantly has pointed out that experiments with consolidation, such as that in Peoria, Ill., have proven to be costly. The convention reaffirmed ". . . its position as being vigorously opposed to the consolidation of fire and police duties"; it also specifically censured one city's initiation of a two-man night fire patrol ". . . which could be a forerunner of consolidation of police and fire services in the community." In addition, resolutions generated from the floor and passed unanimously condemned two other cities which had laid off fire fighters and replaced them with nonprofessional "minutemen."

Parity

Since 1964, the IAFF had been fighting to retain its historic wage parity with policemen. In spite of their efforts, disparity has spread. But the union has continued to mount a campaign at the local level through collective bargaining, arbitration, and factfinding where necessary. It has even carried the fight to the electorate by referendum vote. The IAFF maintains that there has always existed a historical equality between the two protective services, that the occupation of fire fighter is even more hazardous than that of policeman, and that therefore wage parity is economically just. The convention vowed to continue the fight.

The IAFF's legislative efforts on behalf of cities have generated additional funds to provide equipment, facilities, employment, and services. The union contends, however, that city governments sometimes have diverted these funds to anti-union purposes. Delegates therefore adopted a resolution to have the IAFF use

> . . . . every reasonable effort to have safeguards incorporated into such legislation prohibiting the use of these funds to promote consolidations, disparity, deterrence of organization, or any other activities detrimental to the principles of the IAFF.

Minority recruitment

There are few blacks in municipal fire departments at this time. Attempts to rectify this situation, the IAFF fears, could undermine the standards of the profession. For example, the union successfully resisted a proposal by the Department of Housing and Urban Development to ease hiring provisions in order to help alleviate unemployment problems of blacks. The Department had called upon cities to find "ways to eliminate artificial barriers to employment and occupational advancement, including Civil Service requirements, which restrict employment opportunities for the disadvantaged." The union was particularly concerned over the impact on carefully built civil service standards.

In turn, the IAFF, with the Department of Labor and the AFL–CIO Department of Civil Rights, devised a pilot recruitment plan called the "Outreach Program." It was financed by Labor and could help up to 1,200 prospective candidates in 12 cities to prepare to meet physical and educational standards for employment in municipal fire departments. Robert McGlothin, assistant director of the AFL–CIO Civil Rights Department, praised the program in his convention address, and the delegates passed a resolution in which it

> . . . deplores any discrimination on the basis of race, creed, color, or national origin; and rededicates its efforts to eliminate invidious practices which stifle freedom of equal opportunity for all members of the community . . .

In addition, the delegates changed the constitution to read:

> Anyone eligible for membership in the Association shall not be refused membership or, upon acceptance, be discriminated against because of race, color, creed or national origin.

Other policy developments

Delegates endorsed compulsory arbitration in jurisdictions having no-strike laws. An attempt failed, however, to insert in the constitution international control over strikes by locals. The controls would have been enforced by establishing guidelines which must be met if locals should seek assistance from the Emergency Disputes Fund. Alarmed Southern delegates warned that organization in their

jurisdiction would be hurt if there were any constitutional reference to strikes. Consequently, the absence of International guidance over strikes, brought about originally by the elimination of the constitutional no-strike provision, continues.

Lamenting that public employees lack status in the AFL–CIO and that the AFL–CIO has failed to change policies in line with the unique needs of public employees, the union initiated a campaign among other concerned unions to create a public employees department within the AFL–CIO.

The one resolution introduced calling for the endorsement of a presidential candidate was withdrawn before it reached the floor.

William Howard McClennan was reelected president. Secretary-treasurer Albert E. Albertoni retired, and Frank Palumbo, from New York City, replaced him in a run-off election. □

FOOTNOTE

[1] At present all international representatives are assigned to specific tasks out of the IAFF's Washington, D.C., headquarters.

AMERICAN FEDERATION OF TEACHERS 56TH ANNUAL CONVENTION

RICHARD R. NELSON

MAJOR ISSUES confronting the 56th annual convention of the American Federation of Teachers (AFL–CIO) were teacher unity, especially the question of merger with the National Education Association, political action in the 1972 national elections, a request for higher dues, and the election of officers. Over 1,500 delegates from 295 locals debated these issues in Saint Paul, Minn., August 20–25, recognizing that their decisions would influence the future of their rapidly growing union, whose membership has increased more than 10 percent to 275,000 since the 1971 convention.

Recent AFT mergers with the National Education Association State organization in New York and the New Orleans city chapter, in conjunction with the adoption of a no-merger policy by the NEA at its recent convention,[1] moved the delegates to adopt an official policy on this subject: After extended debate, the convention decided by a vote of 2,433 to 1,072 to press for formal merger talks with the NEA at both the local and national levels. American Federation of Teachers' President David Selden stated, in a press conference, that despite the official NEA position, there were indications that the "young Turks" in that organization favored merger and that an amalgamation would likely be achieved within 3 years. A national merger of the AFT and NEA would produce a 1.3-million member organization.

To encourage and facilitate the merger, the convention revoked a union policy which had required a national referendum on each State or local merger and replaced it with a requirement that only the national Executive Council and the membership of the local involved need approve a merger. Delegates stipulated, however, that: (1) all members of the merged organization also be members of the AFT, AFL–CIO; (2) the present AFT exclusion of administrators be accepted as a condition of merger; and (3) the united organization be "democratically constituted and administered by elected officials."

These provisions pose obstacles to an NEA–AFT merger because the National Education Association has recently prohibited any national merger which would require AFL–CIO affiliation; has traditionally included administrators as well as teachers; and has been administered primarily by a nonelected executive secretary, because the elected president is limited to a 1-year term. This final issue may be eliminated if the NEA membership ratifies a proposed constitutional amendment that would permit longer presidential terms.

Merger was the primary issue in the election of union officers. President Selden was elected to his third consecutive 2-year term by a sizable majority, 2,937–1,391. Also elected was Selden's entire slate of 20 Progressive Caucus vice presidents. Ken Miesen, director of organization for the Minnesota Federation of Teachers, challenged Selden on the antimerger platform of the United Action Caucus.

The antimerger position was supported primarily by small locals, fearful of being overwhelmed by the NEA in any merger, and by a majority of the members of the Black Caucus. Selden's 2–1 victory margin of 1,546 votes, compared to his margin of only 105 votes over Miesen in 1970, gave evidence of both the strong merger sentiment and the relative power of the large locals in the AFT. The

Richard R. Nelson is a labor economist in the Division of Industrial Relations, Bureau of Labor Statistics.

struggle between small and large locals was also seen in the defeat of a resolution to replace the present at-large election of vice presidents with regional contests.

On the matter of union dues, the request of the Executive Council for an increase in the per capita tax from $1.50 to $2.25 a month, to enable the union to increase its staff and services without borrowing, met with considerable opposition and resulted in only a 25-cent increase. Ten cents of this is to be returned to the State federations.

Partisan politics was an important part of this convention, which was in session during the Republican Convention and 1 month after the Democratic Convention. The delegates broke with their traditional apolitical stance and endorsed by a 2–1 margin a presidential candidate, Senator George McGovern, the Democratic nominee. Opposition came primarily from those who felt the decision should be made by a referendum of all members and from a few delegates who favored a separate labor party. Perhaps as important as the endorsement was a pledge to raise $250,000 in campaign funds for the Senator, who is a dues-paying member of the union.

In other actions, the convention reaffirmed its 1971 resolution calling for immediate withdrawal from Vietnam and reversed last year's opposition to the equal rights amendment. A resolution of special interest to the delegates pledged full support of the AFT for members of the Fairfield, Ala., local, who won a collective bargaining representation election but have experienced violence and intimidation in their attempt to negotiate an agreement. Other resolutions supported improvements in the quality of education, national health care, busing for racial balance, and the United Farm Workers' boycott of iceberg head lettuce.

Two incidents adding a degree of drama to the convention proceedings involved the 3,300-member Newark, N.J., local which has taken part in a number of bitter strikes in recent years. Prior to the convention, the Executive Council ruled that because of alleged delegate election violations of the Landrum-Griffin Act, the Newark delegates would be seated but their votes sequestered. This ruling was overturned, however, after emotional debate on the convention floor, and the Newark delegates were given full participation rights. Later, following the defeat of a constitutional amendment requesting a special per capita assessment of $2 per member to support the Newark local, local president Carole Graves led a walkout, threatening to leave the AFT and perhaps join the Teamsters or some other union. Al Shanker, president of the New York chapter, called the threat a "shakedown." During the debate on the amendment, AFT Secretary-Treasurer Robert Porter reported that the national union gives Newark $15,000 a month and claimed it has given a total of $535,000 to help pay fines and other costs. □

FOOTNOTE

[1] See Edward F. Hanley, Jr., "National Education Association's 51st convention," *Monthly Labor Review,* September 1972, pp. 55–56.

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.

Research Summaries

PAY RELATIONSHIPS IN CHEMICAL PLANTS UNCHANGED AS WAGES RISE

EDWARD J. CARAMELA

OCCUPATIONAL WAGE relationships in industrial chemicals manufacturing remained relatively unchanged in recent years, despite substantial gains in pay. A comparison of Bureau of Labor Statistics surveys of wages in the chemical industry in November 1965[1] and June 1971 reveals that the average wage advantages held by other workers over janitors, the lowest paid occupation studied, changed by 3 percent or less in 18 of 19 survey jobs. For example, class B chemical operators averaged 18 percent more an hour than janitors in both studies, while the advantage for class A operators changed only slightly —from 26 to 28 percent. (See table 1.)

Staffing patterns were even more stable than wage relationships during this period. For virtually all of the 19 occupations, their shares of the total work force varied by 1 percent or less.

Among the jobs selected to represent various pay levels in industrial chemicals manufacturing, chemical operators and helpers constituted about one-third of the industry's 171,798 production and related workers in 1971. Class A operators averaged $4.42 an hour—9 percent more than class B operators ($4.07). Chemical operators' helpers averaged $3.72.

Skilled maintenance men, accounting for one-fifth of the work force, averaged $4.56 an hour. Of the occupations studied separately within this category, general mechanics (those skilled in more than one maintenance trade) were the largest group and averaged $4.48; instrument repairmen were the highest paid at $4.75 an hour. The lowest hourly averages were recorded for employees classified as janitors ($3.46) and material handling laborers ($3.49).

In the 1971 survey, overall straight-time earnings of production and related workers in industrial chemicals manufacturing (virtually all men) averaged $4.10 an hour. Slightly more than seven-tenths of the employees surveyed were in plants primarily manufacturing basic chemicals; they averaged $4.17 an hour, compared with $3.93 for the remaining workers employed by manufacturers of plastics materials and synthetic resins. Together, these wage levels rose 35 percent—closely paralleling the rise for all manufacturing and the total, private nonfarm

Table 1. Occupational wage levels in industrial chemicals, June 1971, and wage relationships, November 1965 and June 1971

Selected occupations	June 1971		Wage relationships (Janitor's average =100)	
	Number of workers	Average hourly earnings [1]	November 1965	June 1971
Electricians, maintenance	3,567	$4.61	132	133
Instrument repairmen	2,740	4.75	135	137
Machinists, maintenance	2,136	4.66	134	135
Mechanics, general	10,425	4.48	126	129
Mechanics, maintenance	2,970	4.55	([2])	132
Pipefitters, maintenance	4,368	4.63	133	134
Welders, hand, maintenance	1,942	4.62	([2])	134
Helpers, trades, maintenance	2,287	3.82	107	110
Chemical operators, class A [3]	28,275	4.42	126	128
Chemical operators, class B [4]	22,988	4.07	118	118
Chemical operators' helpers	9,284	3.72	104	108
Fillers	3,442	3.71	106	107
Millers	630	3.76	106	109
Mixers	1,521	3.71	105	107
Pumpmen	1,143	4.09	120	118
Laboratory assistants	9,671	4.14	([2])	120
Laborers, material handling	4,319	3.49	100	101
Stock clerks	1,641	4.07	116	118
Truckdrivers, semi- or trailer	321	3.99	116	115
Truckdrivers, other than semi- or trailer	789	3.93	113	114
Truckers, power, forklift	2,535	3.74	109	108
Guards	1,357	3.92	115	113
Janitors	3,082	3.46	100	100

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Job not studied in November 1965.

[3] Operates one or more types of chemical processing equipment; requires extensive knowledge of operating procedures and chemical reactions.

[4] Works at assigned equipment or position of a chemical reaction process; requires guidance in the interpretation of tests and observations.

Edward J. Caramela is an economist in the Division of Occupational Wage Structures, Bureau of Labor Statistics.

economy (36 and 39 percent, respectively).[2] Average annual rates of increase were 5.5 percent in basic chemicals plants and 6.0 percent in plastics plants.

Since the midsixties, the number of production workers in the industry increased only 2 percent. However, changes varied by type of product: Employment in basic chemicals plants declined about 4 percent (from 128,220 workers in 1965 to 123,713 in 1971), while in plastics plants employment rose 19 percent (40,295 workers to 48,085). At the time of the 1971 survey, about 80 percent of the workers in both industry sectors were in four regions—the Middle Atlantic, Border States, Southwest, and Great Lakes.

Plants employing 500 workers or more accounted for almost 60 percent of the industry's labor force; 70 percent of the workers were located in metropolitan areas; and nearly 80 precent were in establishments with labor-management contracts covering a majority of their workers, although these proportions varied somewhat by industry sector and region.

Almost all workers covered by the 1971 study were in plants providing paid holidays, paid vacations, and at least part of the cost of retirement pension plans and various health insurance benefits. A majority of the workers were in plants granting 9 or 10 paid holidays annually and 2 weeks of vacation pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 15 years, and 5 weeks or more after 20 years.

A comprehensive report on the 1971 survey is scheduled to be issued this winter. Summary tabulations, providing national and regional data, and separate releases for important States and areas of industry concentration are available upon request to the Bureau or any of its regional offices listed on the inside front cover. □

FOOTNOTES

[1]For a report on the 1965 study, see *Monthly Labor Review*, September 1966, pp. 994–996.

[2] Based on the Bureau's Hourly Earnings Index.

UNDERGRADUATE ENROLLMENT UP IN 2-YEAR COLLEGES

A BUREAU OF THE CENSUS report on undergraduate enrollment of college students (14 to 34 years old) shows that in October 1971 there were 6.9 million persons enrolled in the first 4 years of college. Of these, 1.8 million were in 2-year colleges and 4.8 million in 4-year colleges (299,000 did not report on the type of college they were attending).

The number of college freshmen and sophomores enrolled in 2-year colleges increased from 1 million in 1966 to 1.7 million in 1971. This growth represented 92 percent of the total increase since 1966 in enrollment in the first 2 years of college.

"Undergraduate Enrollment in Two-year and Four-year Colleges: October 1971," presenting data on enrollment by age, race, sex, marital status, attendance status, and residence, as well as type and control of college, is available from the Superintendent of Documents, Washington, D.C. 20402, for 35 cents (refer to *Current Population Reports*, Series P–20, No. 236). □

VALUE OF QUALITY CHANGES IN 1973 MODEL PASSENGER CARS

QUALITY IMPROVEMENTS for domestic 1973 model passenger cars will be valued at $95.40 at manufacturers' prices and $123.80 at retail, reflecting primarily the effect of changes made to meet Federal Motor Vehicle Safety Standards and the Federal Clean Air Act. These preliminary figures, announced by the Bureau of Labor Statistics in mid-August, are based on an evaluation by the Bureau of data supplied by automobile companies.

The $123.80 retail value of the quality changes breaks down as follows:

Changes made to meet 1973 Federal safety requirements	$75.10
Safety features added voluntarily, including changes made in anticipation of future Federal standards	10.50
Improved exhaust emission systems as required by the Federal Clean Air Act	27.70
Other quality improvements involving changes in engines, chassis, and bodies	10.50

Data derived in the study will be used to calculate price movements in the Consumer Price Index and Wholesale Price Index when the 1973 models are first introduced into the indexes, usually in October. The study is based on information for 15 domestic passengers cars (station wagons and subcompacts are not included), selected as representative of all domestic passenger cars sold in the United States and priced for the Wholesale Price Index. Seven of the cars are also priced for the Consumer Price Index. Imported cars, though excluded from this study, are covered in the Bureau's official price indexes. □

SALARY AND EMPLOYMENT TRENDS OF FIREMEN AND POLICEMEN

MINIMUM ANNUAL SALARY scales for firemen and policemen (combined) rose 6.6 percent during 1971, and maximum scales rose 6.7 percent. This compares with rises of 5.4 and 5.8 percent, respectively, in 1970.[1]

Of the 153 cities surveyed,[2] 120 provided increases to firemen and 119 to policemen. When only these cities were considered, maximum scales rose by 8.2 percent. In January 1972, annual minimum scales averaged $9,026 for firemen and $9,454 for policemen, while maximum scales averaged $10,718 and $11,287, respectively.

Salary levels were generally highest in Western cities and lowest in the South, continuing the established trend. (See table 1.) In the West, more than 7 out of 10 firemen and policemen had annual starting salaries of at least $9,000 and maximum scales of $11,000 or more in January 1972. In the South less than 2 percent had reached these levels. As in earlier years, salary levels tended to vary in direct proportion to city size. Since 1967, average minimum annual scales for firemen and policemen (combined) have advanced at an annual rate of 7.9 percent and maximum scales at 7.7 percent.

The number of policemen employed has increased substantially over the past 5 years. Percent changes vary by region and by size of city, with employment

Table 1. Annual salary scales of firemen and policemen (average minimum and maximum) by city size and region, 1967–72

Employee group and year	All cities 100,000 and over	City size				Region [1]			
		Over 999,999	500,000 to 999,999	250,000 to 499,999	100,000 to 249,999	Northeast	South	North Central	West
	Minimum annual scales								
Firemen:									
1967	$6,251	$6,988	$6,106	$5,996	$5,636	$6,452	$5,266	$6,349	$7,165
1968	6,753	7,623	6,636	6,335	6,063	7,148	5,681	6,704	7,624
1969	7,413	8,497	7,338	6,890	6,574	7,995	6,182	7,444	8,124
1970	8,041	9,253	7,786	7,685	7,103	8,651	6,678	8,189	8,813
1971	8,490	9,596	8,215	8,179	7,674	9,029	6,980	8,827	9,396
1972	9,026	10,385	8,759	8,480	8,125	9,863	7,273	9,245	9,967
Policemen:									
1967	6,470	6,977	6,154	6,130	5,802	6,617	5,472	6,554	7,260
1968	7,019	7,628	6,741	6,480	6,212	7,322	5,909	7,011	7,736
1969	7,741	8,540	7,274	7,066	6,739	8,231	6,480	7,720	8,210
1970	8,448	9,300	7,888	7,926	7,357	8,953	7,001	8,553	8,953
1971	8,874	9,675	8,291	8,414	7,942	9,257	7,339	9,219	9,518
1972	9,454	10,454	8,768	8,747	8,385	10,158	7,660	9,598	10,060
	Maximum annual scales								
Firemen:									
1967	7,463	8,508	7,221	7,085	6,636	7,885	6,298	7,432	8,385
1968	7,982	9,015	7,865	7,486	7,143	8,376	6,898	7,936	8,870
1969	8,736	10,033	8,591	8,158	7,744	9,247	7,497	8,876	9,444
1970	9,482	10,828	9,293	9,089	8,349	9,960	8,150	9,710	10,353
1971	10,060	11,327	9,839	9,649	9,080	10,368	8,549	10,489	11,296
1972	10,718	12,247	10,485	10,080	9,658	11,225	8,990	11,099	12,030
Policemen:									
1967	7,816	8,503	7,504	7,245	6,844	8,117	6,603	7,852	8,554
1968	8,313	8,976	8,127	7,657	7,338	8,545	7,232	8,377	9,044
1969	9,196	10,101	8,678	8,509	7,982	9,522	7,896	9,461	9,641
1970	10,017	10,927	9,616	9,385	8,648	10,275	8,596	10,424	10,598
1971	10,576	11,452	10,109	9,960	9,408	10,563	9,091	11,230	11,611
1972	11,287	12,389	10,668	10,426	9,989	11,479	9,488	11,902	12,307

[1] Regions used in this study are: **Northeast**—Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; **South**—Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; **North Central**—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; and **West**—Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

NOTE: Data relate only to cities with 100,000 inhabitants or more in 1970.

growth generally greater in the South and West:

	250,000 inhabitants or more	*100,000 inhabitants or more*
Northeast	12.0	12.3
North Central	20.4	20.4
South	39.0	36.3
West	31.0	29.6

The number of firemen has risen more slowly over the 5-year period, and in some areas has decreased, but the regional pattern is generally similar to that for policemen. That is, growth has been greater in the South and West:

	500,000 inhabitants or more	*250,000 to 499,999*	*100,000 inhabitants or more*
Northeast	—1.8	—1.6	0.4
North Central	—6.5	—4.4	—1.9
South	14.6	14.0	8.5
West	1.4	3.7	4.8

These regional trends are related to the differing growth rates in various parts of the country. Over the past decade, large cities in the Northeast and North Central regions generally have lost population, while those in the West and South have grown. □

FOOTNOTES

[1] Data reported here are limited to the ranks of firefighter and patrolmen. A more comprehensive report of the study, including additional tables, appears in the Bureau's *Current Wage Developments* No. 296, September 1972.

[2] The data cover 153 cities of 100,000 inhabitants or more. It was compiled by the International City Management Association, supplemented by surveys of salaries and working conditions conducted by the Fraternal Order of Police and the International Association of Fire Fighters and by direct inquires by the Bureau. Changes in scales negotiated subsequent to the survey date and made retroactive to Jan. 1, 1972, were not included.

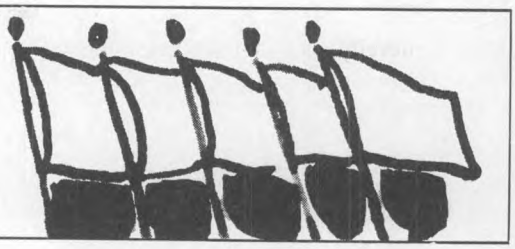
GEOGRAPHICAL MOBILITY OF THE POPULATION

IN MARCH 1971, about 1 in 6 Americans had moved within the country during the preceding year. This residential mobility rate of 17.9 percent is about the same as in other recent years, but there is some evidence that the rate has declined from levels of the 1950's.

Data from the most recent survey by the Bureau of the Census show that blacks had a higher rate of moving within counties and whites a higher rate of moving between counties. Men who were unemployed at the time of the survey were more likely to have moved within or between counties during the preceding 12 months than were men employed at the survey date. A positive relationship was shown between years of school completed and the probability of moving between counties. Other tabulations include mobility status and family status, date of first marriage, metropolitan and nonmetropolitan residence, major occupation group, income in 1970, and region of residence in 1970 by region of residence in 1971.

The 48-page report, "Mobility of the Population of the United States: March 1970 to March 1971," is available from the Superintendent of Documents, Washington, D.C. 20402, for 50 cents (refer to *Current Population Reports,* Series P–21, No. 235). □

Foreign Labor Briefs



U.S.S.R. ECONOMIC AND LABOR DATA FOR 1971

EDMUND NASH

THE 1971 economic report of the Union of Soviet Socialist Republics claims that the country achieved all its main goals for economic production and social welfare as set forth in the state plan for 1971. The report acknowledges, however, that production of some consumer goods—washing machines, television sets, sugar, fish, and cheese—fell below the 1970 levels.

The percent increase over 1970 in selected economic and social indicators is shown in the following tabulation:

	Percent increase, 1970–71
National income, used for consumption and accumulation	6.0
Industrial output	7.8
Capital goods	7.7
Consumer goods	7.9
Agricultural output	0.0
Labor productivity in industry	6.3
Number of wage and salary earners	2.8
Average monthly earnings of wage and salary earners	3.3
Per capita real income	4.5
Retail trade turnover	7.0
Consumer services	12.0
Children enrolled in preschool establishments	2.4
Students enrolled in secondary specialized schools	.8
College level students	.4

The 6-percent increase in national income—defined by Soviet economists as the net value of goods and productive services, including turnover tax—was smaller than the 8.5-percent increase in 1970. The report stated that more than four-fifths of the increase in national income was accounted for by an increase in labor productivity. For the fourth year in succession the annual rate of growth in output of consumer goods exceeded that of capital goods, as planned. Data on the volume of production of selected consumer and capital goods are given in table 1.

There appears to have been a decline in per capita food production; no increase in agricultural output was reported although population increased by 2.4 million. In agriculture, adverse weather conditions were blamed for the shortfalls in production in various areas.

The average number of wage and salary earners in 1971 was 92.7 million, up 2.5 million over 1970. At the end of 1971, there were over 970,000 scientific workers (among whom are counted workers in the social sciences, arts, and letters). Monthly cash earnings of all wage and salary earners averaged 126 rubles ($152), 3.3 percent higher than in 1970 and above the planned increase of 2.8 percent. According to the report, government expenditures for free consumer services and other benefits raised average monthly income to 170 rubles ($205). Per capita real income rose 4.5 percent during 1970–71, less than the 5.2-percent rise in 1969–70. Personal savings in banks continued to grow, increasing in 1971 by 6.6 billion ($8 billion) to a total of about 53 billion rubles ($64 billion). At the end of 1970, there were 80 million personal savings accounts, compared with 73 million in 1969; the economic report gave no figure for 1971. The increased savings could indicate the continued inability of many Soviet citizens to purchase desired durable goods, such as refrigerators and automobiles.

While the retail sales of state and cooperative outlets increased (in comparable prices) 7.0 percent over 1970, the demand for many consumer goods was not satisfied. Although the volume of consumer services increased 12 percent in monetary terms,

"U.S.S.R. economic and labor data for 1971" was prepared by Edmund Nash, formerly of the Division of Foreign Labor Conditions.

Table 1. Production of selected commodities in the Soviet Union, 1971

Commodity	Production, 1971	Percent change	
		1970–71	1969–70
Steel	121 million metric tons	4	5
Coal	641 million metric tons	3	3
Crude oil	372 million metric tons	7	7
Electric power	800 billion kilowatt tons	3	7
Cement	100.3 million metric tons	5	6
Paper	4.4 million metric tons	5	3
Trucks, buses, and passenger cars.	1142.7 thousand	25	8
Passenger cars	529.0 thousand	54	17
Tractors	472 thousand	3	4
Cotton fabrics	6,397 million square meters	4	−0.9
Woolen fabrics	675 million square meters	5	4
Leather footwear	679 million pairs	0.5	6
Clocks and watches	42.1 million	5	6
Radios and radio-phonographs	8.8 million	13	8
Television sets	5.8 million	−13	1
Household refrigerators	4.6 million	10	12
Household washing machines	4.1 million	−23	2
Motorcycles and scooters	872 thousand	5	2
Meat	13.1 million metric tons	7	5
Granulated sugar	9.0 million metric tons	−12	−1
Canned foods	11.3 billion cans	5	10

SOURCE: **Pravda**, January 23, 1972, p. 1.

available services continued to be inadequate, especially in rural areas. The report stated that plans to put new consumer service shops into operation were not fulfilled in many cities and districts throughout the country.

About the same number of new apartments and single-family homes were built in 1971 as in 1970 (2,300,000 compared with 2,280,000). As a result of this and the improvement of old housing, the report stated, some 3 million families, or 11.2 million persons, experienced better housing conditions.

About 1.8 million students, or 6 percent more than in 1970, graduated as professionals and technicians from college-level and secondary specialized schools (about 39 percent of them graduated from college-level schools). In addition, the secondary vocational technical schools added 1.7 million trained workers to the labor force. During 1971, about 19 million persons increased their skills while on the job.

In industry and construction, many enterprises fell short of their goals for increased production; many also failed to reduce production costs, to improve quality, and to offer an adequate assortment of products. In transportation, the problem of idle freight cars continued because enterprises were slow in loading and unloading them.

As in previous years, the press has continued its perennial campaign against production shortcomings by exhorting managements of enterprises strictly to enforce labor discipline, to use manpower and materials economically, and to introduce into their enterprises the latest scientific and technological developments. □

ROMANIAN EARNINGS DATA

ANNE KAHL

Earnings of Romanian workers in the nonagricultural sector of the economy increased substantially in the 5 years ending in 1970. For the country's nonagricultural workers, average monthly earnings in 1970, at about 1400 lei (US$78),[1] were over 25 percent higher than in 1965. The rise in average wages and salaries has hastened the movement of workers out of agriculture and into higher paying nonagricultural occupations, and, as a result, the income distribution of Romanian workers shows considerable improvement. Between 1965 and 1970, the number of nonagricultural workers rose from 3.8 to 4.6 million, and the proportion earning 1,100 lei or more monthly rose from 37 to 73 percent.

The upward trend in earnings is reflected in the following data on the distribution by monthly earnings level of Romanian wage and salary earners employed outside agriculture:

Average monthly earnings (in lei)	*1965 (percent)*	*1970 (percent)*
Under 900	39.6	7.0
901–1,100	23.1	20.3
1,101–1,500	23.4	37.7
1,501–2,000	10.1	20.8
2,001–2,500	2.6	8.2
Over 2,500	1.2	6.0

These data appeared for the first time last year, in the 1971 edition of *Anuarul Statistic al Republicii Socialiste Romania* (Statistical Yearbook of the Socialist Republic of Romania). In another noteworthy development, the International Labor Office published actual average monthly earnings data for Romania in *Year Book of Labour Statistics* (1970 edition).

Anne Kahl is a Bureau of Labor Statistics labor economist, formerly of the Division of Foreign Labor Conditions.

Table 1. Average monthly earnings in manufacturing by industry group, Romania, 1962–69 [1]

[In lei [2]]

Industry group	1962	1963	1964	1965	1966	1967	1968	1969
Food	879	910	963	1,031	1,055	1,086	1,126	1,230
Textiles	848	885	936	1,001	1,008	1,013	1,037	1,138
Clothing [3]	789	833	884	970	1,011	1,012	1,032	1,099
Leather, fur, and footwear	876	943	985	1,067	1,099	1,100	1,132	1,214
Wood [4]	891	982	1,037	1,136	1,139	1,155	1,191	1,238
Cellulose, paper	953	1,029	1,085	1,117	1,190	1,198	1,223	1,248
Printing, publishing	951	1,040	1,074	1,124	1,205	1,203	1,219	1,307
Chemicals	1,006	1,068	1,096	1,152	1,235	1,249	1,288	1,331
Nonmetallic mineral products [5]	1,135	1,237	1,284	1,339	1,462	1,498	1,552	1,594
Glass, china, earthenware	953	1,030	1,095	1,168	1,193	1,205	1,241	1,330
Building material	870	944	997	1,071	1,128	1,157	1,191	1,270
Primary iron and steel [5]	1,157	1,238	1,290	1,343	1,443	1,500	1,536	1,583
Metal products and machinery	1,112	1,146	1,189	1,285	1,315	1,341	1,371	1,393

[1] Wage and salary earners in the socialist sector.
[2] US$1 equals 18 lei at the tourist rate of exchange.
[3] Excludes footwear.
[4] Includes exploitation.
[5] Includes ore mining.

SOURCE: **Year Book of Labour Statistics, 1970** (Geneva, International Labor Office, 1971).

Appearance of these two sets of data is of particular interest because of the paucity of official Romanian statistics on earnings. Romania is one of the few countries in Eastern Europe which continues to be secretive about economic statistics. For some economic indicators, no official figures are released; for others, official statistics are fragmentary and difficult to use.[2] Official earnings data appear in the *Anuarul Statistic,* published by the Central Statistical Board. These data show average monthly earnings of wage and salary earners by major industry group in index numbers, but not by real value in lei. Information describing the statistical method used to compute any of the earnings indexes is not available.

Table 2. Number of wage and salary earners employed in the socialist sector in Romania, by industry group, annual average, selected years

[In thousands]

Industry group	1960	1965	1966	1967	1968	1969
Total	3,249.2	4,305.3	4,496.7	4,679.7	4,785.3	4,957.9
Agriculture	310.6	425.6	450.6	432.2	414.9	431.2
Forestry	29.9	32.9	31.8	31.6	32.0	31.4
Manufacturing, mining and power	1,255.2	1,675.6	1,733.7	1,799.8	1,876.5	1,980.0
Construction	371.9	512.5	548.2	609.0	634.3	647.6
Transportation [1]	209.3	288.1	299.9	312.0	312.6	317.7
Communications	38.5	50.9	53.1	55.4	55.4	56.0
Trade	319.9	384.8	394.7	408.7	410.8	423.4
Municipal services,[1] housing, and other nonproductive services	118.6	175.1	196.6	215.2	230.6	239.0
Education, culture, and art	232.2	325.7	335.7	345.3	351.5	357.0
Science and scientific services	40.1	59.1	60.7	64.4	65.8	68.9
Public health, social services, and physical culture	144.9	187.1	194.5	202.8	214.7	222.5
Administration	105.1	94.9	98.5	99.6	82.6	73.0
Other	73.0	93.0	98.7	103.7	103.6	110.2

[1] Public urban transportation is included under municipal services.

SOURCE: **Statistical Yearbook of the Socialist Republic of Romania, 1970,** PP. 124–125.

Presenting data in terms of index numbers stresses cumulative increases over long time periods. Consulting the data in *Anuarul Statistic,* one can determine, for example, that average earnings of all wage and salary earners rose 29 percent between 1965 and 1970, and that the cumulative increase was higher than this in some branches (40 percent in transportation) and lower in others (20 percent in communications). But the official statistics do not indicate, even in percentage terms, how actual earnings in one branch compare with those in another. Nor do they reveal how much money Romanian workers earn.

The figures published by the International Labor Office clear up this problem.[3] According to these data, provided by the Romanian Government in response to an ILO questionnaire, average monthly earnings of wage and salary earners in selected branches of the socialist sector are as follows, in lei:

	1967	*1968*	*1969*	*1970*
Agriculture	1,106	1,132	1,179	1,327
Manufacturing	1,222	1,254	1,313	1,432
Construction	1,325	1,374	1,403	1,555
Transportation	1,287	1,325	1,357	1,544
Communications	1,061	1,078	1,118	1,239

The 1967–70 earnings data published by the ILO reveal approximately the same pattern of post-1965 increases as do the official data published by the Central Statistical Board. In 1966, the first year of the 5-year plan for 1966–70, the annual increase in average earnings was relatively large by Romanian standards—6 percent for all wage and salary earners. In 1967 and 1968, increases were under 3 percent, on the average. A new wage system was introduced in 1968 and implemented gradually, on an industry-by-industry basis, between 1968 and 1970. It was put into effect first in industries where earnings were lowest, and was accompanied by across-the-board wage increases. For most workers, the wage reform resulted in an upward movement of average earnings of over 4 percent in 1969 and over 10 percent in 1970 from 9 to 10 percent.[4]

ILO data on earnings in manufacturing, by industry, are shown in table 1. In 1969, the most recent year for which these data are available, average earnings were highest in nonmetallic mineral products,[5]

primary iron and steel,[5] and metal products and machinery and lowest in clothing and textiles.

Both rank order and earnings differentials have remained fairly constant since the early 1960's. Differences reflect, in part, the government's commitment to rapid industrialization. Base pay rates are set primarily to encourage heavy industry.

According to unofficial estimates, the total labor force in Romania numbered 10.7 million in 1969. Limited to the 4.9 million wage and salary workers in the socialist sector, the ILO wage data cover 98 percent of all workers engaged in manufacturing, construction, transportation, and communications, but only 8 percent of those in agriculture, which employs half of all workers. The ILO data do not cover any persons employed in commerce or in services, which accounts for about 16 percent of the labor force.

Data on the number of wage and salary earners in the socialist sector by industry group for selected years beginning with 1960 are shown in table 2. □

FOOTNOTES

[1] US $1 equals 18 lei at the tourist rate of exchange. This does not accurately reflect the domestic purchasing power of the lei, which varies widely for different types of goods and services.

[2] For a discussion of the weaknesses of Romanian economic statistics, see John M. Montias, *Economic Development in Communist Rumania* (Cambridge, Mass., The M.I.T. Press, 1967), pp. VII–XI.

[3] *Yearbook of Labour Statistics 1970* (Geneva, International Labor Office, 1971), pp. 675, 566, 652, and 658; and unpublished communication from the U.S. Mission to International Organizations, Geneva.

[4] The average annual increase in average earnings of wage and salary earners in all branches in the socialist sector is computed on the basis of 1965–70 data in *Anuarul Statistic al Republicii Socialiste Romania, 1971,* (Bucharest, 1971), p. 145.

[5] Includes ore mining.

Expansion of social services in Germany

Since 1968 the Federal German Government has produced regularly a "Social Budget," which with a "Social Report" contains a detailed analysis of the scope and the costs of publicly provided social services. . . .

From all these sources the German Government calculated that the costs of the social services in 1969 amounted to nearly 109,000 million DM, and estimated that the social services in that year absorbed 18.3 percent—nearly one-fifth—of GNP. . . . [Figures on longer-term postwar trends] reveal unmistakably that the costs of the social services computed on the same basis were already 16,000 million DM in 1960, at the beginning of the Adenauer era, that is, 16 percent of GNP. Although they more than trebled during the following decade, the relative share of the Social Budget dropped to 15.5 percent as GNP rose at an even faster rate. In the middle 1960's, however, the Social Budget increased at a quicker rate than the still strongly expanding economy, surpassing 100,000 million DM in 1968 with 19 percent of GNP. The Social Budget calculates future trends and assumes that social service costs will increase by 1973 by nearly 50 percent in absolute terms. It is, however, expected to stabilize the "Social Quota" around the current proportion of GNP.

The various official documents concerned with the social services also contain useful information permitting a closer analysis of the effects of this welfare expenditure on the economy. Thus the following economic classification is given: 70 percent of total expenditures represent transfer payments (in cash) and 25 percent are expenditures on goods and services. The remaining 5 percent are administrative costs. The administrative staffs of the very decentralized social insurance organization alone comprise more than 150,000 people.

—T. E. CHESTER

"West Germany—A Social Market Economy," *The Three Banks Review,* Edinburgh, December 1971.

SOCIAL SECURITY FOR MIGRANT WORKERS IN THE EUROPEAN COMMUNITIES

EFFECTIVE OCTOBER 1, 1972, new regulations govern the application of social security schemes to wage earners who move around within the European Communities.[1] The principal improvements over the regulations in force since January 1, 1959, are:

The regulations protect not only wage earners but also other persons compulsorily insured under a social security scheme applying to wage earners—for example, certain categories of self-employed workers, such as craftsmen in Italy and the Federal Republic of Germany and farmers in Italy.

Workers who become unemployed in one member State and go to another in search of work may continue to receive, for not more than 3 months following their departure, the unemployment benefits paid to them in the country of their last job.

Accidents occurring on the way to or from work in a member state will be treated as accidents occurring in the home state of the insurance institution the worker is affiliated to.

The dual ceiling for family allowances is removed. Formerly, a worker could receive allowances of the country in which he was employed only to the extent that they did not exceed the allowances of the country where members of his family lived. Now, workers whose families live in a member State other than the country of employment will receive the full family benefits prescribed by the country of employment. Families of workers employed in France, however, are to receive the family allowances laid down by the legislation of the countries where their families live.

New methods of calculating pensions will in many cases be more favorable to the pensioner. Combined family benefits (family allowances, supplements or increases to pensions, and pension) relating to children of persons receiving pensions or orphans will be paid by one member State even if the worker has been employed in two countries or more. □

———*FOOTNOTE*———

[1] "European Communities: social security improvements for migrant workers," *International Labor Review,* July 1972, pp. 95–98.

COST-OF-LIVING INDEXES FOR U.S. EMPLOYEES ABROAD

The U.S. DEPARTMENT of State calculates indexes of living costs abroad in order to establish cost-of-living allowances for U.S. Government employees assigned to foreign posts where living costs, based on an American "pattern of living," are significantly higher than living costs in Washington, D.C. Many business firms use the local indexes to establish cost-of-living allowances for their employees stationed abroad. A brief explanation of methods followed in constructing the indexes and limitations of the indexes was published in the *Monthly Labor Review* for July 1972, pp. 41–43.

Table 1 presents the local indexes for selected cities. The complete list of indexes for all cities with a more detailed explanation of methods followed in constructing the indexes and the limitations to the indexes, as well as the U.S. Department of State living quarters allowances, is published quarterly and is available upon request from the Office of Publications, Bureau of Labor Statistics. □

Table 1. Indexes of living costs abroad, excluding housing

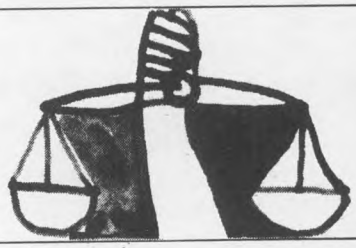
[Washington, D.C.=100]

Country and city	Survey date	Monetary unit	Rate of exchange per US$	Local index
Argentina: Buenos Aires	May 71	Peso	[1] 4.20	99
Australia: Canberra	Oct. 71	Dollar	0.8540	100
Belgium: Brussels	June 71	Franc	[1] 49.65	126
Brazil: Sao Paulo	Nov. 70	Cruzeiro	[1] 4.8	90
Canada: Ottawa	Oct. 71	Dollar	1.00	98
France: Paris	Mar. 72	Franc	5.12	139
Germany: Bonn	Dec. 71	D.M.	3.22	140
Hong Kong	Mar. 71	Dollar	6.00	92
India: New Delhi	Oct. 71	Rupee	7.6	[2] 86
Italy: Milan	Apr. 71	Lira	[1] 622	122
Japan: Tokyo	Feb. 72	Yen	308	134
Mexico: Mexico, D.F.	Apr. 72	Peso	12.5	89
Netherlands: The Hague	Feb. 72	Guilder	3.24	125
Philippines: Manila	Feb. 71	Peso	6.40	73
S. Africa: Johannesburg	Mar. 71	Rand	[1] 0.7092	95
Spain: Madrid	Oct. 68	Peseta	[1] 69.6	83
Sweden: Stockholm	May 72	Krona	4.81	148
Switzerland: Geneva	May 72	Franc	3.85	129
United Kingdom: London	Mar. 72	Pound	0.3838	120
Venezuela: Caracas	Aug. 71	Bolivar	4.49	115

[1] Current exchange rate differs from the rate shown by at least 5 percent.
[2] U.S. Government index reflecting the higher cost of imported goods generally used by Americans in place of local goods.

SOURCE: U.S. Department of State, Allowances Staff.

Significant Decisions in Labor Cases



A MIST of uncertainty surrounds litigation under section 301 of the Labor Management Relations Act. The provision reads in part (subsection 301(a)), "Suits for violation of contracts between an employer and a labor organization representing employees in an industry affecting commerce . . ., or between any such labor organizations, may be brought in any district court of the United States having jurisdiction of the parties. . . ." Despite this clear language, litigants are not always sure they are on the right path when they seek protection of this law, as the section 301 cases and some others discussed below indicate.

Safety is not arbitrable

In "matters of life or death," such as safety in a coal mine, arbitration cannot be compelled if the employees involved reject it, regardless of contractual provisions or national policy. This was a recent ruling of the U.S. Court of Appeals in Philadelphia, and its ultimate meaning seems to be that no one but the employees involved can determine whether they are in danger of injury or death on the job. (*Gateway Coal Co.*[1])

In the situation at hand, a group of coal miners decided at a meeting to refuse to work under the supervision of certain foremen who had been found negligent in the performance of their duties. An official investigation had revealed that the foremen had failed to report a dangerously low air flow through the mine and, instead, had made "false entries in their log books." The condition—flow of 11,000 instead of the required 28,000 cubic feet of air per minute—"increased the danger of the accumulation of dust and flammable gas and the risk of consequent explosion"—hence a danger beyond the normal hazard of mining, yet one that was preventable. The foremen were at first suspended then reinstated, even though criminal charges against them were pending. When they returned to work, union employees quit their jobs.

Invoking the National Bituminous Coal Wage Agreement of 1968, the company sought to submit the question of the supervisors' reemployment to arbitration. The agreement provided that "should any local trouble of any kind arise at the mine," it would be handled according to a certain procedure, and if no solution were reached, it would be submitted to an impartial umpire for a binding decision. When the union refused to arbitrate, the company obtained a Federal district court's order, under section 301 of the LMRA, terminating the stoppage and directing arbitration. The umpire found that the dispute was arbitrable and the miners' anxiety over the danger of retaining the foremen with safety responsibilities was unwarranted.

The appeals court laid the umpire's decision aside. It stressed that where safety on the job is concerned, employees must be allowed to judge for themselves how safe their place of work is.

Admittedly, the national wage agreement did contain a broad arbitration provision, but here the issue was not of an "ordinary" kind that could be resolved by arbitration:

> Considerations of economic peace that favor arbitration of ordinary disputes have little weight here. Men are not wont to submit matters of life or death for arbitration and no enlightened society encourages, much less requires, them to do so. If employees believe that correctible circumstances are unnecessarily adding to the normal dangers of their hazardous employment, there is no sound reason for requiring them to subordinate their judgment to that of an arbitrator, however impartial he may be. The arbitrator is not staking his life on his impartial decision. It should not be the policy of the law to force the employees to stake theirs on his judgment.

Such understanding of public policy, the court held, is dictated by section 502 of the LMRA, which provides that "the quitting of labor by an employee

---

"Significant Decisions in Labor Cases" is written by Eugene Skotzko, Office of Publications, Bureau of Labor Statistics.

or employees in good faith because of abnormally dangerous conditions for work at the place of employment [shall not be] deemed a strike under this act." It was the court's opinion that "a duty to accept the procedure of binding arbitration and a duty not to strike are opposite sides of a single coin. Therefore, the strong and explicit legislative mandate that protects work stoppages caused by good faith concern for safety should influence a court to reject any avoidable construction of a labor contract as requiring final disposition of safety disputes by arbitration."

Accordingly, the National Bituminous Coal Wage Agreement of 1968 "should not be construed as providing for compulsory arbitration of safety disputes. . . . [I]n this case neither the miners' refusal to work nor their refusal to arbitrate . . . was a violation of their labor contract. There was no wrong to enjoin. . . ."

The court refused to limit the concept of a source of safety hazard to the actual physical conditions under which the employees are required to work. "Careless or incompetent administration of important safety precautions can add as much to the hazards of dangerous employment as can the physical conditions of the work place itself," the court said.

In dissenting, Circuit Judge Rosenn cited two unwelcome implications of the majority opinion. First, the acceptance of the majority's test, which says that employees need not arbitrate a safety dispute if they "believe that correctible circumstances are unnecessarily adding to the normal dangers of their hazardous employment," deprives a court of its judicial role. ". . . If employees may label another employee a work risk and thereupon engage in a work stoppage which, because of its characterization as a safety strike, is unreviewable by arbitration or court, no employer can expect stability in labor relations. . . ."

Second, the majority's interpretation of section 502 that a court cannot compel arbitration of a dispute if it cannot enjoin a strike despite a contractual provision for compulsory arbitration, was unwarranted since that provision "nowhere states or implies that safety issues are not appropriate for the arbitrator's decision." Even if a court cannot enjoin a work stoppage, it still can order arbitration, the judge said.

Unfair representation

A union's failure to represent employees' interests fairly is another issue that occasionally comes before the courts in actions under section 301 of the LMRA.

When hired, a person independently acquires certain rights and benefits as conditions of employment —as part of compensation by virtue of what logically amounts to a "contract of hire," not a derivative of any collective agreement. Yet he may—and often does—lose these rights and benefits as a result of subsequent bargaining of his union. When this happens, recourse to section 301 may be the wrong line of action. Recently the above appellate court issued a reminder that damage claims can be pursued under that provision *only* if they arise from the violation of collective bargaining agreements. (*Leskiw* v. *Brotherhood of Electrical Workers.*[2])

In a class action on behalf of a group of testers-inspectors at the Western Electric Co.'s plant in Kearny, N. J., the plaintiffs charged that the company and a local union of electricians had for years concluded and maintained agreements which "arbitrarily and unjustifiably divide[d] testers-inspectors into two different classifications with consequent loss of wages to some of them" (appellate court's language); and that the local and its president, in negotiating the contracts, "failed to discharge their respective duties as statutory representatives of the involved testers-inspectors . . . in that they . . . neglected and arbitrarily disregarded the fair interests" of those employees (language of plaintiffs' brief). The plaintiffs asked for an award of damages for the loss of wages, a judgment requiring negotiation to equalize wages, and an injunction of further discrimination against the plaintiffs in contract negotiations.

Controlling in the case was the 1965 decision of the same court of appeals in another class action under section 301, one brought by a group of employees seeking to regain a "preferred status of superseniority" that had been bargained away by their union. (*Adams* v. *Budd Co.*[3]) In fact, the analogy of the *Leskiw* situation to that in *Adams* was so striking as to almost assure a similar verdict. Indeed, the court merely repeated its statements in the previous decision.

In *Adams*, employees injured at work gained superseniority status under a company policy. When the company and union agreed that the status should be granted only to workers with 17 percent of disability, the less severely disabled claimed their rights to superseniority were "based not upon the collective bargaining agreement but upon the original

contract of hire"; and since those rights "did not have the spark of their creation" in collective bargaining, they survived the negotiated modification of the superseniority provision. The plaintiffs further charged that the union had "breached a duty of fair representation" of their interests, and even maintained that the union and employer had conspired to deprive them of their contract-of-hire rights.

The appellate court concerned itself primarily with the undisputed fact that the collective bargaining agreement abolishing the plaintiffs' superseniority had not been violated. For section 301(a) clearly states that "[s]uits for violation of contracts between an employer and a labor organization representing employees . . ., or between any such labor organizations," may be brought in a district court for decision. Thus, contract violation is a sine qua non for the adjudication of claims under section 301. In its absence, a Federal court has no power to decide such cases. Here, the appeals court said, "the plaintiffs do not seek redress for violation *of* a collective bargaining agreement, what they seek is redress for alleged violation *by* a labor contract of rights which they assert were independently, and pre-agreement, vested in them by their 'contract of hire.' " [4]

A charge that a union has failed to provide fair representation can be adjudicated under section 301 only in the context of a suit for violation of a collective bargaining agreement between the union and the employer. The two elements then constitute the opposite sides of one coin. As the Supreme Court said in *Vaca* v. *Sipes*,[5] ". . . [I]t is obvious that the courts will be compelled to pass upon whether there has been a breach of the duty of fair representation in the context of many section 301 breach-of-contract actions." And it added, "If a breach of duty by the union and a breach of contract by the employer are proven, the court must fashion an appropriate remedy." However, to stress again, this can be done *only* "in the . . . context of . . . breach-of-contract actions."

Individual and group rights

An analysis of *Leskiw* and *Adams* leads to a question: Can a union lawfully bargain away an employee's rights acquired independently of its agreement with management as conditions of employment or in result of meritorious service? Without concerning itself with the issue of fair representation, the appeals court in *Leskiw* cited the lower court's statement that, "in enacting the [LMRA], Congress knowingly set up a system in which to some extent the interests of particular individuals may be subordinated to the interests of the group both at the contract negotiation and thereafter."[6]

In 1953, in a case involving veterans' reemployment rights under the Selective Training and Service Act (*Ford Motor Co.* v *Huffman*[7]), the U.S. Supreme Court had somewhat more to say on the subordination of individual interests:

> Any authority to negotiate derives its principal strength from a delegation to the negotiators of a discretion to make such concessions and accept such advantages as, in the light of all relevant considerations, they believe will best serve the interests of the parties represented. A major responsibility of negotiators is to weigh the relative advantages and disadvantages of differing proposals. . . . Inevitably differences arise in the manner and degree to which the terms of any negotiated agreement affect individual employees and classes of employees. The mere existence of such differences does not make [those terms] invalid. The complete satisfaction of all who are represented is hardly to be expected. A wide range of reasonableness must be allowed a statutory bargaining representative in serving the unit it represents, subject always to complete good faith and honesty of purpose in the exercise of its discretion.

Unquestionably, the place which Congress has assigned the interests of individual employees vis-á-vis those of the whole bargaining unit is an important factor in the issue of fair representation. Gross abuses in this area probably do occur; but, as the above statement of the Supreme Court indicates, the difficulty of satisfying every worker's interests and requirements to the full measure of his desire is obvious. Nevertheless, a union's authority to conclude agreements on behalf of employees is not boundless; the duty of fair representation marks the limit. The views of the National Labor Relations Board and a preponderance of judicial opinion are to that effect, as the following discussion shows.

In retrospect . . .

If remedy for unfair representation by a union is unavailable under section 301 of the LMRA except in the context of contract violation, what path is open to an aggrieved employee in the absence of such violation?

In some instances the issue of unjust representation was cast in terms of an unfair labor practice and thus brought under the exclusive jurisdiction of the NLRB. In the celebrated case of *Miranda Fuel*

Co.,[8] a truckdriver charged that his union had caused reduction of his seniority arbitrarily, unfairly, and without legitimate purpose, thus abusing its authority as statutory representative in violation of the unfair-labor-practice provisions of section 8 of the LMRA. A major issue in the litigation was an exclusive hiring arrangement which gave the union the authority to control workers' seniority.

The NLRB upheld the employee's position, and so did a court of appeals[9] (with some reservations), but the Supreme Court remanded the case to the Board for reconsideration in light of its recent decision in *Local 357, International Brotherhood of Teamsters* v. *NLRB*.[10] In that case (decided after the NLRB had ruled in *Miranda*) the High Court said that exclusive hiring arrangements between unions and employers were not in themselves illegal, a ruling that affected further course of the *Miranda* litigation.

In a supplemental decision,[11] the NLRB stated its position on the question of union representation in fundamental language:

> A statutory representative under this act, as under the Railway Labor Act,[12] exercises a grant of powers 'comparable to those possessed by a legislative body' and must, as stated in *Steele* v. *Louisiana & Nashville Railroad Co.* [323 U.S. 192, 202], 'give equal protection to the interests of those for whom it legislates.' This does not mean, as the Supreme Court in effect pointed out in the *Steele* case [at p. 203], that a statutory bargaining representative 'is barred from making contracts which may have unfavorable effects on some of the [employees] represented.' What it does mean is that differences in treatment must relate to 'relevant' differences. . . . [I]n its *Radio Officers* decision [347 U.S. 17, 47–48] the Supreme Court [said] that 'statements throughout the legislative history of the National Labor Relations Act emphasize that exclusive bargaining agents are powerless "to make agreements more favorable to the majority than to the minority." Such discriminatory contracts are illegal and provide no defense to an action under section 8(a)(3).'

The Board concluded there is a limit to the statutory representative's authority to bargain on behalf of the employees it represents:

> Viewing these mentioned obligations of a statutory representative in the context of the 'right' guaranteed employees by section 7 of the act 'to bargain collectively through representatives of their own choosing,' we are of the opinion that section 7 thus gives employees the right to be free from unfair or irrelevant or invidious treatment by their exclusive bargaining agent in matters affecting their employment. This right of employees is a statutory limitation on statutory bargaining representatives, and we conclude that section 8(b)(1)(A) of the act. . . . prohibits labor organizations, when acting in a statutory representative capacity, from taking action against any employee upon considerations or classifications which are irrelevant, invidious, or unfair. . . . To the extent . . . . that an employer participates in such union's arbitrary action against an employee, the employer himself violates section 8(a)(1) of the act. . . .
>
> We further conclude that a statutory bargaining representative and an employer also respectively violate section 8(b)(2) and 8(a)(3) when, for arbitrary or irrelevant reasons or upon the basis of an unfair classification, the union attempts to cause or does cause an employer to derogate the employment status of an employee. . . .

Reinstatement with backpay, to be covered by the employer and the union, were the Board's remedies for the plaintiff, but the union was permitted to continue the hiring arrangement that gave it exclusive authority to determine employees' seniority.

When the NLRB's supplemental decision was appealed, the court, mindful of the Supreme Court's ruling in *Local 357, Teamsters* regarding the validity of exclusive hiring arrangements, made an about face and refused to enforce the Board's order.[13] Circuit Judge Medina, who wrote the majority opinion, made a short shrift of the concept of unfair representation. To him "the novel principle" which the plaintiff tried to establish—"the proposition that a union as a representative of a certain class or craft of workers owes those whom it represents a duty of fair representation" (Judge Medina's language)—had no firm basis either in judicial precedent or in the legislative history of the National Labor Relations Act.

Nor did Judge Medina think that a union commits an unfair labor practice when it causes or attempts to cause promotion or demotion of an employee or discriminates against him. There is no union discrimination against an employee, the judge said, unless the acts complained of can be shown to have arisen from "unlawful intent" to encourage employees to join a union. He cited his court's previous decision[14] where it had said, "There are countless situations in which the very concept of collective action demands that unions have the power to influence the employer to make changes in the job status of individual employees. To hold that unions cannot properly press upon an employer their demands for an employee's advancement or demotion would be to weaken greatly the union's effectiveness in representing all the employees in a unit." [15]

Viewed in light of Judge Medina's opinion in *Miranda,* the concept of fair union representation looked like a rather uncertain basis of litigation over employee rights. To Judge Medina the concept did not seem even to exist. But today, viewed in retrospect, Judge Medina's thinking on the subject seems to be in harsh discord wtih a veritable stream of positive judicial appraisals of the issue of fair representation.

A much different opinion on the subject came, for example, from the Fifth Circuit years later, in 1966, in *Local 12, United Rubber Workers* v. *NLRB*.[16] There the court left no doubt that a union's breach of the duty of fair representation is an unfair labor practice and that, where this is involved, NLRB proceedings are the best course toward vindication of employee rights. To quote at length,

> ". . . [T]he adequacy of existing judicial remedies afforded individual unfair representation claims had been seriously questioned. Under current practice, the aggrieved employee is not only compelled to bear the substantial expense of an individual lawsuit, but must also face the burden of overcoming the strong judicial presumption of legality of union action in this area. Thus confronted with jurisdictional, monetary, and procedural obstacles, the individual employee may well find his right to fair representation as enforced by the courts [in an exclusively court action] more theoretical than real.
>
> In light of these [and other] considerations, we are convinced that the rights of individual employees to be fairly represented can be more fully achieved within the spirit of the act [NLRA] by recognizing the [National Labor Relations] Board as the appropriate body to meet the challenge of uniformly administering standards of fair representation. Its peculiar expertise with respect to the complexities of the bargaining process, its broad powers of investigation, and most importantly, its power to encourage settlements at the regional director's level render it better qualified than the necessarily diverse system of State and Federal tribunals to meet the task of formulating and applying uniform standards of fair representation in such manner as to afford adequate protection to employee rights unduly impeding the collective bargaining process. . . .

The Supreme Court's thinking on the subject of fair representation has been evident in a whole series of opinions, beginning with those in *Steele* (1944, cited above) and other actions under the Railway Labor Act, and running through the various decisions rendered in this area under the National Labor Relations Act. The latter include the holdings in such landmark cases as *Wallace Corp.* v. *NLRB* [17] (1944), *Fort Motor Co.* v. *Huffman* (1953, cited above), *Syres* v. *Oil Workers*[18] (1955), *Humphrey* v. *Moore* [19] (1964), and *Vaca* v. *Sipes* (1967, cited above).

These rulings have established and firmed the principle that unions have a statutory duty to represent the employees' interests fairly and impartially. But more than this: unfair representation of employees by union is now recognized as an unfair labor practice. As such, it may be brought before the NLRB, whose remedial order can be enforced by court. □

———*FOOTNOTES*———

[1] *Gateway Coal Co.* v. *United Mine Workers, and UMW District 4 and Local 6330* (C.A. 3, Nos. 71–1641, 71–1642, and 71–1786, July 18, 1972).

[2] *Leskiw* v. *Local 1470, Brotherhood of Electrical Workers* (C.A. 3, No. 71–1077, July 7, 1972).

[3] *James E. Adams* v. *The Budd Co.,* 349 F.2d 368 (C.A. 3, 1965).

[4] Ibid., at 370.

[5] 386 U.S. 171, 187 (1967); see *Monthly Labor Review,* May 1967, pp. 54–55.

[6] The district court cited *Acuff* v. *United Papermakers and Paperworkers,* 404 F.2d 169, 171 (C.A. 5, 1968); cert. denied 394 U.S. 987 (1969), and 89 S. Ct. 1466.

[7] 345 U.S. 330, 337–339 (1953); see *Monthly Labor Review,* June 1953, pp. 631–632.

[8] 125 NLRB 454 (1959); see *Monthly Labor Review,* February 1960, p. 177.

[9] 284 F.2d 861 (C.A. 2, 1960).

[10] 365 U.S. 667 (1961); see *Monthly Labor Review,* June 1961, pp. 642–643.

[11] 140 NLRB 181, 184–188 (1962), suppl. dec.; see *Monthly Labor Review,* March 1963, pp. 305–306.

[12] Reference to railroad disputes cited by the Board in support of its reasoning.

[13] 326 F.2d 172 (C.A. 2, 1963); see *Monthly Labor Review,* February 1964, p. 187. This case has not come before the Supreme Court again.

[14] *NLRB* v. *Local 294, International Brotherhood of Teamsters,* 317 F.2d 746 (C.A. 2, 1963).

[15] Ibid., at 751.

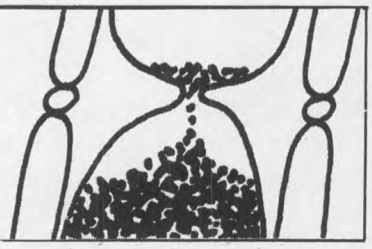
[16] 368 F.2d 12 (C.A. 5, 1966); see *Monthly Labor Review,* February 1967, p. 61. See also *Hughes Tool Co.* v. *NLRB,* 147 F.2d 69 (C.A. 5, 1945).

[17] 323 U.S. 248 (1944).

[18] 350 U.S. 892 (1955), a decision per curiam overruling the appellate opinion reported at 223 F.2d 739.

[19] 375 U.S. 335 (1964); see *Monthly Labor Review,* March 1964, pp. 316–317.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in November is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more in all industries except government.

Company and location	Industry	Union [1]	Number of workers
Armstrong Cork Co., Floor Plant (Lancaster, Pa.)	Miscellaneous manufacturing	Rubber Workers	1,600
Commercial Radio Broadcasting Agreement, NBC, ABC, and CBS (Interstate)[2]	Communication	Actors	22,000
Dana Corp., 2 Divisions (Chicago, Ill.)	Stone, clay, and glass products	Auto Workers (Ind.)	1,000
Florsheim Shoe Co. (Chicago, Ill.)	Leather	United Shoe Workers	1,100
Foster Grant Co., Inc. (Massachusetts and New Hampshire)	Rubber	Retail, Wholesale, and Department Store Union.	1,350
Globe-Union, Inc. (Milwaukee, Wis.)	Electrical products	Allied Industrial Workers	2,000
Graphic Arts Association of Delaware Valley, Inc., Allied Printing Employers' Association Division (Philadelphia, Pa.).	Printing and publishing	Typographical Union	1,200
ICI, America, Inc. (Chattanooga, Tenn.)	Chemicals	Teamsters (Ind.)	1,300
Industrial Refuse Collecting Contractors Agreement (New York, N.Y.)[2]	Utilities	Teamsters (Ind.)	2,000
Knitgoods Agreement, 3 Cos. (Cleveland, Ohio)[2]	Apparel	Ladies' Garment Workers	1,400
Local Television Code of Fair Practice and Regional Schedule, Los Angeles Television Code Agreement (Los Angeles, Calif.).[2]	Communication	Actors	8,000
Louisville Gas and Electric Co. (Louisville, Ky.)	Utilities	Independent Protective Association of Utility Workers (Ind.).	2,250
Martin Marietta Corp., Aerospace Group (Maryland, Colorado, and Florida)	Ordnance	Auto Workers (Ind.)	4,000
Master Laundry Industry Contract (New York and New Jersey)[2]	Services	Clothing Workers	15,000
Natural Gas Utilities Cos. (Kentucky and West Virginia).[2]	Utilities	Oil, Chemical, and Atomic Workers	1,000
Network Television Broadcasting, National Code of Fair Practice Agreement (Interstate).[2]	Communication	Actors	23,000
New York Local Television Broadcasting Agreement (New York).[2]	do	do	7,000
Norris Industries, Inc., Vernon Plant (Los Angeles, Calif.)	Fabricated metal products	Auto Workers (Ind.)	1,000
Printing Industries of Northern California (California)	Printing and publishing	Lithographers and Photoengravers	2,500
Singer Co. (Elizabeth, N.J.)	Electrical products	Electrical Workers (IUE)	2,300
Television Commercials Contract (Interstate)[2]	Communication	Actors	23,000
Television Recorded Commercials Agreement (Interstate)[2]	do	do	23,000
Transcriptions for Broadcasting Agreement (Interstate)[2]	do	do	23,000
United Restaurant Liquor Dealers of Manhattan, Inc. (New York, N.Y.)	Restaurants	Hotel and Restaurant Employees	1,000
Westvaco Corp. (Virginia, Maryland, and Pennsylvania)	Paper	Papermakers and Paperworkers	3,450

[1] Union affiliated with AFL–CIO except where noted as independent (Ind.).

[2] Industry area (group of companies signing same contract).

Developments in Industrial Relations

5.5-percent pay ceiling retained

The Pay Board marked the first anniversary of the adoption of economic controls by announcing its seven members had voted "to make no change . . . at this time" in its basic 5.5-percent-a-year ceiling on pay raises. However, the Board said it would take another look at the standard as "additional data become available later in the year."

In announcing the decision, the panel said, "The evidence considered in the Board's review shows that the actual behavior of wages during Phase 2 has been consistent with the general pay standard of 5.5 percent." According to the Board, the weighted average increase of wages and salaries approved since the beginning of Phase 2 on November 14, 1971, was 5 percent. These approvals covered 13 million workers, the Board said.

The 5.5-percent standard consists of a 3-percent allowance for the long-term annual increase in productivity and a 2.5-percent allowance for rising prices. An additional 0.7-percent annual increase in specified supplementary benefits is also permitted.

Aerospace unions upheld

The Pay Board's ruling on five 1971 aerospace settlements was struck down by Federal District Judge George Hart on July 31. In its January decision (*Monthly Labor Review*, March 1972, p. 63) the Board had reduced the first-year wage increase to 34 cents, from 51 cents, and deferred the 17-cent balance to the second year.[1] Judge Hart agreed with the Auto Workers and Machinists, which filed the suit on behalf of more than 100,000 workers, that the 34 cents was gained under the cost-of-living catchup clauses of the prior agreements and therefore should not have been treated as part of the 1971 agreements. In remanding the settlement, Judge Hart instructed the Board to consider the first-year wage increase to be 16 or 17 cents in making a new determination on whether the settlements met wage stabilization guidelines.

U.S. sues unions on deferred pay

In another development on the economic controls front, the Cost of Living Council announced the filing of a suit against Electrical Workers (IBEW) Local 11 in Los Angeles for allegedly compelling three companies to "enter into escrow agreements for payments of deferred wage increases which had been disapproved, on two occasions, by the Construction Industry Stabilization Committee." The three firms were also charged. So was the National Electrical Contractors Association, because "numerous other companies" represented by the association "are in a position of imminently submitting to the demands of Local 11," the suit said.

A spokesman for the Association said it had been cooperating with the Internal Revenue Service and that five escrow accounts had been found among 900 member companies. Specifically, the suit charged that Local 11 had notified the Association and its member companies that "each employer should deposit the unapproved portion of the increases, totaling 71 cents an hour, into an interest-bearing escrow account."

The Government was seeking a restraining order against such payments, dissolution of the existing escrow agreements, penalties, and court costs. The suit was filed by the Justice Department in Federal District Court in Los Angeles.

Anthracite contract pared

On August 20, the Pay Board announced it had reduced the first-year wage and benefit gains of the hard-coal agreement (*Monthly Labor Review*, June

---

"Developments in Industrial Relations" was prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

1972, p. 63) to 13.2 percent, from 19.3 percent. In January, the Board approved a 16.8-percent first-year increase for soft-coal miners (*Monthly Labor Review,* January 1972, p. 82).

Rail pensions found imperiled

A special study commission found that the railroad retirement system faces bankruptcy by about 1988 if its financing is not increased. In its report, the Commission on Railroad Retirement said the main reason for the approaching insolvency is the declining number of active railroaders (600,000) and the increasing number of pensioners (about 1 million). This was contrasted with the Social Security system, where the number of active workers has consistently risen faster than the number of beneficiaries. Under their system, railroad retirees receive larger benefits than those under Social Security but the financing tax is also higher. In 1972, railroad employees and employers each paid 9.95 percent, applied to the first $750 of monthly earnings, while under Social Security employees and employers each paid 5.2 percent, applied to the first $9,000 of annual earnings.

The five-member panel, commissioned by Congress in August 1971, called for an increase in the contribution rate to 11.35 percent in the near future and for adoption of a long-range plan to put the system on a sound footing. The Railroad Retirement Board would also be authorized to calculate needed tax rises and put them into effect whenever benefits are raised, subject to Congressional disapproval. (See also "Labor Month in Review," p. 2.)

Federal blue-collar pay raise

On August 21, President Nixon signed a bill that added two within-grade (longevity) pay steps for 650,000 Federal trades, maintenance, and labor employees, effective when economic controls are lifted, or expire on April 30, 1973. Under the existing system, wage-board employees' pay was based on about 140 local surveys of pay received by employees in similar jobs in private industry. The Federal workers started at 96 percent of the private pay level, progressed to 100 percent after 6 months, and to 104 percent after 18 more months. The new law raised the employees' pay to 108 and 112 percent of the private level after additional 24-month periods.

The new law also provided for a 7.5-percent differential for the first night shift and 10 percent for the second and for a 2-year pay guarantee for employees downgraded in cutbacks. It also extended the blue-collar employees' wage board pay system to 175,000 employees in military exchanges, restaurants, and similar facilities that do not receive appropriated funds.

Measuring Federal productivity

Output of Federal employees in selected occupations rose at an annual rate of 1.9 percent between fiscal 1967 and 1971, according to a report issued by Congress' Joint Economic Committee. Senator William Proxmire, head of the Committee, said that because of "the depressed state of the private economy in 1971" it should not be concluded that the Federal rate was better than the private sector rate of 1.5 percent. Had the private economy been operating at capacity, its productivity would have been much higher, Mr. Proxmire said. He estimated that Government productivity "has increased at about two-thirds the growth of productivity of the private sector." He said the Government record is "commendable," considering the service-oriented nature of the work and the lesser possibilities for automation.

The study, *Measuring and Enhancing Productivity in the Federal Sector,* was conducted by the Office

Hourly Earnings Index

The Hourly Earnings Index rose 0.5 in August to 138.2. The Index measures earnings of production or nonsupervisory workers in the private nonfarm economy. It is adjusted to exclude (1) the effects of interindustry employment shifts, (2) overtime premium pay in manufacturing, and (3) seasonal variations. Data for periods prior to July 1972 are also shown in the accompanying tabulation (1967=100).

	1969	*1970*	*1971*	*1972*
January	110.0	117.4	126.0	134.5
February	110.8	118.0	126.7	134.7
March	111.4	118.8	127.3	135.5
April	112.0	119.3	128.1	136.6
May	112.7	120.0	129.1	136.8
June	113.3	120.6	129.3	136.9
July	113.9	121.4	130.0	[p]137.7
August	114.4	122.5	130.9	[p]138.2
September	115.1	123.2	131.3	....
October	115.8	123.4	131.4	....
November	116.5	124.1	131.6	....
December	117.0	125.0	133.5	....

[p]=Preliminary.

of Management and Budget, the General Accounting Office, and the Civil Service Commission. It covered 1.6 million of the 2.8 million civilian employees in 114 agencies. Coverage was limited because of the difficulty in measuring the output of most professional and administrative employees.

New York City efficiency push

After a year of planning, New York City has inaugurated a "Productivity Program" aimed at increasing employee output despite continuing cuts in the city's work force of 380,000. Neither Mayor John V. Lindsay nor Deputy Mayor Edward K. Hamilton held out any hope that the program would lead to cuts in the budget ($9.4 billion for fiscal 1973).

Mr. Hamilton, architect of the plan, said the drive began in December 1970, when the city administration informed employee unions it would "consider no salary increases which were not justified by cost-of-living increases—which are beyond city control—and measurable increases in productivity." Mayor Lindsay said there had been "extraordinary response" by union leaders, leading to operating efficiencies even before presentation of the formal program.

According to Mr. Hamilton, the program would attempt "to increase the quantity and quality of public service provided per dollar invested" in four basic ways:

1. By reducing the unit cost and responsiveness of those city units where output was measurable;
2. By improving the deployment of resources (such as police and fire protection) for units where output was not easily measurable;
3. By improving the organization and processing procedures of the government, particularly through increased use of computers; and
4. By developing new technological devices and approaches, such as in fire fighting, to make the best use of employees.

John Hancock signs

The Insurance Workers ratified a 3-year contract with the John Hancock Mutual Life Insurance Co. providing for $26 a week in wage and benefit gains for 5,500 agents, subject to Pay Board approval. Terms of the agreement, retroactive to June 30, included a sales bonus plan and $5-a-week increases in the firm's pension financing in the second and third years.

In another development, John Hancock announced that beginning in October it would extend its experimental 4-day workweek to 400 more home-office employees. The program began with 200 early this year. A company spokesman said the experiment was also being extended to additional departments to aid in making a final determination on permanent use of the shorter workweek. Employees involved in the test work 35 hours a week, on a staggered basis, with some receiving 3-day weekends. Other employees at the Boston home office work a regular Monday-through-Friday week of 37½ hours.

District 50-Steelworker merger

The merger of District 50, Allied and Technical Workers into the Steelworkers neared realization in August, when Federal District Judge Barrington Parker dissolved his anti-merger injunction. He also approved the outcome of a District 50 referendum he had ordered on the merger issue (*Monthly Labor Review,* August 1972, p. 60), rejecting the claim of Angelo Cefalo, a former vice president of District 50, that there were irregularities in the selection of delegates to the 1971 convention that was to vote on the merger.

Although a spokesman for District 50 said that the merger was nearing completion, an obstacle remained. In April, Mr. Cefalo had appealed Judge Parker's decision approving the plan for the referendum. That action was still pending.

Postal Workers convention

Delegates to the first convention of the American Postal Workers Union (created by the 1971 merger of five unions) authorized merger negotiations with the Communications Workers Union (*Monthly Labor Review,* August 1972, p. 60). The Postal Workers resolution also permitted negotiations with other communications unions, notably the 220,000-member National Association of Letter Carriers.

The 3,000 delegates also endorsed Senator George McGovern for President, despite fears the move may have violated the Hatch Act limits on political activity by Federal employees. (The act was recently declared unconstitutional by a Federal District Court.)

In other actions, the delegates turned down a proposal to raise by 40 cents the $1.70-a-week per capita tax and approved the submission of future contract settlements to ratification by both the membership and by a new rank-and-file advisory committee. (The 300,000-member union's current contract with the U.S. Postal Service is scheduled to expire June 30, 1973.)

New paper union

The United Paperworkers International Union came into being in August, when delegates to Denver conventions of the United Papermakers and Paperworkers Union (UPP) and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers (PSPMW) ratified a May merger agreement (*Monthly Labor Review,* July 1972, p. 52). Delegates selected UPP President Joseph P. Tonelli to head the new organization and PSPMW president, Harry D. Sayre, as executive vice president.

Mr. Sayre said the purpose of the merger was to provide greater service to members and to end duplication of efforts and competition in organizing workers.

Dockers, Teamsters eye merger

Merger of the International Longshoremen's and Warehousemen's Union into the Teamsters moved a step nearer, according to an announcement by ILWU President Harry Bridges. He said that 8 months of intermittent negotiations had produced a "proposal of merger" under which the ILWU would become a "longshore-waterfront division" of the Teamsters. Mr. Bridges said the merger, subject to approval by the ILWU's membership and international executive board, would lead to better contracts and end jurisdictional disputes. He said the ILWU did not have "large possibilities for growth." Of the ILWU's 65,000 members, 14,000 are longshoremen and the remainder warehousemen and Hawaiian sugar and pineapple plantation employees.

In a separate development, the 40,000-member Brewery Workers union (AFL–CIO) and the Teamsters on July 19 signed a no-raiding agreement and a "declaration of intent to merge." In mid-August, a spokesman for the Brewery Workers said the unions had not yet entered into final negotiations on the plan.

In a letter to all local unions, Brewery Workers President Karl Feller said a major factor in proposing the merger was the high cost of fighting raids by other unions. Labor sources said the Teamsters had been winning representation contests against the Brewery Workers in recent years and led in total membership in the industry.

Alcoholism, drug abuse, and safety

International Harvester Co. and the Auto Workers announced creation of joint committees to fight alcoholism and drug abuse. The plan, in accord with provisions of the 1970 contract settlement, was similar to one the union negotiated with American Motors Corp. (*Monthly Labor Review,* May 1972, p. 68). Workers will be encouraged to seek assistance for drug and alcohol problems, and they will not lose their jobs if they demonstrate satisfactory progress under the rehabilitation program. The UAW represents 40,000 International Harvester workers in 12 States.

UAW President Leonard Woodcock also disclosed a 2-year "battle plan" to reduce and eventually eliminate "the carnage of death and hazards to life and limb" in grey iron foundries in the United States and Canada. Mr. Woodcock said the foundries were chosen for the plan because they were the most hazardous in which UAW members were employed. He said that, despite many improvements in foundry operations over the last decade, the frequency and severity rates for injuries in the industry were more than double those for all industries.

The program will be carried out at 86 cooperating foundries employing 60,000 UAW members. Under the program, two-man teams of union safety representatives will evaluate conditions in each of the foundries. Specific recommendations will be made and followed up to ensure results, Mr. Woodcock said.

Cities charged with job bias

The Department of Justice filed civil suits charging Los Angeles, Calif., and Montgomery, Ala., with employment practices that discriminate against blacks and other minorities. The actions were the first under a 1972 amendment to the Civil Rights Act of 1964 that removed an exemption for State and local government employees.

Named in the Montgomery suit were the city itself, the Waterworks and Sanitary Sewer Board, and the Montgomery City-County Personnel Board,

a State agency. The Justice Department asked the Federal District Court in Montgomery to issue injunctions prohibiting the defendants from engaging in alleged discriminatory practices and to order compensatory payments to black applicants and employees it said were financially hurt by the alleged acts. The Department asserted that blacks were hired as unclassified laborers, although they performed work similar to that done by whites with classified status; that classified blacks received lower pay than less experienced whites doing the same work; and that the agencies used employment tests not related to job aptitude.

In the other suit, filed in Federal District Court in Los Angeles, the Department sought injunctions and compensation for victims of alleged discrimination by the Los Angeles Fire Department. According to Justice, only 1.5 percent of the city's 3,150 firemen were black, 3 percent Mexican-American, and none Oriental, although the first two minorities each comprised 18 percent of the city's population and the third, 3.5 percent.

Job tests held valid

After a 6-year study, the Educational Testing Service concluded that carefully administered preemployment tests can accurately gage the ability of prospective employees and are therefore not discriminatory. Minority-group leaders have often alleged that such tests are inherently biased against minority racial and ethnic groups. Dr. Joel T. Campbell, a psychologist with ETS, said the study indicated that "persons who do poorly on job-related tests, regardless of race, don't do well at work either."

The study was conducted in cooperation with the Civil Service Commission and was financed by the Ford Foundation. It was based on the testing and job performance of 1,400 persons hired as government medical technicians, mapmakers, and inventory management specialists. ETS, located in Princeton, N.J., is a private, nonprofit corporation that designs and administers academic and job tests for schools and employers.

Brewer agrees to minority plan

The Jos. Schlitz Brewing Co. and Operation PUSH, a civil rights organization, agreed to a plan for increasing the firm's hiring of minorities and its use of minority-owned businesses and services. The agreement, which culminated 3 months of negotiations, provided for 15-percent minority employment at all levels of the company. A company spokesman said minority employees already comprised nearly 15 percent of its work force but they were mainly in lower paid jobs. Members of minorities would be placed in jobs as vacancies occur. The company also agreed to allocate 15 percent of its expenditures for services and supplies to minority-owned companies and to increased use of minority distributorships in areas with large minority populations, subject to existing franchise agreements. Reportedly, Schlitz had 3 minority distributors out of about 975.

PUSH (People United to Save Humanity) is headed by the Rev. Jesse Jackson, who formed the organization in 1971, after he resigned as national director of Operation Breadbasket, the economic arm of the Southern Christian Leadership Conference. Rev. Jackson said PUSH was negotiating toward a similar agreement with General Foods Corp. and was looking at other food and beverage companies because they were particularly susceptible to boycott campaigns.

Yablonski heirs awarded damages

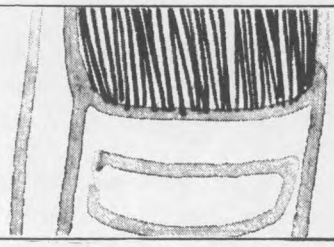
A Federal judge ruled that United Mine Workers President W. A. (Tony) Boyle acted from political motives when he fired Joseph A. (Jock) Yablonski in June 1969 and must therefore pay damages to Mr. Yablonski's heirs. Judge Howard F. Corcoran of the U.S. District Court in Washington, D.C., had not set damages, pending testimony regarding Mr. Boyle's assets.

Mr. Yablonski was fired from his job as acting director of the union's political arm, Labor's Nonpartisan League, on June 6, 1969, a week after he had announced plans to run against Mr. Boyle in the December 1969 election. Mr. Boyle had said the firing was justified because Mr. Yablonski had not devoted enough time to his job and because he had publicly opposed UMW legislative policies. The 1969 election was invalidated by another Federal Judge and a new contest is slated for December. □

——FOOTNOTE——

[1] At one of the firms, LTV Aerospace Corp., the 51 cents consisted of 35 cents in cost-of-living adjustments and 16 cents in "new money."

Book Reviews and Notes



Storytelling as a vehicle for economic analysis

What's Wrong With Economics? By Benjamin Ward. New York, Basic Books, Inc., 1972. 273 pp. $6.95.

Professor Ward's answer to this provocative question can be summed up in one word: Plenty. His book is a comprehensive methodological critique mainly of contemporary "neo-classical" economics and secondarily of Marxist economics. Unlike most methodological works this is an eminently readable, even grimly amusing, book. It is also disturbing and profoundly important. The gist of his critique: neither neoclassicism nor Marxist economics "has performed strikingly well in developing an understanding of how the modern world works, and each may actually be moving away from the truth rather than toward it" (p. 92). The structure and conceptual bases of economics need change—much of it is irrelevant though he admires the professional competence and ingenuity of its practitioners. His alternative approach: displace what is irrelevant by the infusion of language, philosophy, personality psychology, situation ethics, and legal theory and reconstruct the science.

Its elegant irrelevance does not deny to economics the status of a science. Quite the contrary. Professor Ward finds economics passes the tests of Thomas Kuhn for a "normal science" (*The Structure of Scientific Revolutions,* University of Chicago Press, 1962). These are (1) the researchers form something of an invisible college with common interests, shared commitments, and frequent interaction; (2) the colleagues are problem solvers; (3) the problems are matters of detail on minor aspects of the science; (4) general agreement prevails as to the main problems suitable for research and the form the solution should take; the disagreements are confined within a broad framework of agreement; (5) only the judgment of colleagues defines the problems and solutions; (6) the system of problems is self-sustaining; unresolved problems grow faster than solutions, otherwise a science disappears.

Puzzles or problems are the core of economics and all other sciences. Solutions are presumably less important than an ingenious attempt at solution, using the techniques (mathematics, econometrics) approved by the highest level among practitioners. Professor Ward has much to say on the puzzle solving

Books reviewed in this issue

Benjamin Ward, *What's Wrong With Economics?* Reviewed by Arthur E. Burns.

Paul H. Douglas, *In the Fullness of Time*. Reviewed by James W. Knowles.

John M. Blair, *Economic Concentration: Structure, Behavior, and Public Policy*. Reviewed by J. Fred Weston.

Marvin Henry Edwards, *Hazardous to Your Health: A New Look at the "Health Care Crisis" in America,* and Edward M. Kennedy, *In Critical Condition: The Crisis in America's Health Care*. Reviewed by Theodore Allison.

John E. Abodeely, *The NLRB and the Appropriate Bargaining Unit*. Reviewed by Tim Bornstein.

William E. Simkin, *Mediation and the Dynamics of Collective Bargaining*. Reviewed by Paul D. Staudohar.

U.S. Department of Commerce, *Survey of Current Business,* 50th Anniversary Issue. Reviewed by John Henderson.

Felice N. Schwartz, Margaret H. Schifter, Susan S. Gillotti, *How to Go to Work When Your Husband is Against It, Your Children Aren't Old Enough, and There's Nothing You Can Do Anyhow*. Reviewed by Rose Terlin.

Claude and Michelle Durand, *De l'O. S. à l'Ingénieur, Carrière ou Classe Sociale*. Reviewed by Martha Farnsworth Riche.

Jean-Pierre Jallade, *Occupational and Educational Structures of the Labor Force and Levels of Economic Development*. Reviewed by Bevars D. Mabry.

Anthony H. Pascal, editor, *Racial Discrimination in Economic Life*. Reviewed by Samuel Gubins.

game in economics and the professional status accorded to those scoring high points. With the positivist, formalist "revolution" of the last 20 years or so, the points go to those who excel in the mastery of technique. But to what substantive point? "The great methodological puzzle in economics is why a great methodological revolution should make so little substantive difference" (p. 44). Economics is good at generating new technical puzzles but "typically, does not solve the old ones . . ." (p. 32).

For Professor Ward a behavioral approach is needed, with the vehicle of the science: a perceptive story. "The point is that counting and model building and statistical estimation are not the primary methods of scientific research in dealing with human interaction: they are rather crude second-best substitutes for the primary technique, storytelling" (p. 185). The mix is seen in the reports of the Council of Economic Advisors, as an example. A model for economics may well be the legal system and the body of doctrine and analysis it has built up to understand and resolve problems of human interaction.

No short review can do justice. The book needs reading. If Professor Ward is right there has been a costly misallocation of financial and intellectual resources in economics over the last generation. Perhaps Professor Ward overstates his case, but he has a case that needs throughtful attention.

—ARTHUR E. BURNS

Professor of Economics
George Washington University

Warm-hearted humanist and scholar

In the Fullness of Time. The Memoirs of Paul H. Douglas. New York, Harcourt Brace Jovanovich, Inc., 1972. 642 pp. $13.50.

Few persons find opportunities to carry through two or more different careers in a single lifetime. Fewer still succeed in achieving distinction in two careers. Paul H. Douglas is one of these rare individuals. Now, in his memoirs entitled "In The Fullness of Time," he tells with amazing candor of his achievements and failures, first as Professor of Economics and then as Senator from Illinois. Those of us fortunate enough to have observed him in action or to have worked with him in these two arenas will testify to his outstanding performance in both.

After a boyhood in Maine, Douglas obtained his professional training at Bowdoin College, Harvard, and Columbia. His academic apprenticeship was spent at Reed College and the University of Illinois. In 1920 he was appointed Assistant Professor at the University of Chicago and rose through the ranks to full professor, a rank he held when his academic life came to an end in 1948 by election to the U.S. Senate. His scholarship and teaching did not keep him from a constant interest in and involvement in social and political issues including labor relations, old age pensions and social insurance, utility regulation, unemployment compensation, and foreign affairs. He served as a labor arbitrator and as a member of a private commission to investigate the American occupation of Haiti. These outside activities did not dry up his academic output, which included numerous articles and a stream of important books including *Real Wages in the United States, 1890–1926, The Theory of Wages, The Problem of Unemployment, Controlling Depressions,* and *Social Security in the United States.*

As World War II approached, Douglas had been elected to the Chicago City Council. In 1942 he enlisted in the Marines at the age of 50. Wounded and honorably discharged, he returned to the University of Chicago. He was elected President of the American Economic Association for 1947 and as he was about to deliver his Presidential Address in December 1947 on the Laws of Production—a subject with which his name will always be associated in economic literature—he was notified that he had been selected to run for the Senate from Illinois.

Over the next 18 years, Senator Douglas was intimately involved with a long list of liberal battles: civil rights, economy in government, economic policies to promote full employment without inflation, tax reform, truth-in-lending, and a host of others. The record of his adventures in promoting the public welfare is told in detail, with attention not merely to the political infighting but to the arguments on the issues as well. The only shortcoming is the almost total omission of mention of his service as member, Vice-Chairman, and Chairman of the Joint Economic Committee.

The general reader and the specialist in public policy both will find this scholarly volume a rewarding experience. From it emerges a fascinating picture of a warm-hearted humanist, scholar, statesman, and friend of those in need. The frustrations, heartaches, hard labor, and complex decisions that go into such a successful life come through also. Professors of political science and economics would do well to make this must reading for those bright

students thinking of following in Douglas's footsteps

—JAMES W. KNOWLES

Economic Consultant
Formerly Director of Research
Joint Economic Committee
U.S. Congress

Monumental but flawed

Economic Concentration: Structure, Behavior, and Public Policy. By John M. Blair. New York, Harcourt Brace Jovanovich, Inc., 1972. 742 pp. $15.

This book represents a monumental piece of industry whose principal source of empirical material is the 44 volumes of hearings and reports of the Subcommittee on Antitrust and Monopoly of the Judiciary Committee of the U.S. Senate during the years 1957–71 when Dr. Blair was its Chief Economist. His stated objective is "to construct an integrated conceptual whole," out of a voluminous mass of material. The book provides a valuable record of the use of Senate hearings to support the structural theory of antitrust and attests to the erudition of one of its leading zealots. (The structural theory holds that concentration is inversely correlated with the degree of competition in an industry.)

However, the book does not represent an objective treatment of the relevant theory or evidence. The materials he presents on conduct and performance are highly selective with regard to the hearings themselves as well as to other literature he sometimes draws upon.

This lack of balanced treatment of issues in the book may be illustrated by reference to the central view announced in its opening paragraph, in which Dr. Blair asserts that "had the economy been composed exclusively of small and medium-size enterprises," controls on prices and wages would not have become necessary. His treatment of target return pricing in chapter 18 seeks to support this position. His discussion focuses on five "industry leaders," General Motors, U.S. Steel, Standard Oil of New Jersey, Alcoa, and du Pont.

But his own and other data contradict his central thesis. For example, between the years 1967 and 1968, the last year for which Dr. Blair presents data in the related table, the average price increases attributed to the five corporations was less than half that of the increase in the overall wholesale price index or its major components. A recent report on profits by the Federal Trade Commission shows that in the recession year 1970 in which, Dr. Blair asserts, the aim of the industry leaders to achieve target returns was the underlying cause of inflation, their profit rates fell by an average of 24 percent; their incremental returns were a negative 131 percent of their incremental investments. Also, the BLS Industry and Sector Price Indexes related to Census four-digit SIC categories show that the magnitude of price changes in the inflationary period since 1966 to date were inversely correlated with the degree of concentraion—the higher the degree of concentraion in an industry, the smaller was the price change.

As a structured summary of hearings over a period of 14 years by the important Senate Antitrust Subcommittee, this book is a valuable reference work, but it also underscores the lost opportunities for adding to our substantive knowledge of industrial economics. If the hearings, instead of being in the nature of adversary proceedings, had been a careful examination of alternative hypotheses, progress toward understanding the causes and effects of concentration in industry throughout the world would be further advanced.

—J. FRED WESTON

Professor of Business Economics and Finance
University of California, Los Angeles

Doctor doctor . . .

Hazardous to Your Health: A New Look at the "Health Care Crises" in America. By Marvin Henry Edwards. New Rochelle, N.Y., Arlington House, 1972. 318 pp. $9.95.

In Critical Condition: The Crisis in America's Health Care. By Edward M. Kennedy. New York, Simon & Schuster, 1972. 252 pp. $6.95.

Gertrude Stein, on her deathbed, asked those attending her, "What is the answer?" No one spoke. "In that case," she said, "what is the question?"

The authors of these books, examining health care in America, each ask one of Miss Stein's questions. Senator Kennedy claims that our health care system is in a state of crisis. He asks for an answer and supplies his own, a proposal to provide care for everyone through a tax-financed, federally administered program. Mr. Edwards, editor of

Private Practice, rejects the scare-word, "crisis," and calls the idea "a politically perpetuated myth." His book explores the strengths and achievements of the present system, contrasts these with the shortcomings of various governmental medical programs, and asks, in effect, "What is the question?"

Mr. Edwards documents the tremendous progress made in recent decades in increasing life expectancy, reducing infant and maternal mortality, and virtually eliminating many infectious diseases in the United States. This record, he points out, scarcely suggests a health crisis.

Rather than a doctor shortage, Mr. Edwards observes, this country has more doctors per capita than any major European nation, and the supply of physicians and other health manpower is increasing faster than the population.

He is less persuasive in explaining the rising cost of care. The author correctly notes that population growth, technological advances, and increased utilization account for much of the increase in total health expenditures in the past decade. Nevertheless, approximately half of the increase has been due to rising prices. Contributing factors are discussed, but data presented on price movements are sketchy. Part of the difficulty arises from the author's use of secondary sources rather than basic data.

Mr. Edwards vehemently opposes all proposals for national health insurance. A government-planned system of medical care, he warns, would be complex, rigidly structured, and expensive, providing impersonal care of poor quality.

To illustrate, he discusses at length the deficiencies of the British National Health Service reported by English observers. The picture is depressing: long waits for admission to antiquated, overcrowded hospitals; shortages of personnel; poorly equipped doctors' offices; overutilization of "free" services; red tape; and steady emigration of physicians frustrated by poor pay, poor working conditions, and the demands of the system.

Mr. Edwards also finds examples of failing governmental health programs closer to home: the shameful care provided American Indians, inefficiency and deplorable conditions in VA hospitals, poor quality and inhumane treatment received by patients in municipal and county hospitals, and cost overruns and politically dictated cuts in Medicaid.

Medicare, too, he brands a failure. He claims, with reason, that it has greatly exceeded cost estimates and inflated medical care costs for everyone. He is on shakier ground, however, when he asserts that it has endangered the financial stability of hospitals and decreased the quality of care for the aged.

This tendency to overstate a point is unfortunate. It weakens the credibility of what is essentially an interesting and informative volume for the general reader. The book disappoints, too, in failing to propose solutions to current problems—the need to contain medical care costs and to assure proper care, with dignity, for people with low incomes. To the extent that problems are even acknowledged, the author suggests that their solution can best be left to physicians.

Where Mr. Edwards finds little to criticize in the American health care system, Senator Kennedy finds nothing to praise. *In Critical Condition* is a polemical document—the language is emotionally charged and the presentation is one-sided.

Eight of the 10 chapters have a similar structure. Each opens with a brief, highly colored statement of a problem. Several "tragic stories" told by witnesses before the Senate Subcommittee on Health, of which Mr. Kennedy is chairman, are then presented. The chapter is wrapped up by a short section, headed "My Conviction," which argues for a Federal system of national health insurance.

Senator Kennedy alone receives the author's byline. However, the major work in assembling the book, a recycling of testimony before the Subcommittee, was done by Stanley B. Jones of the Subcommittee staff. He was assisted by five other persons on the Subcommittee payroll.

Based on the experiences of a few of the witnesses selected to appear before the Subcommittee, the book presents a highly misleading picture of the total system of health care in the United States. Biased or inaccurate statements of witnesses are reprinted without correction or qualification. Assertions are unsupported by facts.

As an example, repeated reference is made to the "enormous" profits of health insurance. This, although the Subcommittee received data published by HEW showing that in recent years margins above claims and expenses have been about 2 percent for individual health insurance and, in the aggregate, have been nonexistent for group health insurance.

Some of the sharpest criticism of the medical care system is directed at care provided under public auspices. Demeaning and inadequate care provided by government hospitals, long waits, and impersonal treatment received under public programs are

frequently stressed. Poor conditions in public facilities are traced to chronic budget difficulties of government. Yet these problems are not seen as an argument against a plan to provide care for everyone under a program financed and administered by government.

One chapter contains a simplified description of Senator Kennedy's Health Security program and a direct appeal for support. However, substantive discussion of its cost is avoided.

A brief chapter praising nationalized health care in four nations is superficial. There is no real discussion of the programs nor recognition of their differences. Problems, such as those cited in the Edwards book, are not mentioned or are dismissed as myths.

Omission of troublesome facts is not limited to the discussion of foreign health care systems. In a chapter describing the health care market in the United States, there is no mention of the many progressive steps taken in recent years to change the character of the market, such as actions to further increase the supply of health manpower, establishment of the National Health Service Corps, comprehensive health planning and certificate-of-need legislation, and the expansion of health maintenance organizations.

But then, this is not a book to turn to for facts, it is a partisan tract.

—THEODORE ALLISON

Assistant Vice-President
Metropolitan Life Insurance Company

Subjective argumentation

The NLRB and the Appropriate Bargaining Unit. By John E. Abodeely. Philadelphia, University of Pennsylvania, Wharton School of Finance and Commerce, Industrial Research Unit, 1971. 239 pp., table of cases. $5.95.

John E. Abodeely has undertaken the formidable task of surveying and analyzing the National Labor Relations Board's bargaining unit decisions under the Wagner and Taft-Hartley Acts. From the thousands of unit decisions which the Board has published since 1935, he has prudently selected the most prominent ones for analysis.

These decisions constitute a rich body of industrial relations jurisprudence which have molded the structure of U.S. collective bargaining.

The author correctly emphasizes the vast practical importance of unit decisions during union organizing campaigns and subsequently during the collective bargaining stage. Because of the paucity of scholarship in this field, Abodeely deserves high marks for attempting to bring together so much decisional material in a single, well organized volume. So far, so good.

The egregious and pervasive trouble with this study is that it simply is not balanced. It is fundamentally a legal polemic which attacks major bargaining unit decisions of the so-called "Kennedy-Johnson NLRB" during the 1960's. In instance after instance, with unfailing consistency, it concludes that decisions which favor management are wise, correct, and consonant with Congressional purpose, while it attacks virtually every decision which favors labor as unwise, incorrect, and violative of Congressional purpose.

The method of argumentation is familiar, for it has been refined by partisan critics of the Board since the late 1930's: It reargues the management position in major unit cases in an elaborate fashion, minimizes or ignores contrary arguments, and concludes that rejection of management's arguments proves that the Board reached the "incorrect" result. It praises as "obviously correct" those few cases in which Federal courts have reversed the Board's unit decisions and belittles the significance of judicial approval of Board decisions. It documents its criticisms of the Board by repeated references to articles and books by prominent management attorneys, without bothering to note their allegiances, and it largely ignores the contributions of more detached commentators.

In its zeal to indict the NLRB it glosses over the most difficult, long-term problems in this field, such as Congress's failure to legislate with greater precision, the inadequacy of Congressional oversight of agency work and the inherent subjectivity of bargaining unit criteria. Moreover, no effort is made to assess the significance of the thousands of NLRB elections held each year in bargaining units which the parties themselves agree upon without controversy. Is this not crucial evidence bearing on the question whether the Board's unit decisions are realistic and predictable?

—TIM BORNSTEIN

Associate Professor of Law
and Industrial Relations
School of Business Administration
University of Massachusetts

Dispelling the shroud of mystery

Mediation and the Dynamics of Collective Bargaining. By William E. Simkin. Washington, Bureau of National Affairs, Inc., 1971, 410 pp. $12.50, cloth; $5.95, paper.

Despite the importance of mediation in national labor policy, few scholarly attempts have been made to describe and analyze the process. This is perhaps accounted for by the fact that while conflict management is administered through procedures such as mediation, the procedures themselves do not solve problems. Skilled persons produce the positive results through procedures and patterns which tend to run together in a complex maze of behavioral science and art of human perception that to a large extent is not conducive to codification and generalization. Yet there are guidelines that can be analyzed to discern how and why the mediator selects among behavioral techniques to seek to fashion compromise and stimulate agreement between the parties. There is also rich experience with dispute settlement, not all of which has proved beneficial, that can be tapped to shed light on propriety of devices by the reactions of the parties and the public. Simkin's contributions are chiefly in these areas.

He defines mediation to involve all activities of third parties in dispute settlement or prevention of disputes where the individuals have no decision-making authority. Thus, only limited reference is made in the book to binding arbitration of interests and rights disputes, while factfinding, even where recommendations are made, is considered to be part of the mediation process.

The common sense implications of the process, made apparent by the author, dispel much of the shroud of mystery which many regard as characterizing mediation. The reader is helped to understand the personal attributes such as ability to inspire confidence, persuasive artistry, and technical knowledge of the industry and labor relations that a mediator must possess in large measure.

The author examines not only the traditional role of the mediator as a "firefighter in crisis bargaining," but also in what he terms "noncrisis dialogue" as well as for resolution of grievances. Mediation functions in crisis bargaining are divided into those that are procedural, such as scheduling and conducting of meetings, offering suggestions for grouping of issues, and considering contract extensions; communication functions, which include keeping channels of communication open, trying on for size suggestions for settlement, and assessing the rigidities of the parties' positions; and functions which are more affirmative and substantive in nature whereby the mediator may try to deflate an unreasonable demand, offer alternative suggestions on specific issues, or recommend a package settlement. Much of the information on functions in crisis situations is presented in terms of examples of problems that arise in bargaining and how the mediator acts and reacts with respect to them.

Various forms of noncrisis dialogue are explored with particular emphasis on the mediator's role, which consists mostly of assisting labor-management committees established before or after negotiation on bargaining issues that may prove difficult to reconcile. Issues are removed from the compressed time period and frequently emotion-charged atmosphere of formal negotiations. Such committees, with outside assistance, are made more plausible by the increasing complexities of collective bargaining. The material presented by the author on this subject is more descriptive than analytical, focusing on classification of types of noncrisis bargaining and illustrations of past and present programs; it would appear to have benefited from more extensive treatment of techniques of problem-solving behavior that identify, expand, and facilitate the parties' mutual interests.

The book presents valuable textual and statistical data on mediation by the Federal Mediation and Conciliation Service, which Simkin headed during the Kennedy and Johnson Administrations; State and local agencies; and private individuals operating under ad hoc arrangements. There is a useful chapter on the selection and training of mediators. The text also includes ample discussion of the emergency procedures of the Taft-Hartley Act, Railway Labor Act, and various wartime and nonwartime boards convened to minimize disputes. A chapter on mediation in public employment summarized the key issues well, although the statistical data, mostly from 1968, are tentative in view of more rapid recent growth in the use of dispute settlement procedures.

Where the book examines mediation as a problem-solving approach that relies heavily on technique to reduce conflict and stimulate agreement, it transcends labor relations and extends to interpersonal problems of our changing society which have become more graphic and seemingly more intractable. In-

creased search for freedom, rights, and participation in decisionmaking in society by Negroes, students, war protesters, and women is not unlike struggle in collective bargaining between labor and management. Change in institutions and human behavior modes can be facilitated by mediation as an alternative to the social strife and disruption that confrontation politics, if carried to extremes, can engender. Although Simkin does little to relate to this subject, the implications from his discussion of mediation technique are clear enough to suggest application outside of the labor field.

In summary, this book is very readable and constitutes an important addition to the literature on dispute settlement. Practitioners and students involved in this area of labor relations should read it; to the extent that others seek information on conflict resolution in the context of relatively free choice, it should have a larger audience.

—PAUL D. STAUDOHAR
Visiting Assistant Professor of Industrial Relations
University of Hawaii

Hail and farewell, OBE

Survey of Current Business, 50th Anniversary Issue, July 1971. Volume 51, Number 7, Part II. Washington, D.C., U.S. Department of Commerce. $2.50.

There is probably no technical term that has achieved wider popular currency over the past few years than gross national product. Yet, of every hundred people for whom the letters GNP have a familiar ring, only two or three are likely to know where the figures come from and fewer still would be able to say what they mean.

The producer of the national economic accounts, in which GNP appears as the grand aggregate quantity, is the Office of Business Economics, OBE (now called the Bureau of Economic Affairs, BEA) of the U.S. Department of Commerce. The fiftieth birthday of OBE's monthly publication, *The Survey of Current Business,* is near to being the fiftieth birthday of modern national accounting, of which annual reports of the balance of payments were the first part to be regularly published. So the occasion is fittingly celebrated by a stocktaking of progress and problems. Over 40 distinguished past contributors to, and users of, OBE's work have submitted papers for this special issue of the *Survey.*

From the viewpoint of the general reader, the risk of such an appraisal includes the possibility that the experts are writing for each other at a technical level above the head of the ordinary layman. This happens on occasion, but not to a degree that should disturb anyone who has a continuing interest in the national accounts. Again, the overall result is far more than a series of testimonials. Rightly, most of the writers pay tribute to the sustained high quality of OBE's contribution to economic intelligence, and a few present sharp reminders that this agency produces statistics for which there is no substitute, at an incredibly small cost to the taxpayer.

The major impressions provided by the papers are that the topic is vast and the search for constructive change is endless and difficult. Moreover, OBE's director, Dr. George Jaszi, provides a helpful discussion of the work of OBE that focusses on the contributors' recommendations. Another valuable result of this approach is to document the way in which OBE deals with its problems and the rare skills of estimation that are used in an operation that too many people regard as a settled routine.

A selection of the subjects that appear prominently in the papers is bound to be subjective. The balance of payments receives due attention, and the problem of defining "deficit" is not much resolved by it. The search for a measure of welfare is fairly, and at times wittily, pursued and is eventually given up as a will-o'-the-wisp. And the older problems of imputation of values, the measurement of intangibel investment, and the integration of the income accounts with a capital stock measurement are argued again.

In sum, the anniversary is celebrated with fitting professionalism, which offers the hope that the agency's public service will in the future be as sophisticated and responsive as in the past. Many people, however, will be some time in giving up the habit of talking about OBE and replacing it with the Bureau of Economic Analysis, the new title introduced in the recent reorganization of the Federal Government's statistical functions. One trusts that it will be a change only of name.

—JOHN HENDERSON
Senior Specialist in Business Economics
Library of Congress

Getting out of the trap

How to Go To Work When Your Husband is Against It, Your Children Aren't Old Enough And There's Nothing You Can Do Anyhow. By Felice N. Schwartz, Margaret H. Schifter, Susan S. Gillotti, all of CATALYST, with assistance from Marilyn Mercer. New York, Simon and Schuster, 1972, 348 pp. $8.95.

An initial reaction to the conditions imposed in the title of this latest "how to" might be to say, "Don't! Stay Home." However, this is not a live option for increasing numbers of women.

This book is designed for college-trained wives who may need to work for economic reasons, but especially for those countless others who would benefit from being employed or finding creative, challenging volunteer work. These are the women described by Silverstein and Levinson in *New Woman,* June 1972, who feel "trapped in the suburban housewife syndrome of car pools, children, home and husband—trying to fill monotonous days with luncheons, clubs, bridge, antique lessons that so many women substitute for stretching their minds and developing themselves into complete human beings."

The authors offer realistic, practical guidance to the jobseeking college-trained woman on how to budget her time to fulfill the obligations of home and job; how to evaluate her skills and potential; how to go about finding a job; and how to prepare a resume and letter of application.

By use of case stories the authors urge the advantages of part-time employment, especially when children are young. They appeal to employers to recognize the benefits in the untapped reservoir of women who provide a highly educated and motivated personnel reservoir, yet are unable to work the standard 40-hour week.

With respect to the fate of the children of these working mothers the emphasis here, like that of Nye and Hoffman in "The Employed Mother in America," is on the principle that the important issue is the quality, not the quantity, of time a mother devotes to her children.

For many women who have been out of the labor force for some years, one of the chief obstacles to obtaining employment commensurate with their skills and abilities is a tendency to underestimate their own capacities. The authors zero in on this lack of self-confidence to enable the reader to estimate more realistically exactly what she does have to offer an employer.

A "Career Baedeker" of 50 occupations, both traditional and nontraditional, offers both stimulating suggestions and hard-core information to the wife who is a novice in jobhunting.

Although the book does contain references to a few published works it would have benefited from a carefully selected bibliography.

The final chapter describes the program and objectives of CATALYST, devoted to demonstrating new ways to make better use of the untapped resource of the country's educated womanpower—a "vast reservoir of energy and brainpower."

—ROSE TERLIN

Chief, Special Projects
Women's Bureau
U.S. Department of Labor

Upward mobility: a French view

De l'O. S. à l'Ingenieur, Carrière ou Classe Sociale [From Semiskilled Worker to Engineer, Career or Social Class]. By Claude and Michelle Durand. Paris, Les Editions Ouvrières, 1971. 320 pp., bibliography. 42 Frs.

There has been quite a bit of speculation and some research into the effect that increasing industrialization has on class-conscious societies such as France, and the Durands attempt to provide some additional knowledge in this area. Their study focuses on differences in upward mobility between occupational categories, and relates them to differences between social groups. Although they give near equal emphasis to another variable, differences between industrial sectors, the small scope of their survey in this regard (one firm in each of five different industries) inhibits any valid generalizing, at least as far as interested Americans are concerned.

Certainly, the varied dimensions of this questionnaire survey determine how useful its results will be to the different professions it is likely to interest. Although the range of industries covered is narrow, the range of employees is much wider (1,300 distributed evenly among six broad occupational groupings) and the range of questions is extensive. The authors' goals are broad (an examination of professional and social mobility) but their execution is limited primarily to investigating employee attitudes

rather than reporting factual experience. Here as elsewhere one confronts the perennial problem of statistical surveys in France: Since French people will not answer questions that they consider none of the interviewer's business, French surveys often seem imprecise and wrong-headed to statisticians accustomed to greater cooperation.

During the last French census, for example, this reviewer, who was living in Paris at the time, was the only person of her acquaintance who responded to the questionnaire properly; the French threw it into the wastebasket or else amused themselves by concocting preposterous answers, viewing the questionnaire in either case as an intolerable invasion of privacy. Attitudes, though, are a different story; as a rule, French people like to express their opinions, and this may account for the Durands' decision to do an attitudinal rather than a factual survey.

For an American reader, a more interesting limitation is the authors' (and the employees') view of upward occupational mobility as taking place almost exclusively within the firm. Changing firms as a means of improving one's position has been considered by only one of the six occupational groups (technicians), and the authors' discounting of such a possibility is revealed by the construction of their study, which fails to investigate interfirm mobility, presumably because it is almost nonexistent. Instead, employees expect that advancement to higher occupational classifications will occur primarily if they improve their qualifications, and secondarily through pull, apple polishing, greater effort, or just waiting for seniority to work in their favor.

Evidently, the authors agree with the employees' perceptions of the means open to advance themselves, as they measure efforts towards advancement in terms of a single variable—improving one's job qualifications by taking courses. This assumption leads to a further narrowing of the dimensions of the study: Although the Durands attempt to study occupational mobility at three levels—the employee, the firm, and the society—at all three levels the point of view remains that of the individual employee. The firm is examined only to discover how its policies and procedures encourage the employee to take courses that might fit him for promotion, rather than what it does on its own to upgrade its workers. In the same way, society is considered only to see whether it makes the employee think it worthwhile to upgrade himself, not whether it takes action on its own to help or hinder upward mobility.

Despite these limitations, the Durands' book offers some solid information on professional and social mobility. The authors studied promotions in the 3 years preceding their study in order to determine the rate of mobility between the six occupational groupings within the companies they had selected. Not surprisingly, advancement from semiskilled to skilled status was the most frequent occupational upgrading, while promotion to foreman or technician was less frequent and from foreman and technician to management was even more rare. Clerical employees, on the other hand, had almost no chance to be promoted out of their occupational grouping. The authors derived a parallel determination of social mobility by comparing the employees' occupational status with that of their fathers'. The results of this inquiry make chapter 8, "La Mobilité Sociale," one of the most interesting in the book for what it shows of ascending and descending social mobility, though it is marred by insufficient discrimination of characteristics such as sex, age, and educational level.

De l' O. S. à l'Ingénieur offers a foreigner many insights into the structure of French business and society. The authors investigate the effects of different modes of management, of unionism, and of class consciousness on different social and occupational groups—even the choice of criteria for defining occupational groups is revealing. Probably the most relevant insights for American readers are those that deal with employee attitudes toward work, which the Durands examine within the rather Sartrian framework of the individual's personal project. According to the authors' very French formulation, occupational mobility is determined by the encounter of the worker's personal project with outside forces that are either hostile or favorable to it. The personal project can be resumed as professional (self realization), economic (means of subsistence), or social (status), and the effort to prepare oneself for promotion varies according to one's project. Workers with professional projects, for example, are more likely to upgrade themselves than workers with economic projects; and the variables that determine a worker's propensity to upgrade himself change according to the type of project.

In any event, personal projects reflect attitudes, and the attitudes these projects reflect are not so very different from those held by American workers: people who don't make much money want to be

promoted in order to have a more comfortable life, while those who already have an adequate income seek more interesting work or a higher social status. Taken as a whole, though, four out of five employees surveyed felt that the interest provided by a job was more important than the money it paid—evidently, the problem of providing job satisfaction extends beyond American industry.

—MARTHA FARNSWORTH RICHE
Economist
Bureau of Labor Statistics

Intercountry comparisons in manpower planning

Occupational and Educational Structures of the Labor Force and Levels of Economic Development: Vol. I, *Possibilities and Limitations of an International Comparison Approach.* By Jean-Pierre Jallade. Paris, Organization for Economic Cooperation and Development, 1970. 321 pp. $6.25.

———. Vol. II, *Further Analyses and Statistical Data.* By Jean-Pierre Jallade. Paris, Organization for Economic Cooperation and Development, 1971. 127 pp. $3.

Manpower planners, faced with the formidable task of forecasting a country's future skill requirements and the educational and training infrastructure necessary to provide for these requirements, have understandably sought to discover a formula by means of which these forecasts can accurately be performed. Various approaches have been used. The international comparison approach hypothesizes that manpower requirements can be related to levels of economic and technological development as measured by economic indicators. If precise relationships can be discovered, a country's time path of manpower requirements is determined by its time path of economic development.

Jallade, using cross-sectional data from countries at different stages of development, has expanded on earlier, related studies by Layard and Saigal, Horowitz and others, and Scoville. Intended for manpower specialists, the two books are a report of his investigations, the results of which are largely presented in Volume I. Interpretative and critical comments are provided by Mary Jean Bowman, Mark Blaug, Jef Maton, and Josef Steindl. Volume II is essentially an appendix containing tables of data, supplementary reports, and discussions of problems.

Jallade first relates broad occupational structures to economic indicators and then associates these structures by industry with the respective industrial output levels. Next, he proceeds to analyze the relationships between occupational categories, levels of education, and economic indicators, first across the total labor force and then at the level of each occupational category. This procedure is repeated in associating the levels of education in industrial sectors with general economic indicators and also with the educational structure of the labor force. Finally, on an intra-country basis, two novel techniques are used to measure, in summary form, the degree of relationship of the educational structure to occupational categories. (These techniques are further described in Volume II.) Throughout the report, such complete details are given on both significant and insignificant results that even the specialist may sometimes find the repetition monotonous. A discriminating summary of significant hypotheses and conclusions would have been helpful.

Relationships are measured by double-logarithmic regression equations. Dependent variables are successively (a) occupational and (b) sectoral categories of the labor force, and (c) the educational distribution by occupation and (d) economic sector. Explanatory variables include (1) output-labor or (2) capital-labor ratios, (3) the Niewiaroski index of nonmonetary measures of development, and at times (4) the educational density and (5) the occupational and (6) industrial composition of the labor force. Double-logarithmic equations yield parametric coefficients of the independent variables which are measures of elasticity. For example, a coefficient of 1.03 states that a unit increase in the independent variable yields a 3-percent increase in the dependent variable. The importance of these measures of elasticity to the manpower planner is obvious, for they permit him to transform predictions of economic growth into specific educational or occupational needs.

The results are not too encouraging for manpower planners who believe that intercountry comparisons are useful. In general, the more aggregative the classification of dependent variables, the closer are the measures of relationship with indices of economic development, as revealed in the correlation coefficients and the standard deviations of the parameters. In particular, indicators of economic development

seem to be related more closely to the upper strata of occupations—professional and technical personnel and managers and administrators—although the relationships are uneven across industrial sectors. Moreover, Jallade was not able to establish that there exists any "preferential levels of education in each occupational category" by level of economic development, except for a few well-defined cases. He finds that the educational distribution of both occupational and economic sector classifications are related more closely to the educational density of the labor force than to the economic indicators of development. This result should not be surprising, however, because the higher, say, the percentage of the labor force that are college graduates, the greater can be their proportion in any occupation or industry. In general, however, for most of the regression equations, the correlation coefficients vary too widely and the standard deviations of the parameters are too large to place much faith in them for predictive purposes.

The inconclusive results can be due to a number of causes. If a precise relationship exists between the occupational-educational structure and economic development, it may not be revealed if the data are faulty. Hence, as data improve, later studies may reveal a closer relationship. Aside from this, a dependent variable may be influenced by numerous independent variables, but Jallade considers at most the effect of only two in any one equation. These and other econometric problems are considered by Maton in his comments. A more fundamental explanation for the poor results has been given by Bowman and Blaug. Close measures of relationships were not shown, they argue, simply because there is no good economic reason to believe that such precise relationships exist. The economist approaches resource use as an exercise in choice; the selection depends upon both price and productivity considerations. Patterns of resource use can vary as price and productivity vary. The manpower planner, on the other hand, assumes no variation in patterns of resource use and, hence, no substitution among grades of labor and/or capital. If the economist's view is correct, such studies as this must inevitably yield inconclusive measures of relationships. As Steindl observes, the report does not contradict the view that an ample supply of skilled and educated manpower facilitates economic growth, but rather that a wide range of choice exists in how this supply of manpower can be optimally used.

This study was necessary in order to ascertain whether or not close relationships between economic growth and occupational-educational patterns exist. In view of the inconclusiveness of the results, its primary value, then, is as a point of departure for related studies. Researchers will find a valuable frame of reference in the econometric models described by Maton.

—BEVARS D. MABRY

Visiting Professor of Economics
Thammasat University, Bangkok
(On leave, Bowling Green State University)

Economics of discrimination

Racial Discrimination in Economic Life. Edited by Anthony H. Pascal. Lexington, Mass., D.C. Heath and Co., 1972. 228 pp. $15.

The obviously subordinate economic position of blacks is caused in large measure by racially discriminatory practice. It is also caused, in part, by economic considerations. For several years economists have been attempting to distinguish racial discrimination from economic discrimination. Spurred by the seminal theoretical work in this area, *The Economics of Discrimination* by Gary Becker, they have attempted to explain why nonwhite income is lower than white income, and why neighborhoods and occupations are racially segregated. This volume offers seven studies which significantly advance our understanding of the extent and causes of economic disparities between the races.

Any investigation of the causes requires careful measurement of the problem's extent. According to Alfred Wohlstetter and Sinclair Coleman, in the lead essay, some commonly held views are wrong. For example, it is generally believed that the income gap between the races is greatest at the lowest ends of the distribution. Not so. The authors improve on earlier efforts to compare income by race, using figures for the entire distribution of income rather than median and mean incomes. They also consider income data over a substantial period of time (1939–67).

The strongest conclusions drawn from the data are: (1) family and personal incomes of Negroes and other minority workers are significantly lower than those of whites for the entire distribution of each, (2) the differences are sharpest at the upper end of the distribution, and (3) although family in-

come is growing more rapidly among Negroes and other minority groups than among whites, at the current rate convergence will not take place before the end of the century. Wohlstetter and Coleman explain changes over time and detail the cyclical instability of relative income. They discuss the causes of income disparities including age structure, occupational distributions, discrimination, and Jensen's controversial claims on innate intelligence.

Two studies attempt to trace disparities to their source, by turning to the labor market. Marvin Kosters and Finis Welch explore employment fluctuations between 1954 and 1968 with respect to race, age, and sex, and repeat the conclusions of Wohlstetter and Coleman that Negroes are disproportionately affected by economic setbacks (with the exception of adult females) and that the relative income position of minority groups has improved. Minimum wages are held partly responsible for high teenage unemployment rates, especially among Negro teenagers.

John J. McCall provides a mathematical model of the labor market which uses the costs (to both employer and employee) of gathering information as a partial explanation of racial patterns in employment. "The Simple Mathematics of Information, Job Search, and Prejudice" assumes that tight labor markets and economic expansion result in greater experimentation among both employers and employees in interracial employment relationships. These transactions are assumed to be beneficial in reducing discrimination, although the empirical validity of the assumption is not tested.

Kenneth Arrow is also concerned with the labor market as a source of income differentials, and in "Models of Job Discrimination" uses neoclassical price theory to explain earnings and unemployment rate disparities due to racial prejudice and economic considerations. Although Arrow claims that his intention is "to present the deficiencies of neoclassical analysis," the essay in fact constitutes a limited defense of its usefulness. It explains, for example, why economically rational considerations may lead a firm to maintain an all-black or all-white employee force (due to the discriminatory preferences of its employees). The discussion is entirely verbal. In a later chapter Arrow provides a formal mathematical treatment.

A uniracial work force is only the most obvious manifestation of discriminatory hiring. The baseball industry serves as a "test case" of how subtle, inconspicuous discrimination can occur in an industry which prides itself on being free of prejudice. "The Economics of Racial Discrimination in Organized Baseball," by Anthony H. Pascal and Leonard A. Rapping, uses a regression model to explain salary on the basis of ability and race. The study finds no evidence of racial discrimination in payments (for salaries and bonuses). However, the authors find discrimination in assignment to positions, both on the field and in supervisory capacities. They conclude that a black man must be more talented than a white to get to play, although, once chosen, payment is commensurate with ability.

Several of the contributors assume a positive taste for racial discrimination which interacts with economic behavior to reinforce prejudice. Thomas Schelling, in a treatment of residential segregation, attempts to explain the process whereby neighborhoods tip from all white to all black. In fact he goes beyond housing and elucidates a general theory of tipping that applies to the labor market and the educational system.

Anthony H. Pascal has compiled an extraordinarily unified collection. All of the essays are directly concerned with distinguishing economic discrimination from racial discrimination, and all advance our understanding of the complexities of doing so. Lucidly written, the essays are well referenced to the past literature and will provide an easy way for the student to acquire an understanding of the major issues. Each essay has an extensive bibliography and, unusual for a collection of essays, there is an index. For the scholar who has already entered the area of the economics of discrimination, the volume will prove essential.

—SAMUEL GUBINS

Director of Research
Center for National Policy Review
Washington, D.C.

Other recent publications

Agriculture and natural resources

Abercrombie, K. C., "Agricultural Mechanization and Employment in Latin America," *International Labor Review*, July 1972, pp. 11–45.

Cordtz, Dan, "Corporate Farming: A Tough Row to Hoe," *Fortune*, August 1972, pp. 135–139, 172–175.

Johnson, Glenn L. and C. Leroy Quance, editors, *The Overproduction Trap in U.S. Agriculture: A Study of Resource Allocation from World War I to the Late 1960's.* Baltimore, Md., Johns Hopkins University Press, 1972, 211 pp. (Published for Resources for the Future, Inc.) $10.

Economic growth and development

Chase, Richard X., "Economic Analysis and Environmental Quality," *American Journal of Economics and Sociology,* July 1972, p. 271–282.

Clinton, Richard L., William S. Flash, R. Kenneth Godwin, *Political Science in Population Studies.* Lexington, Mass., D.C. Heath and Co., 1972, 156 p.

Eckstein, Alexander, "Economic Development Prospects and problems in China," *Annals* of the American Academy, July 1972, pp. 107–116.

Jayawardena, Visakha Kumari, *The Rise of the Labor Movement in Ceylon.* Durham, N.C., Duke University Press, 1972, 382 p. $10.75.

Kahn, Richard, *Selected Essays on Employment and Growth.* London, Cambridge University Press, 1972, 239 pp. $14.95.

Kroner, Arnold F., "The Challenge of West Germany's Social Market Economy," *Current History,* May 1972, pp. 249–253, 262–263.

Peil, Margaret, *The Ghanaian Factory Worker: Industrial Man in Africa.* London, Cambridge University Press, 1972, 254 pp. (African Studies Series 5.) $18.50, Cambridge University Press, American Branch, New York.

Peterson, Bill, *Coaltown Revisited: An Appalachian Notebook.* Chicago, Henry Regnery Co., 1972, 230 pp. $6.95.

Education

Guthrie, James W. and others, "American School Costs," *Current History,* July 1972, pp. 1–40. (Part 2 of three-issue symposium on financing elementary and secondary education in the United States.)

Katzman, Martin T., *The Political Economy of Urban Schools.* Cambridge, Mass., Harvard University Press, 1971, 235 pp. $7.50.

Organization for Economic Cooperation and Development, "Germany on the Brink of Educational Reform," *OECD Observer,* June 1972, pp. 10–14.

Spengler, Joseph J., "Economic Malfunctioning in the Educational Industry," *American Journal of Economics and Sociology,* July 1972, pp. 225–240.

Industrial relations

Bottone, Anthony, "Is there a doctor in the House of Labor? Yes!," *Interface,* Council of AFL–CIO Unions for Scientific, Professional, and Cultural Employees, Summer 1972, pp. 1, 3–4.

Chaison, Gary N., "Toward a Cost-Benefit Analysis of Union Rivalry," *Personnel Journal,* August 1972, pp. 576–582.

Fox, Milden J., Jr., and Huntly E. Shelton, Jr., "The Impact of Executive Order 11491 on the Federal Labor Management Relations Program," *Journal of Collective Negotiations in the Public Sector,* May 1972, pp. 113–124.

Helburn, I. B., "Municipal Labor Relations in a Legislative Void: The Texas Case," *Journal of Collective Negotiations in the Public Sector,* May 1972, pp. 135–154.

Institute of Industrial Relations, *National Incomes Policy and Manpower Problems: Proceedings of the Fourteenth Annual Research Conference in Industrial Relations, March 16, 1971.* Los Angeles, University of California, Los Angeles, 1972, 68 pp. $1.50.

Institute of Industrial Relations, *Unit Determination, Recognition, and Representation Elections in Public Agencies: Proceedings of a Conference on Public Sector Labor Management Relations, September 23–24, 1971.* Los Angeles, University of California, Los Angeles, 1972, 110 pp. $2.

International Labor Office, "Judicial Decisions in the Field of Labor Law," *International Labor Review,* April 1972, pp. 351–377.

Loewenberg, J. Joseph, "The Effect of Compulsory Arbitration on Collective Negotiations," *Journal of Collective Negotiations in the Public Sector,* May 1972, pp. 177–190.

McBrearty, James C., *Handling Grievances: A Positive Approach for Management and Labor Representatives.* Tucson, University of Arizona, Division of Economic and Business Research, 1972, 19 pp. $1.

McBrearty, James C., editor, *Proceedings of the Eighth Annual Labor-Management Conference on Collective Bargaining and Labor Law, February 4–5, 1972.* Tucson, University of Arizona, Institute of Industrial and Labor Relations, 1972, 161 pp. $7.50.

Rains, Harry H., "Negotiating Problems in Bargaining with Teachers and Other Public Education Employees," *Journal of Collective Negotiations in the Public Sector,* May 1972, pp. 163–176.

Schwartz, M. M., H. R. Schiffman, H. Stark, "The Perception by Two Industrial Membership Groups of Each Other's Affective Reactions to Industrial Relations

Terms," *Personnel Psychology,* Summer 1972, pp. 283–292.

Serrin, William, "Inside a Major Strike: Woodcock's UAW vs. General Motors," *Washingtonly Monthly,* August 1972, pp. 7–25.

Staudohar, Paul D., *Public Employment Disputes and Dispute Settlement,* Honolulu, University of Hawaii, Industrial Relations Center, 1972, 246 pp. $4.

Straus, Donald B., "Alternatives to the Strike," *Labor Law Journal,* July 1972, pp. 387–397.

Thieblot, Armand J., Jr., and Ronald M. Cowin, *Welfare and Strikes: The Use of Public Funds to Support Strikers.* Philadelphia, University of Pennsylvania, Wharton School of Finance and Commerce, Industrial Research Unit, 1972, 276 pp. (Labor Relations and Public Policy Series, Report 6.) $11, cloth; $6.95, paper.

Thorp, Cary D., Jr., "Racial Discrimination and Seniority," *Labor Law Journal,* July 1972, pp. 398–413.

Wedderburn, K. W., "Labor Law and Labor Relations in Britain," *British Journal of Industrial Relations,* July 1972, pp. 270–290.

International economics

Mayer, Lawrence A., "The World Economy: Faster Growth Ahead—and Faster Inflation, Too," *Fortune,* August 1972, pp. 146–151.

Organization for Economic Cooperation and Development, *International Trade and Its Social and Economic Effects* (Regional Trade Union Seminar, Paris, December 7–10, 1971: Supplement to the Final Report.) Paris, OECD, 1972, 312 pp. (International Seminars 1971–3.)

Thompson, Kenneth W., *Foreign Assistance: A View from the Private Sector.* Notre Dame, Ind., University of Notre Dame Press, 1972, 160 pp. $7.95.

Tagliaferri, Louis E., "Labor Trends: Multinational Unionism—Wave of the Future?," *Personnel,* July–August 1972, pp. 40–45.

Tyler, Gus, "Multinationals: A Global Menace," *American Federationist,* July 1972, pp. 1–7.

Vernon, Raymond, *Manager in the International Economy.* Englewood Cliffs, N.J., Prentice-Hall, Inc., 1972, 460 pp. $14.95.

Labor force

Bosanquet, Nicholas and Guy Standing, "Government and Unemployment 1966–1970: A Study of Policy and Evidence," *British Journal of Industrial Relations,* July 1972, pp. 180–192.

Daniel, Pete, *The Shadow of Slavery: Peonage in the South, 1901–1969.* Urbana, University of Illinois Press, 1972, 209 pp. $7.95.

Davis, Frank G., *The Economics of Black Community Development: An Analysis and Program for Autonomous Growth and Development.* Chicago, Markham Publishing Co., 1972, 213 pp.

Hart, R. A., "The Economic Influences on Internal Labor Force Migration," *Scottish Journal of Political Economy,* June 1972, pp. 151–173.

Kelsall, R. K., Anne Poole, Annette Kuhn, *Graduates: The Sociology of an Elite.* London, Methuen & Co., Ltd., 1972, 284 pp. $12, Barnes & Noble, New York.

Miller, Herbert S., *The Closed Door: The Effect of a Criminal Record on Employment with State and Local Public Agencies.* Washington, Georgtown University Law Center, Institute of Criminal Law and Procedure, 1972, 252 pp. $3, National Technical Information Service, Springfield, Va., 22151.

Milton, Catherine, *Women in Policing.* Washington, Police Foundation, 1015 Eighteenth St., N.W., Washington, D.C. 20036, 1972, 96 pp.

Organization for Economic Cooperation and Development, "Effects of Recession on Immigrant Labor," *OECD Observer,* June 1972, pp. 15–18.

Perloff, Robert, editor, "Psychology's Manpower: The Education and Utilization of Psychologists," *American Psychologist,* May 1972 (entire issue).

Price, Charlton R., *New Directions in the World of Work: A Conference Report.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1972, 40 pp. 75 cents.

Stevens, David W., "Job Search Techniques: A New Index of Effectiveness," *Quarterly Review of Economics and Business,* University of Illinois, Summer 1972, pp. 99–103.

U.S. Bureau of Labor Statistics, *Occupational Employment Statistics, 1960–70.* Washington, 1972, 44 pp. (Bulletin 1738.) 50 cents, Superintendent of Documents, Washington 20402.

U.S. Women's Bureau, *Facts on Women Workers of Minority Races.* Washington, 1972, 10 pp. 15 cents, Superintendent of Documents, Washington 20402.

U.S. Women's Bureau, *A Guide to Sources of Data on Women and Women Workers for the United States and for Regions, States, and Local Areas.* Washington, 1972, 15 pp.

Labor organizations

American Institute for Free Labor Development, *1962–1972, A decade of worker-to-worker cooperation.* Washington, AIFLD, 1972, 48 pp.

Fasser, Paul J., Jr., "Unions and Manpower: A Natural Partnership," *Manpower,* August 1972, pp. 2–5.

International Labor Office, *Report on Asian Regional Seminar on Trade Unions and Cooperatives, Singapore, October 20–31, 1970.* Geneva, ILO, 1971, 173 pp. (ASTUC/1970/R.1.)

Larkin, Timothy, "Organized Labor: The Great Educator," *Manpower,* August 1972, pp. 14–20.

Potichnyj, Peter J., *Soviet Agricultural Trade Unions, 1917–70.* Toronto, Ont., University of Toronto Press, 1972, 258 pp. $12.50.

Management and organization theory

Blanz, Friedrich and Edwin E. Ghiselli, "The Mixed Standard Scale: A New Rating System," *Personnel Psychology,* Summer 1972, pp. 185–199.

Boren, James H., *When in Doubt, Mumble: A Bureaucrat's Handbook.* New York, Van Nostrand Reinhold Co., 1972, 172 pp. $5.95.

Diamond, Daniel E. and Hrach Bedrosian, "Job Performance and the New Credentialism," *California Management Review,* Summer 1972, pp. 21–28.

Gemmill, Gary R. and W. J. Heisler, "Fatalism as a Factor in Managerial Job Satisfaction, Job Strain, and Mobility," *Personnel Psychology,* Summer 1972, pp. 241–250.

Lefkowitz, Joel, "Differential Validity: Ethnic Group as a Moderator in Predicting Tenure," *Personnel Psychology,* Summer 1972, pp. 223–240.

Seashore, Stanley E. and J. Thad Barnowe, "Collar Color Doesn't Count," *Psychology Today,* August 1972, pp. 53–54, 80–82.

Sirota, David and Alan D. Wolfson, "Job Enrichment: Surmounting the Obstacles," *Personnel,* July–August 1972, pp. 8–19.

Stewart, Rosemary, *How Computers Affect Management.* Cambridge, Mass., MIT Press, 1972, 244 pp. $12.50.

Stone, Milton M. and Dale Tarnowieski, *Management Systems in the 1970's: Selling and Servicing a Tougher Customer.* New York, American Management Association, 1972, 38 pp. $5, members; $7.50, nonmembers.

Stopford, John M. and Louis T. Wells, Jr., *Managing the Multinational Enterprise—Organization of the Firm and Ownership of the Subsidiaries.* New York, Basic Books, Inc., Publishers, 1972, 223 pp. $8.50.

Zurcher, Arnold J. and Jane Dustan, *The Foundation Administrator: A Study of Those Who Manage America's Foundations.* New York, Russell Sage Foundation, 1972, 171 pp. $8.95.

Manpower training and development

Canby, Steven L., *Military Manpower Procurement: A Policy Analysis.* Lexington, Mass., D.C. Heath and Co., 1972, 291 pp. $12.50.

Douglass, Jack, "Disadvantaged Employee Development Program of the University of California, San Diego," *Training and Development Journal,* August 1972, pp. 34–36.

Hughes, James J., "The Role of Manpower Retraining Programs: A Critical Look at Retraining in the United Kingdom," *British Journal of Industrial Relations,* July 1972, pp. 206–223.

Laslett, R. E., *A Survey of Mathematical Methods of Estimating the Supply of and Demand for Manpower.* London, Engineering Industry Training Board, 1972, 48 pp. (Occasional Paper No. 1.)

National Manpower Policy Task Force Associates, *Public Employment Manpower Programs: A Policy Statement.* Washington, National Manpower Policy Task Force Associates, 1972, 10 pp.

Okamoto, Hideaki, "Industrialization Apprenticeship and Manpower Development (I)," *Japan Labor Bulletin,* June 1, 1972, pp. 4–8.

Pettman, B. O., *The Industrial Training Act and the Work of the Industrial Training Boards: A Selected and Annotated Bibliography.* Hull, Yorkshire, England, Institute of Scientific business, Ltd., 1971, 39 pp. (Bibliographical Studies, 2.) £1.50, members; £2.50, nonmembers.

Pierson, Frank C., *Community Manpower Services for the Disadvantaged.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1972, 86 pp. (Studies in Employment and Unemployment.) $1.25.

Scoville, James G., *Manpower and Occupational Analysis Concepts and Measurements.* Lexington, Mass., D.C. Heath and Co., 1972, 136 pp. $10.

Skolnik, M. L. and C. S. Smith, "Selecting an Optimal Set of Manpower Requirements When Skill Substitution is Possible," *British Journal of Industrial Relations,* July 1972, pp. 256–269.

Thirlwall, A. P., "Government Manpower Policies in Great Britain: Their Rationale and Benefits," *British Journal of Industrial Relations,* July 1972, pp. 165–179.

Monetary and fiscal policy

Aaron, Henry J., *Shelter and Subsidies: Who Benefits from Federal Housing Policies?* Washington, Brookings Institution, 1972, 238 pp. $7.95.

Armentano, D.T., *The Myths of Antitrust: Economic Theory and Legal Cases.* New Rochelle, N.Y., Arlington House, 287 pp. $11.95.

Steiss, Alan Walter, *Public Budgeting and Management.* Lexington, Mass., D.C. Heath and Co., 1972, 349 pp. $12.50.

Prices and living conditions

Great Britain, Department of Employment, "Family Expenditure Survey: Subsidiary Occupations," *Department of Employment Gazette,* June 1972, pp. 528–534.

Grønhaug, Kjell, "Risk Indicators, Perceived Risk, and Consumer's Choice of Information Sources," *Swedish Journal of Economics,* June 1972, pp. 246–262.

Ironmonger, D.S., *New Commodities and Consumer Behavior.* London, Cambridge University Press, 1972, 200 pp. $19.50.

Weidenbaum, Murray L. and others, "The Future of U.S. Wage-Price Policy: A Symposium," *Review of Economics and Statistics,* August 1972, pp. 213–234. Includes Weidenbaum, "New Initiatives in National Wage and Price Policy," Gardner Ackley, "An Incomes Policy for the 1970's," Carl H. Madden, "Controls or Competition—What's at Issue?, and Hendrik S. Houthakker, "Are Controls the Answer?"

Productivity and technological change

Cairncross, Sir Alec, "Reflections on Technological Change," *Scottish Journal of Political Economy,* June 1972, pp. 107–114.

International Labor Office, *Automation in Developing Countries: Round-Table Discussion on the Manpower Problems Associated with the Introduction of Automation and Advanced Technology in Developing Countries, Geneva, July 1–3, 1970.* Geneva, 1972, 246 pp. Distributed in United States by Washington Branch of ILO.

National Science Foundation, *Research and Development and Economic Growth/Productivity: Papers and Proceedings of a Colloquium.* Washington, National Science Foundation, 1972, 79 pp. 75 cents, Superintendent of Documents, Washington 20402.

Söderström, Hans Tson, "Cyclical Fluctuations in Labor Productivity and Capacity Utilization Reconsidered," *Swedish Journal of Economics,* June 1972, pp. 220–237.

U.S. Bureau of Labor Statistics, *Labor and Material Requirements for Construction of Private Single-Family Houses.* Washington, 1972, 27 pp., bibliography of Construction Labor Requirements Studies by the Office of Productivity and Technology, BLS. (Bulletin 1755.) 40 cents, Superintendent of Documents, Washington 20402.

Social institutions and social change

Alford, Harold J., *The Proud Peoples: The Heritage and Culture of Spanish-Speaking Peoples in the United States.* New York, David McKay Co., Inc., 1972, 325 pp. $5.95.

Adam Smith, "The Last Days of Cowboy Capitalism," *Atlantic Monthly,* September 1972, pp. 43–55.

Beichman, Arnold, *Nine Lies About America.* New York, The Library Press., 1972, 324 pp. $7.95.

Committee for Economic Development, *Reducing Crime and Assuring Justice.* (A Statement by the Research and Policy Committee.) New York, Committee for Economic Development, 1972, 86 pp. $1.50.

Wages and compensation

Helin, E.B., "Hospitals: Over 40 or 8 and 80?" *Personnel Journal,* August 1972, pp. 565–570.

Krouner, Leonard W., "Employee Benefit Plans: Due Process for Beneficiaries," *Labor Law Journal,* July 1972, pp. 425–443.

Milkovich, George T. and Philip H. Anderson, "Management Compensation and Secrecy Policies," *Personnel Psychology,* Summer 1972, pp. 293–302.

Petersen, Donald J., "Labor Trends: White-Collar Unionization and the Pay Board," *Personnel,* July–August 1972, pp. 34–39.

U.S. Bureau of Labor Statistics, *Area Wage Survey: Territory of Guam, January 1972.* Washington, 1972, 33 pp. (Report 410.)

U.S. Bureau of Labor Statistics, *Area Wage Survey: The St. Louis, Mo.–Ill. Metropolitan Area, March 1972.* Washington, 1972, 30 pp. (Bulletin 1725–61.) 35 cents, Superintendent of Documents, Washington 20402. Other recent bulletins in this series include the metropolitan areas of Philadelphia, Pa.–N.J.; Charleston, W.Va.; and Durham, N.C. (Bulletins 1725–62 through –64.) Various pagings and prices.

U.S. Bureau of Labor Statistics, *Employee Compensation and Payroll Hours: Construction—Special Trade Contractors, 1969.* Washington, 1972, 54 pp. (Report 413.) 60 cents, Superintendent of Documents, Washington 20402.

U.S. Bureau of Labor Statistics, *Industry Wage Survey: Men's and Boys' Separate Trousers, January 1971.* Washington, 1972, 54 pp. (Bulletin 1752.) 60 cents, Superintendent of Documents, Washington 20402.

U.S. Bureau of Labor Statistics, *Industry Wage Survey: Textile Dyeing and Finishing, December 1970.* Washington, 1972, 65 pp. (Bulletin 1757.) 70 cents, Superintendent of Documents, Washington 20402.

U.S. Bureau of Labor Statistics, *Union Wages and Hours Printing Industry, July 1, 1971.* Washington, 1972, 62 pp. (Bulletin 1744.) 65 cents, Superintendent of Documents, Washington 20402.

Vatter, Harold G. and Thomas Palm, *The Economics of Black America.* New York, Harcourt Brace Jovanovich, Inc., 1972, 296 pp.

Welfare programs and social insurance

Billingsley, Andrew and Jeanne M. Giovannoni, *Children of the Storm: Black Children and American Child Welfare.* New York, Harcourt Brace Jovanovich, Inc., 1972, 263 pp. $8.50.

Brown, J. Douglas, *An American Philosophy of Social Security: Evolution and Issues.* Princeton, N.J., Princeton University Press, 1972, 240 pp. $8.50.

Business Week, "The forces reshaping Social Security," *Business Week,* July 15, 1972, pp. 54–60.

Ginsburg, Helen, editor, *Poverty, Economics, and Society.* Boston, Little, Brown and Co., 1972, 339 pp. $4.95, paper.

Kaplan, H. Roy and Curt Tausky, "Work and the Welfare Cadillac: the function of and commitment to work among the hard-core unemployed," *Social Problems,* Spring 1972, pp. 469–483.

Kelly, Laurence A., *Family Allowances and the Tax System.* Kingston, Ont, Queen's University, Industrial Relations Center, 1971, 23 pp. $1.

Laroque, Pierre, "Women's Rights and Widows' Pensions," *International Labor Review,* July 1972, pp. 1–10.

U.S. Department of Health, Education, and Welfare, *Income Maintenance Experiments.* Material submitted to the Senate Committee on Finance, 92d Cong., 2d Sess., 1972, 143 pp.

Indexes to the Monthly Labor Review

Each year the December issue of the *Monthly Labor Review* contains an index, by subject, of articles published in the *Review* in the current year. Also included are listings of statistical tables and of books reviewed, by author of book. In recent years, the index has also included an alphabetical list of authors.

At intervals, these yearend indexes have been combined and published as BLS Bulletins:

Bulletin 695, *Subject Index to the Monthly Labor Review, Volumes 1 to 11,* July 1915 to December 1920

Bulletin 696, *Subject Index to the Monthly Labor Review, Volumes 12 to 51,* January 1921 to December 1940

Bulletin 1080, *Subject Index of Volumes 52–71, Monthly Labor Review,* January 1941 to December 1950

Bulletin 1335, *Index of Volumes 72–83, Monthly Labor Review,* January 1951 to December 1960

Work is now in progress on the next bulletin in the series, to cover volumes 84 to 93, January 1961 to December 1970.

Current Labor Statistics

Schedule of release dates for major BLS statistical series 95

Employment and unemployment—household data

1. Employment status of noninstitutional population, 1947–71 95
2. Employment status, by color, sex, and age, seasonally adjusted, quarterly averages 96
3. Full-time and part-time status of civilian labor force, seasonally adjusted 96
4. Employment and unemployment, by age and sex, seasonally adjusted 97
5. Employment totals, by occupation, with unemployment rates, seasonally adjusted, quarterly averages 97
6. Unemployed persons, by reason for unemployment, seasonally adjusted 98
7. Unemployment rates, by age and sex, seasonally adjusted 98
8. Unemployment rates, seasonally adjusted 99
9. Duration of unemployment, seasonally adjusted 99

Unemployment insurance

10. Unemployment insurance and employment service operations 100

Nonagricultural employment—payroll data

11. Employment by industry, 1947–71 101
12. Employment by State 101
13. Employment by industry division and major manufacturing group 102
14. Employment by industry division and major manufacturing group, seasonally adjusted 103

Labor turnover and job vacancies

15. Labor turnover in manufacturing, 1962 to date 104
16. Labor turnover in manufacturing, by major industry group 105
17. Job vacancies in manufacturing 105

Hours and earnings—private nonagricultural payrolls

18. Hours and earnings, by industry division, 1947–71 106
19. Weekly hours, by industry division and major manufacturing group 107
20. Weekly hours, by industry division and major manufacturing group, seasonally adjusted 108
21. Hourly earnings, by industry division and major manufacturing group 109
22. Weekly earnings, by industry division and major manufacturing group 110
23. Spendable weekly earnings in current and 1967 dollars 111

Prices

24. Consumer and Wholesale Price Indexes, 1949–71 112
25. Consumer Price Index, U.S. average, general summary and selected items 112
26. Consumer Price Index, selected areas 118
27. Wholesale Price Index, by group and subgroup of commodities 119
28. Wholesale Price Index, for special commodity groupings 121
29. Wholesale Price Index, by durability of product 121
30. Wholesale Price Index, by stage of processing 122
31. Industry-sector price indexes for output of selected industries 123

Labor-management disputes

32. Work stoppages resulting from labor-management disputes 125

Productivity

33. Indexes of output per man-hour, hourly compensation, and unit labor costs 126

Schedule of release dates for major BLS statistical series, November 1972

Title	Date of release	Period covered	MLR table number
Productivity, Wages, and Prices	November 2	3d quarter	33
Wholesale Price Index	November 2	October	27–31
Employment situation	November 3	October	1–14
Consumer Price Index	November 21	October	25–26
Work stoppages	November 29	October	32

Introduction of Seasonally Adjusted Job Vacancy Data for Manufacturing

Beginning with this issue, table 17 will include the seasonally adjusted number and rate of job vacancies for manufacturing. More than 3 years' experience collecting job vacancy data indicate that the job vacancy series exhibits a substantial amount of seasonality. The Bureau of Labor Statistics publishes seasonally adjusted as well as unadjusted figures, because data are used for different purposes by different groups. For analyzing general labor trends in the economy, seasonally adjusted data eliminate the effect of changes that normally occur at the same time and in about the same magnitude every year.

The seasonally adjusted series on the number of job vacancies are developed by applying factors directly to the corresponding unadjusted series. Seasonally adjusted job vacancy rates are computed by dividing the seasonally adjusted number of job vacancies by the sum of employment and job vacancies, both seasonally adjusted, and multiplying the quotient by 100. All seasonal computations are based on unrounded data.

1. Employment status of the noninstitutional population, 16 years and over, 1947–71

[In thousands]

Year	Total noninstitutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1947	103,418	60,941	58.9	59,350	57,039	7,891	49,148	2,311	3.9	42,477
1948	104,527	62,080	59.4	60,621	58,344	7,629	50,713	2,276	3.8	42,447
1949	105,611	62,903	59.6	61,286	57,649	7,656	49,990	3,637	5.9	42,708
1950	106,645	63,858	59.9	62,208	58,920	7,160	51,760	3,288	5.3	42,787
1951	107,721	65,117	60.4	62,017	59,962	6,726	53,239	2,055	3.3	42,604
1952	108,823	65,730	60.4	62,138	60,254	6,501	53,753	1,883	3.0	43,093
1953	110,601	66,560	60.2	63,015	61,181	6,261	54,922	1,834	2.9	44,041
1954	111,671	66,993	60.0	63,643	60,110	6,206	53,903	3,532	5.5	44,678
1955	112,732	68,072	60.4	65,023	62,171	6,449	55,724	2,852	4.4	44,660
1956	113,811	69,409	61.0	66,552	63,802	6,283	57,517	2,750	4.1	44,402
1957	115,065	69,729	60.6	66,929	64,071	5,947	58,123	2,859	4.3	45,336
1958	116,363	70,275	60.4	67,639	63,036	5,586	57,450	4,602	6.8	46,088
1959	117,881	70,921	60.2	68,369	64,630	5,565	59,065	3,740	5.5	46,960
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1961	121,343	73,031	60.2	70,459	65,746	5,200	60,546	4,714	6.7	48,312
1962	122,981	73,424	59.7	70,614	66,702	4,944	61,759	3,911	5.5	49,539
1963	125,154	74,571	59.6	71,833	67,762	4,687	63,076	4,070	5.7	50,583
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,239	61.1	80,733	77,902	3,606	74,296	2,831	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666

2. Employment status, by color, sex, and age, seasonally adjusted,[1] quarterly averages

[Numbers in thousands]

Characteristic	Annual average		1969			1970				1971				1972	
	1970	1971	2d	3d	4th	1st	2d	3d	4th	1st	2d	3d	4th	1st	2d
WHITE															
Civilian labor force	73,518	74,790	71,508	72,019	72,417	73,174	73,324	73,604	74,210	74,317	74,422	74,843	75,673	76,417	**76,768**
Men, 20 years and over	42,464	43,088	41,646	41,863	41,936	42,267	42,473	42,514	42,712	42,709	43,050	43,250	43,362	43,618	**43,891**
Women, 20 years and over	24,616	25,030	23,737	23,970	24,121	24,450	24,459	24,687	24,916	24,930	24,777	24,980	25,434	25,584	**25,697**
Both sexes, 16–19 years	6,440	6,672	6,125	6,186	6,360	6,457	6,392	6,403	6,582	6,678	6,595	6,613	6,877	7,215	**7,180**
Employed	70,182	70,716	69,307	69,667	70,052	70,389	70,134	70,070	70,220	70,237	70,328	70,762	71,572	72,402	**72,733**
Men, 20 years and over	41,093	41,347	40,884	41,023	41,078	41,180	41,158	41,013	41,035	40,983	41,268	41,484	41,665	41,959	**42,183**
Women, 20 years and over	23,521	23,707	22,945	23,144	23,289	23,524	23,425	23,536	23,622	23,617	23,458	23,662	24,081	24,370	**24,371**
Both sexes, 16–19 years	5,569	5,662	5,478	5,500	5,685	5,685	5,551	5,521	5,563	5,637	5,602	5,616	5,826	6,073	**6,179**
Unemployed	3,337	4,074	2,201	2,352	2,365	2,785	3,190	3,534	3,990	4,080	4,094	4,081	4,101	4,014	**4,035**
Men, 20 years and over	1,371	1,741	762	840	858	1,087	1,315	1,501	1,677	1,726	1,782	1,766	1,697	1,659	**1,708**
Women, 20 years and over	1,095	1,324	792	826	832	926	1,034	1,151	1,294	1,313	1,319	1,318	1,353	1,214	**1,326**
Both sexes, 16–19 years	871	1,010	647	686	675	772	841	882	1,019	1,041	993	997	1,051	1,141	**1,001**
Unemployment rate	4.5	5.4	3.1	3.3	3.3	3.8	4.4	4.8	5.4	5.5	5.5	5.5	5.4	5.3	**5.3**
Men, 20 years and over	3.2	4.0	1.8	2.0	2.0	2.6	3.1	3.5	3.9	4.0	4.1	4.1	3.9	3.8	**3.9**
Women, 20 years and over	4.4	5.3	3.3	3.4	3.4	3.8	4.2	4.7	5.2	5.3	5.3	5.3	5.3	4.7	**5.2**
Both sexes, 16–19 years	13.5	15.1	10.6	11.1	10.6	12.0	13.2	13.8	15.5	15.6	15.1	15.1	15.3	15.8	**13.9**
NEGRO AND OTHER															
Civilian labor force	9,197	9,322	8,870	8,978	9,073	9,188	9,225	9,208	9,188	9,270	9,272	9,388	9,372	9,506	**9,577**
Men, 20 years and over	4,461	4,773	4,550	4,583	4,631	4,697	4,703	4,765	4,755	4,748	4,752	4,792	4,805	4,767	**4,842**
Women, 20 years and over	4,726	3,769	3,539	3,597	3,620	3,656	3,695	3,656	3,649	3,741	3,748	3,797	3,791	3,897	**3,878**
Both sexes, 16–19 years	808	781	781	798	822	835	827	787	784	781	772	799	776	842	**857**
Employed	8,445	8,403	8,286	8,395	8,510	8,552	8,466	8,429	8,342	8,386	8,351	8,442	8,427	8,503	**8,631**
Men, 20 years and over	4,461	4,428	4,385	4,409	4,454	4,490	4,436	4,478	4,437	4,426	4,424	4,431	4,427	4,435	**4,500**
Women, 20 years and over	3,412	3,442	3,320	3,375	3,428	3,439	3,434	3,399	3,375	3,428	3,405	3,461	3,473	3,545	**3,546**
Both sexes, 16–19 years	573	533	518	611	628	623	596	552	530	532	522	550	527	523	**585**
Unemployed	752	919	584	583	563	636	759	779	846	884	921	946	945	1,003	**946**
Men, 20 years and over	265	345	165	174	177	207	267	287	318	322	328	361	378	332	**342**
Women, 20 years and over	252	326	219	222	192	217	261	257	274	313	343	336	318	352	**332**
Both sexes, 16–19 years	235	248	200	187	194	212	231	235	254	249	250	249	249	319	**272**
Unemployment rate	8.2	9.9	6.6	6.5	6.2	6.9	8.2	8.5	9.2	9.5	9.9	10.1	10.1	10.6	**9.9**
Men, 20 years and over	5.9	7.2	3.6	3.8	3.8	4.4	5.7	6.0	6.7	6.8	6.9	7.5	7.9	7.0	**7.1**
Women, 20 years and over	5.3	8.7	6.2	6.2	5.3	5.9	7.1	7.0	7.5	8.4	9.2	8.8	8.4	9.0	**8.6**
Both sexes, 16–19 years	29.1	31.7	25.6	23.4	23.6	25.4	27.9	29.9	32.4	31.9	32.4	31.2	32.1	37.9	**31.7**

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

3. Full-time and part-time status [1] of the civilian labor force, seasonally adjusted [2]

[Numbers in thousands]

Employment status	1971					1972							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[3]	Feb.	Mar.	Apr.	May	June	July	Aug.
FULL TIME													
Total, 16 years and over:													
Civilian labor force	72,218	72,341	72,550	73,021	73,169	73,261	72,997	73,714	73,691	74,032	74,333	74,218	**74,201**
Employed	68,209	68,284	68,643	68,890	69,022	69,279	69,123	69,734	69,725	69,918	70,643	70,437	**70,423**
Unemployed	4,009	4,057	3,907	4,131	4,147	3,982	3,874	3,980	3,966	4,114	3,690	3,781	**3,778**
Unemployment rate	5.6	5.6	5.4	5.7	5.7	5.4	5.3	5.4	5.4	5.6	5.0	5.1	**5.1**
PART TIME													
Total, 16 years and over:													
Civilian labor force	12,211	12,293	12,190	12,125	12,083	12,595	12,540	12,596	12,466	12,406	11,867	12,208	**12,759**
Employed	11,086	11,280	11,158	11,094	11,072	11,476	11,482	11,497	11,369	11,403	10,825	11,211	**11,630**
Unemployed	1,125	1,013	1,032	1,031	1,011	1,119	1,058	1,099	1,097	1,003	1,042	997	**1,129**
Unemployment rate	9.2	8.2	8.5	8.5	8.4	8.9	8.4	8.7	8.8	8.1	8.8	8.2	**8.8**

[1] Persons on part-time schedules for economic reasons are included in the full-time employed category; unemployed persons are allocated by whether seeking full-time or part-time work.

[2] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

[3] Figures for periods prior to January 1972 in the tables are not strictly comparable with current data because of the introduction of 1970 Census data into the estimation procedures. For example, the civilian labor force and employment totals for January 1972 were raised by more than 300,000 in the census adjustment. An explanation of the changes and an indication of the differences appears in "Revisions in the Current Population Survey" in the February 1972 issue of **Employment and Earnings.**

4. Employment and unemployment, by age and sex, seasonally adjusted [1]

[In thousands]

Employment status	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[2]	Feb.	Mar.	Apr.	May	June	July	Aug.
TOTAL															
Total labor force	85,903	86,929	87,088	87,240	87,467	87,812	87,883	88,301	88,075	88,817	88,747	88,905	88.788	88,855	89,256
Civilian labor force	82,715	84,113	84,313	84,491	84,750	85,116	85,225	85,707	85,535	86,313	86,284	86,486	86,395	86,467	86,860
Employed	78,627	79,120	79,199	79,451	79,832	80,020	80,098	80,636	80,623	81,241	81,205	81,394	81,667	81,682	81,973
Agriculture	3,462	3,387	3,407	3,363	3,416	3,419	3,400	3,393	3,357	3,482	3,324	3,353	3,337	3,445	3,625
Nonagriculture	75,165	75,732	75,792	76,088	76,416	76,601	76,698	77,243	77,266	77,759	77,781	78,041	78,330	78,237	78,348
Unemployed	4,088	4,993	5,114	5,040	4,918	5,096	5,127	5,071	4,912	5,072	5,079	5,092	4,728	4,785	4,887
MEN, 20 YEARS AND OVER															
Total labor force	49,948	50,308	50,458	50,492	50,530	50,527	50,463	50,498	50,373	50,714	50,711	50,760	50,904	50,979	50,978
Civilian labor force	47,189	47,861	48,057	48,113	48,179	48,200	48,169	48,259	48,181	48,582	48,614	48,700	48,882	48,961	48,954
Employed	45,553	45,775	45,893	45,969	46,124	46,066	46,080	46,247	46,255	46,569	46,541	46,628	46,919	47,032	47,063
Agriculture	2,527	2,446	2,462	2,435	2,494	2,503	2,439	2,442	2,394	2,400	2,370	2,404	2,437	2,474	2,550
Nonagriculture	43,026	43,329	43,431	43,534	43,630	43,563	43,641	43,805	43,861	44,169	44,171	44,224	44,482	44,558	44,513
Unemployed	1,636	2,086	2,164	2,144	2,055	2,134	2,089	2,012	1,926	2,013	2,073	2,072	1,963	1,929	1,891
WOMEN, 20 YEARS AND OVER															
Civilian labor force	28,279	28,799	28,826	28,960	29,082	29,254	29,284	29,424	29,358	29,574	29,508	29,625	29,657	29,789	29,990
Employed	26,932	27,149	27,144	27,319	27,471	27,571	27,592	27,794	27,878	27,972	27,913	27,883	28,029	28,078	28,334
Agriculture	549	537	543	548	530	528	547	564	575	620	563	551	496	556	604
Nonagriculture	26,384	26,612	26,601	26,771	26,941	27,043	27,045	27,230	27,303	27,352	27,350	27,332	27,533	27,522	27,730
Unemployed	1,347	1,650	1,682	1,641	1,611	1,683	1,692	1,630	1,480	1,602	1,595	1,742	1,628	1,711	1,656
BOTH SEXES, 16–19 YEARS															
Civilian labor force	7,246	7,453	7,430	7,418	7,489	7,662	7,772	8,024	7,996	8,157	8,162	8,161	7,856	7,717	7,916
Employed	6,141	6,195	6,162	6,163	6,237	6,383	6,426	6,595	6,490	6,700	6,751	6,883	6,719	6,572	6,576
Agriculture	386	404	402	380	392	388	414	387	388	462	391	398	404	415	471
Nonagriculture	5,755	5,791	5,760	5,783	5,845	5,995	6,012	6,208	6,102	6,238	6,360	6,485	6,315	6,157	6,105
Unemployed	1,105	1,257	1,268	1,255	1,252	1,279	1,346	1,429	1,506	1,457	1,411	1,278	1,137	1,145	1,340

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

[2] See footnote 3, table 3, regarding the introduction of 1970 census population controls.

5. Employment totals, by occupation, with unemployment rates, seasonally adjusted,[1] quarterly averages

Characteristic	Annual average		1969			1970				1971				1972	
	1970	1971	2d	3d	4th	1st	2d	3d	4th	1st	2d	3d	4th	1st	2d
EMPLOYMENT (in thousands)	78,627	79,120	77,575	78,126	78,577	78,875	78,610	78,531	78,550	78,546	78,723	79,221	79,984	80,833	81,422
White-collar workers	37,997	38,252	36,699	36,961	37,445	37,940	38,004	37,970	38,074	37,938	38,004	38,456	38,612	38,710	38,788
Professional and technical	11,140	11,070	10,750	10,742	10,918	11,055	11,139	11,226	11,143	10,872	11,081	11,139	11,192	11,232	11,387
Managers and administrators, except farm	8,289	8,765	7,998	7,983	8,122	8,220	8,295	8,259	8,381	8,646	8,642	8,799	8,612	7,988	7,860
Sales workers	4,854	5,066	4,660	4,714	4,777	4,787	4,813	4,877	4,934	5,074	5,018	5,037	5,133	5,300	5,360
Clerical workers	13,714	13,440	13,291	13,522	13,628	13,878	13,757	13,608	13,616	13,346	13,263	13,481	13,675	14,190	14,181
Blue-collar workers	27,791	27,184	28,006	28,428	28,332	28,203	27,768	27,653	27,566	27,071	27,051	27,090	27,524	28,295	28,595
Craftsmen and kindred workers	10,158	10,178	10,054	10,200	10,235	10,235	10,135	10,124	10,149	10,106	10,119	10,111	10,373	10,910	10,833
Operatives	13,909	12,983	14,260	14,570	14,369	14,196	13,957	13,793	13,696	12,912	12,958	12,946	13,116	13,346	13,557
Nonfarm laborers	3,724	4,022	3,692	3,658	3,728	3,772	3,676	3,736	3,721	4,053	3,974	4,033	4,035	4,039	4,205
Service workers	9,712	10,676	9,494	9,509	9,594	9,610	9,620	9,814	9,804	10,627	10,607	10,715	10,751	10,852	11,078
Farm workers	3,126	3,008	3,393	3,229	3,121	3,141	3,206	3,108	3,033	2,988	3,033	2,992	3,023	3,030	2,928
UNEMPLOYMENT RATE	4.9	5.9	3.5	3.6	3.6	4.2	4.8	5.2	5.8	6.0	6.0	6.0	5.9	5.8	5.7
White-collar workers	2.8	3.5	2.0	2.2	2.1	2.4	2.7	2.9	3.4	3.6	3.5	3.5	3.5	3.5	3.4
Professional and technical	2.0	2.9	1.3	1.4	1.5	1.8	1.9	2.0	2.4	3.2	2.9	2.9	3.0	2.7	2.2
Managers and administrators, except farm	1.3	1.6	.9	.9	1.0	1.1	1.3	1.4	1.6	1.6	1.6	1.5	1.8	1.8	1.6
Sales workers	3.9	4.3	2.9	3.0	2.8	3.3	3.9	3.9	4.6	4.2	4.5	4.4	3.9	4.2	4.1
Clerical workers	4.0	4.8	2.8	3.2	3.1	3.4	3.9	4.1	4.8	4.9	4.8	4.9	4.8	4.8	5.0
Blue-collar workers	6.2	7.4	3.8	3.9	4.3	5.0	6.0	6.8	7.5	7.5	7.4	7.5	7.4	7.0	6.6
Craftsmen and kindred workers	3.8	4.7	2.1	2.1	2.3	2.7	3.9	4.5	4.6	4.7	4.3	5.3	4.7	4.2	4.5
Operatives	7.1	8.3	4.3	4.4	4.9	5.8	6.6	7.5	8.6	8.5	8.5	8.2	8.1	7.7	7.1
Nonfarm laborers	9.5	10.8	6.4	7.0	7.1	7.9	9.2	10.3	10.8	10.6	10.9	10.3	11.4	11.7	10.4
Service workers	5.3	6.3	4.4	4.5	4.0	4.7	5.0	5.5	6.0	6.1	6.3	6.5	6.4	6.2	6.0
Farm workers	2.6	2.6	1.9	2.1	1.9	2.1	2.6	2.9	3.0	2.8	2.1	2.7	2.8	2.4	2.6

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

NOTE: Comparisons with data prior to 1971 are affected by the reclassification of census occupations, introduced in January 1971. For an explanation of the changes, see "Revisions in Occupational Classifications for 1971" in the February 1971 issue of **Employment and Earnings.**

6. Unemployed persons by reason for unemployment, seasonally adjusted [1]

[Numbers in thousands]

Reason for unemployment	1971					1972							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
NUMBER OF UNEMPLOYED													
Lost last job	2,460	2,369	2,206	2,360	2,365	2,169	2,077	2,118	2,040	2,199	2,210	2,093	2,244
Left last job	572	583	541	629	666	564	603	674	611	649	624	616	644
Reentered labor force	1,509	1,536	1,486	1,493	1,432	1,652	1,503	1,542	1,557	1,460	1,238	1,455	1,427
Never worked before	651	603	663	651	736	742	713	737	917	802	621	564	640
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
Lost last job	47.4	46.5	45.1	46.0	45.5	42.3	42.4	41.8	39.8	43.0	47.1	44.3	45.3
Left last job	11.0	11.5	11.0	12.3	12.8	11.0	12.3	13.3	11.9	12.7	13.3	13.0	13.0
Reentered labor force	29.1	30.2	30.4	29.1	27.5	32.2	30.7	30.4	30.4	28.6	26.4	30.8	28.8
Never worked before	12.5	11.8	13.5	12.7	14.2	14.5	14.6	14.5	17.9	15.7	13.2	11.9	12.9
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Lost last job	2.9	2.8	2.6	2.8	2.8	2.5	2.4	2.5	2.4	2.5	2.6	2.4	2.6
Left last job	.7	.7	.6	.7	.8	.7	.7	.8	.7	.8	.7	.7	.7
Reentered labor force	1.8	1.8	1.8	1.8	1.7	1.9	1.8	1.8	1.8	1.7	1.4	1.7	1.6
Never worked before	.8	.7	.8	.8	.9	.9	.8	.9	1.1	.9	.7	.7	.7

NOTE: For additional detail or for data unadjusted for seasonal factors (formerly carried in this space), see **Employment and Earnings.**

7. Unemployment rates, by age and sex, seasonally adjusted [1]

Age and sex	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total, 16 years and over	4.9	5.9	6.1	6.0	5.8	6.0	6.0	5.9	5.7	5.9	5.9	5.9	5.5	5.5	5.6
16 to 19 years	15.3	16.9	17.1	16.9	16.7	16.7	17.3	17.8	18.8	17.9	17.3	15.7	14.5	14.8	16.9
16 and 17 years	17.1	18.7	19.5	18.4	19.9	18.3	18.8	19.1	22.0	20.7	19.1	16.6	16.5	16.5	20.5
18 and 19 years	13.8	15.5	15.0	15.8	14.5	15.4	16.3	16.8	16.7	15.8	1.5	15.8	12.9	13.5	14.0
20 to 24 years	8.2	10.0	10.0	9.6	9.2	10.4	10.1	10.1	8.8	9.9	10.0	9.9	8.7	9.8	9.0
25 years and over	3.3	4.0	4.1	4.0	4.0	4.0	4.1	3.7	3.6	3.7	3.8	3.9	3.9	3.7	3.6
25 to 54 years	3.4	4.2	4.2	4.3	4.3	4.2	4.3	3.9	3.7	3.9	3.8	4.0	4.0	3.8	3.7
55 years and over	2.8	3.4	3.5	3.2	3.0	3.4	3.4	3.1	3.1	3.3	3.6	3.6	3.6	3.4	3.7
Male, 16 years and over	4.4	5.3	5.5	5.4	5.3	5.4	5.4	5.3	5.3	5.3	5.3	5.3	4.8	4.7	4.9
16 to 19 years	15.0	16.6	17.2	16.3	16.5	16.2	17.3	17.3	19.6	17.8	16.7	16.6	13.8	13.6	16.5
16 and 17 years	16.9	18.6	19.4	18.6	20.3	18.1	19.0	18.7	21.8	21.4	19.3	18.0	15.4	14.6	20.0
18 and 19 years	13.4	15.0	15.0	14.6	13.7	14.7	16.0	16.1	17.6	15.1	14.8	16.2	12.4	12.8	13.2
20 to 24 years	8.4	10.3	10.5	10.2	9.7	10.7	10.5	10.4	9.2	10.4	10.7	9.4	8.3	9.6	8.4
25 years and over	2.8	3.5	3.6	3.5	3.5	3.5	3.5	3.2	3.2	3.2	3.3	3.4	3.3	3.0	3.1
25 to 54 years	2.6	3.5	3.6	3.7	3.7	3.7	3.6	3.3	3.2	3.1	3.2	3.4	3.3	3.0	3.0
55 years and over	2.9	3.4	3.3	3.0	2.9	3.2	3.	3.0	3.2	3.4	3.5	3.5	3.5	3.1	3.4
Female, 16 years and over	5.9	6.9	7.0	6.9	6.7	6.9	7.0	6.9	6.4	6.8	6.8	6.8	6.5	6.9	6.8
16 to 19 years	15.6	17.2	16.9	17.6	17.0	17.3	17.3	18.4	17.9	17.9	18.0	14.6	15.4	16.4	17.5
16 and 17 years	17.4	18.7	19.5	18.0	19.2	18.7	18.5	19.6	22.3	19.8	19.0	14.8	18.1	18.9	21.3
18 and 19 years	14.4	16.2	15.1	17.3	15.6	16.2	16.7	17.7	15.6	16.8	16.4	15.3	13.5	14.4	14.9
20 to 24 years	7.9	9.6	9.4	8.9	8.6	10.0	9.6	9.6	8.4	9.2	9.0	10.6	9.2	10.1	9.5
25 years and over	4.1	4.9	5.0	4.9	4.9	4.8	5.0	4.6	4.3	4.7	4.6	4.8	4.8	4.8	4.6
25 to 54 years	4.5	5.3	5.4	5.3	5.3	5.2	5.4	4.9	4.7	5.1	4.9	5.0	5.1	5.1	4.8
55 years and over	2.8	3.4	3.8	3.4	3.0	3.7	3.9	3.3	2.9	3.1	3.6	3.8	3.8	4.0	4.3

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

8. Unemployment rates, seasonally adjusted [1]

Selected categories	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total (all civilian workers)	4.9	5.9	6.1	6.0	5.8	6.0	6.0	5.9	5.7	5.9	5.9	5.9	5.5	5.5	5.6
Men, 20 years and over	3.5	4.4	4.5	4.5	4.3	4.4	4.3	4.2	4.0	4.1	4.3	4.3	4.0	3.9	3.9
Women, 20 years and over	4.8	5.7	5.8	5.7	5.5	5.8	5.8	5.5	5.0	5.4	5.4	5.9	5.5	5.7	5.5
Both sexes 16–19 years	15.3	16.9	17.1	16.9	16.7	16.7	17.3	17.8	18.8	17.9	17.3	15.7	14.5	14.8	16.9
White	4.5	5.4	5.6	5.4	5.3	5.6	5.4	5.3	5.1	5.3	5.4	5.3	5.0	5.0	5.1
Negro and other	8.2	9.9	9.9	10.4	10.4	9.4	10.4	10.6	10.5	10.5	9.6	10.7	9.4	9.9	9.7
Married men	2.6	3.2	3.2	3.3	3.0	3.3	3.2	3.0	2.8	2.8	2.9	2.9	2.9	2.7	2.6
Vietnam Era veterans,[2] men:															
20 to 29 years	6.9	8.8	9.3	9.8	8.0	8.5	8.4	8.5	7.4	8.6	8.6	8.1	7.2	7.3	7.7
20 to 24 years	9.3	12.2	13.4	12.3	9.7	12.0	12.6	12.3	9.7	12.3	12.7	10.3	9.9	10.7	12.5
25 to 29 years	4.3	5.7	5.7	7.6	6.5	5.6	5.1	5.6	5.4	5.6	5.4	6.4	5.3	5.0	4.4
Nonveterans, men:															
20 to 29 years	6.0	7.3	8.0	6.7	7.3	8.1	7.7	7.5	7.0	7.5	7.6	7.1	6.5	6.5	6.2
20 to 24 years	8.0	9.5	10.5	8.6	9.3	10.3	9.6	9.8	9.0	10.1	10.0	9.1	8.0	8.6	8.1
25 to 29 years	3.8	4.7	4.9	4.4	4.9	5.5	5.2	4.5	4.4	4.1	4.6	4.5	4.6	3.7	3.8
Full-time workers	4.5	5.5	5.6	5.6	5.4	5.7	5.7	5.4	5.3	5.4	5.4	5.6	5.0	5.1	5.1
Unemployed 15 weeks and over [3]	.8	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.3	1.4	1.3	1.3	1.4
State insured [4]	3.6	4.4	4.2	4.3	4.4	4.1	4.1	3.4	3.5	3.5	3.6	3.7	3.6	r3.8	3.4
Labor force time lost [5]	5.4	6.4	6.5	6.3	6.5	6.4	6.4	6.4	6.1	6.3	6.3	6.3	5.5	6.0	6.2
OCCUPATION															
White-collar workers	2.8	3.5	3.5	3.4	3.4	3.4	3.6	3.6	3.3	3.5	3.4	3.6	3.1	3.4	3.5
Professional and managerial	1.7	2.9	2.3	2.2	2.4	2.5	2.5	2.6	2.2	2.3	2.1	2.0	1.7	2.2	2.2
Sales workers	3.9	4.3	4.4	4.1	3.9	3.9	4.0	4.4	4.0	4.1	3.7	4.5	4.0	4.3	4.8
Clerical workers	4.0	4.8	4.9	4.8	4.7	4.6	4.9	4.7	4.7	4.9	4.9	5.3	4.8	4.6	4.9
Blue-collar workers	6.2	7.4	7.5	7.7	7.1	7.5	7.5	7.1	7.0	6.9	6.8	6.8	6.4	6.4	6.5
Craftsmen and kindred workers	3.8	4.7	5.3	5.3	4.7	4.6	4.8	4.3	4.4	4.0	4.4	4.7	4.5	4.3	4.4
Operatives	7.1	8.3	8.3	8.3	7.8	8.2	8.2	7.9	7.5	7.7	7.4	7.1	6.8	7.1	6.7
Nonfarm laborers	9.5	10.8	10.6	11.2	10.6	11.8	11.9	11.6	11.8	11.7	10.7	10.9	9.5	9.3	10.9
Service workers	5.3	6.3	6.5	6.5	6.0	6.6	6.4	6.1	5.9	6.6	6.3	6.1	5.7	6.6	6.3
INDUSTRY															
Nonagricultural private wage and salary workers [6]	5.2	6.2	6.2	6.2	5.9	6.2	6.3	6.1	5.9	6.1	5.9	6.0	5.5	5.8	5.8
Construction	9.7	10.4	9.9	9.7	10.2	9.7	11.2	9.8	10.3	9.8	10.6	12.5	9.5	10.9	11.6
Manufacturing	5.6	6.8	6.8	6.9	6.2	6.6	6.9	6.4	6.0	6.2	5.8	6.0	5.6	5.7	5.4
Durable goods	5.7	7.0	6.9	7.0	6.4	6.7	6.7	6.7	6.1	6.3	5.8	6.3	5.7	5.7	5.0
Nondurable goods	5.4	6.5	6.8	6.8	5.8	6.3	7.1	6.0	6.0	6.1	5.9	5.7	5.5	5.6	6.0
Transportation and public utilities	3.2	3.8	3.3	3.6	4.3	4.4	4.1	4.1	3.9	4.0	3.7	3.5	3.1	3.6	3.8
Wholesale and retail trade	5.3	6.4	6.3	6.3	6.1	6.6	6.5	6.3	6.2	6.7	6.2	6.3	6.5	6.5	6.6
Finance and service industries	4.2	5.1	5.3	5.1	4.9	5.1	4.9	5.3	4.9	5.3	5.1	5.0	4.2	4.6	4.7
Government wage and salary workers	2.2	2.9	3.1	3.0	3.2	3.2	3.2	3.0	2.8	2.8	2.9	2.9	2.5	2.8	3.0
Agricultural wage and salary workers	7.5	7.9	8.8	8.5	7.0	9.6	7.5	8.6	8.3	6.0	6.0	8.8	7.5	6.0	6.5

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

[2] Vietnam Era veterans are those who served after August 4, 1964; they are all classified as war veterans. Over 80 percent of Vietnam Era veterans of all ages are 20 to 29 years old. Not included in these figures are post-Korean peacetime veterans in ages 20 to 29.

[3] Unemployment rate calculated as a percent of civilian labor force.

[4] Insured unemployment under State programs as a percent of average covered employment.

[5] Man-hours lost by the unemployed and persons on part time for economic reasons (that is, those persons who worked less than 35 hours during the survey week because of slack work, job changing during the week, material shortages, inability to find full-time work, and so on) as a percent of potentially available labor force man-hours.

[6] Includes mining, not shown separately.

r = revised.

9. Duration of unemployment, seasonally adjusted [1]

[Numbers in thousands]

Period	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Less than 5 weeks	2,137	2,234	2,320	2,317	2,140	2,290	2,410	2,358	2,142	2,311	2,169	2,223	2,175	2,149	2,254
5 to 14 weeks	1,289	1,578	1,553	1,567	1,529	1,650	1,509	1,502	1,454	1,412	1,521	1,514	1,437	1,478	1,505
15 weeks and over	662	1,181	1,291	1,250	1,253	1,311	1,273	1,198	1,294	1,224	1,137	1,180	1,148	1,155	1,188
15 to 26 weeks	427	665	735	683	628	741	724	636	634	591	482	587	594	658	644
27 weeks and over	235	517	556	567	625	570	549	562	660	633	655	593	554	497	544
15 weeks and over as a percent of civilian labor force	.8	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.3	1.4	1.3	1.3	1.4
Average (mean duration, in weeks)	8.8	11.4	11.6	12.0	12.5	11.8	11.4	11.8	12.5	12.4	12.4	12.5	13.5	11.8	12.1

[1] These data have been adjusted to reflect seasonal experience through December 1971. For a discussion of seasonal adjustment procedures and the historical seasonally adjusted series, see the February 1972 issue of **Employment and Earnings.**

10. Unemployment insurance and employment service operations [1]

[All items except average benefits amounts are in thousands]

Item	1971						1972						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Employment service: [2]													
New applications for work	815	779	767	663	763	679							
Nonfarm placements	315	366	353	288	317	266							
State unemployment insurance program:													
Initial claims [3 4]	1,468	1,277	1,043	1,048	1,336	1,623	1,643	1,241	1,095	947	991	1,095	
Insured unemployment [5] (average weekly volume) [6]	1,993	1,912	1,739	1,716	1,879	2,221	2,524	2,492	2,279	2,005	1,740	1,634	1,823
Rate of insured unemployment [7]	3.8	3.6	3.3	3.2	3.5	4.2	4.8	4.7	4.3	3.8	3.3	3.1	3.4
Weeks of unemployment compensated	6,740	6,503	5,923	5,561	6,177	7,546	8,972	8,871	9,372	7,320	6,927	5,903	
Average weekly benefit amount for total unemployment	$55.23	$56.08	$56.25	$53.46	$53.96	$54.58	$55.35	$56.71	$56.63	$56.90	r$56.32	$59.93	
Total benefits paid	$428,002	$433,636	$400,329	$367,169	$406,905	$489,566	$550,902	$589,509	$628,936	$472,916	$429,206	$382,064	
Unemployment compensation for ex-servicemen: [6 8]													
Initial claims [3 6]	53	54	48	43	51	59	68	57	54	48	47	43	
Insured unemployment [6] (average weekly volume)	120	120	106	97	105	118	133	140	136	127	119	110	107
Weeks of unemployment compensated	494	525	478	409	426	498	530	550	623	508	r525	493	
Total benefits paid	$30,449	$31,552	r$29,650	$25,012	$26,089	$29,180	$29,998	$33,580	$38,349	$31,668	r$32,579	$31,082	
Unemployment compensation for Federal civilian employees: [9 10]													
Initial claims [3]	15	12	12	13	14	13	16	12	11	11	12	17	
Insured unemployment [5] (average weekly volume)	36	35	33	35	35	35	37	36	34	30	28	28	38
Weeks of unemployment compensated	142	157	148	135	144	156	147	146	157	121	122	116	
Total benefits paid	$8,605	$9,261	$9,026	$8,224	$8,960	$9,811	$8,755	$9,008	$9,911	$7,674	r$7,460	$7,129	
Railroad unemployment insurance:													
Applications [11]	89	98	100	48	19	7	8	4	4	2	2	c 11	27
Insured unemployment (average weekly volume)	15	32	33	27	48	33	36	27	26	23	15	14	18
Number of payments [12]	99	105	163	124	106	857	87	63	64	48	40	33	35
Average amount of benefit payment [13]	$46.07	$83.28	$69.35	$61.95	$100.32	$101.32	$97.79	$99.11	$98.70	$88.74	$91.27	$94.84	$88.76
Total benefits paid [14]	$3,800	$8,698	$11,134	$7,616	$9,930	$8,891	$8,007	$6,212	$5,983	$4,113	$3,462	$2,839	$2,907
All programs: [15]													
Insured unemployment [6]	2,431	2,349	2,174	2,129	2,311	2,666	3,097	3,123	2,923	2,431	2,105	1,952	2,087

[1] Includes data for Puerto Rico.

[2] Includes Guam and the Virgin Islands.

[3] Initial claims are notices filed by workers to indicate they are starting periods of unemployment. Excludes transition claims under State programs.

[4] Includes interstate claims for the Virgin Islands.

[5] Number of workers reporting the completion of at least 1 week of unemployment.

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

[7] The rate is the number of insured unemployed expressed as a percent of the average covered employment in a 12-month period.

[8] Excludes data on claims and payments made jointly with other programs.

[9] Includes the Virgin Islands.

[10] Excludes data on claims and payments made jointly with State programs.

[11] 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.

[12] Payments are for unemployment in 14-day registration periods.

[13] The average amount is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments.

[14] Adjusted for recovery of overpayments and settlement of underpayments.

[15] Represents an unduplicated count of insured unemployment under the State, Ex-servicemen, and UCFE programs and the Railroad Unemployment Insurance Act. Includes claims filed under Extended Duration (ED) provisions of regular State laws.

NOTE: Dashes indicate data not available.

SOURCE: U.S. Department of Labor, Office of Financial and Management Information Systems for all items except railroad unemployment insurance which is prepared by the U.S. Railroad Retirement Board.

r = revised.

c = corrected.

11. Employees on nonagricultural payrolls, by industry division, 1947-71 [1]

[In thousands]

Year	TOTAL	Mining	Contract construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade			Finance, insurance, and real estate	Services	Government		
						Total	Wholesale trade	Retail trade			Total	Federal	State and local
1947	43,881	955	1,982	15,545	4,166	8,955	2,361	6,595	1,754	5,050	5,474	1,892	3,582
1948	44,891	994	2,169	15,582	4,189	9,272	2,489	6,783	1,829	5,206	5,650	1,863	3,787
1949	43,778	930	2,165	14,441	4,001	9,264	2,487	6,778	1,857	5,264	5,856	1,908	3,948
1950	45,222	901	2,333	15,241	4,034	9,386	2,518	6,868	1,919	5,382	6,026	1,928	4,098
1951	47,849	929	2,603	16,393	4,226	9,742	2,606	7,136	1,991	5,576	6,389	2,302	4,087
1952	48,825	898	2,634	16,632	4,248	10,004	2,687	7,317	2,069	5,730	6,609	2,420	4,188
1953	50,232	866	2,623	17,549	4,290	10,247	2,727	7,520	2,146	5,867	6,645	2,305	4,340
1954	49,022	791	2,612	16,314	4,084	10,235	2,739	7,496	2,234	6,002	6,751	2,188	4,563
1955	50,675	792	2,802	16,882	4,141	10,535	2,796	7,740	2,335	6,274	6,914	2,187	4,727
1956	52,408	822	2,999	17,243	4,244	10,858	2,884	7,974	2,429	6,536	7,277	2,209	5,069
1957	52,894	828	2,923	17,174	4,241	10,886	2,893	7,992	2,477	6,749	7,616	2,217	5,399
1958	51,363	751	2,778	15,945	3,976	10,750	2,848	7,902	2,519	6,806	7,839	2,191	5,648
1959 [2]	53,313	732	2,960	16,675	4,011	11,127	2,946	8,182	2,594	7,130	8,083	2,233	5,850
1960	54,234	712	2,885	16,796	4,004	11,391	3,004	8,388	2,669	7,423	8,353	2,270	6,083
1961	54,042	672	2,816	16,326	3,903	11,337	2,993	8,344	2,731	7,664	8,594	2,279	6,315
1962	55,596	650	2,902	16,853	3,906	11,566	3,056	8,511	2,800	8,028	8,890	2,340	6,550
1963	56,702	635	2,963	16,995	3,903	11,778	3,104	8,675	2,877	8,325	9,225	2,358	6,868
1964	58,331	634	3,050	17,274	3,951	12,160	3,189	8,971	2,957	8,709	9,596	2,348	7,248
1965	60,815	632	3,186	18,062	4,036	12,716	3,312	9,404	3,023	9,087	10,074	2,378	7,696
1966	63,955	627	3,275	19,214	4,151	13,245	3,437	9,808	3,100	9,551	10,792	2,564	8,227
1967	65,857	613	3,208	19,447	4,261	13,606	3,525	10,081	3,225	10,099	11,398	2,719	8,679
1968	67,915	606	3,285	19,781	4,310	14,084	3,611	10,473	3,382	10,623	11,845	2,737	9,109
1969	70,284	619	3,435	20,167	4,429	14,639	3,733	10,906	3,564	11,229	12,202	2,758	9,444
1970	70,616	622	3,345	19,369	4,504	14,922	3,824	11,098	3,690	11,630	12,535	2,705	9,830
1971	70,699	601	3,259	18,610	4,481	15,174	3,855	11,319	3,800	11,917	12,858	2,664	10,194

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8). These series are based upon establishment reports which cover all full-time and part-time employees in nonagricultural establishments who worked during, or received pay for any part of, the pay period which includes the 12th of the month. Therefore, persons who worked in more than one establishment during the reporting period are counted more than once. Proprietors, self-employed persons, unpaid family workers, and domestic servants are excluded.

[2] Data include Alaska and Hawaii beginning 1959. This inclusion has resulted in an increase of 212,000 (0.4 percent) in the nonagricultural total for the March 1959 benchmark month.

12. Employees on nonagricultural payrolls, by State

[In thousands]

State	July 1971	June 1972	July 1972 [p]	State	July 1971	June 1972	July 1972 [p]
Alabama	1,023.0	1,039.4	1,036.4	Montana	207.4	213.9	215.3
Alaska	107.4	108.7	111.6	Nebraska	486.2	506.2	503.3
Arizona	566.3	623.0	623.2	Nevada	214.0	220.7	221.7
Arkansas	550.8	566.9	569.6	New Hampshire	266.9	273.3	277.7
California	6,926.5	7,137.9	7,116.2	New Jersey	2,621.2	2,658.1	2,644.1
Colorado	776.7	808.4	810.9	New Mexico	303.7	323.4	323.0
Connecticut	1,165.4	1,188.7	1,173.6	New York	7,052.3	7,027.1	6,935.9
Delaware	212.5	219.7	216.2	North Carolina	1,779.7	1,845.8	1,839.5
District of Columbia	704.4	689.2	698.2	North Dakota	167.1	171.5	171.3
Florida	2,154.1	2,282.9	2,244.6	Ohio	3,824.4	3,922.9	3,860.8
Georgia	1,568.8	1,617.7	1,612.1	Oklahoma	781.1	809.3	807.5
Hawaii	314.0	312.7	315.0	Oregon	732.8	783.3	776.9
Idaho	217.6	227.2	230.0	Pennsylvania	4,303.7	4,367.9	4,304.6
Illinois	4,309.0	4,351.1	4,328.2	Rhode Island	338.1	344.1	340.2
Indiana	1,832.4	1,886.0	1,878.3	South Carolina	862.8	903.9	907.5
Iowa	879.2	921.3	904.7	South Dakota	182.3	187.2	182.7
Kansas	667.2	690.9	686.0	Tennessee	1,360.5	1,415.2	1,416.5
Kentucky	925.2	960.3	952.1	Texas	3,674.9	3,784.9	3,785.4
Louisiana	1,052.1	1,080.2	1,078.1	Utah	364.6	389.3	387.4
Maine	335.3	344.5	340.5	Vermont	152.0	152.2	155.1
Maryland	1,327.3	1,367.6	1,359.6	Virginia	1,507.7	1,571.8	1,557.8
Massachusetts	2,241.0	2,293.2	2,256.8	Washington	1,043.1	1,099.1	1,079.4
Michigan	2,918.2	3,045.3	2,914.9	West Virginia	539.7	529.4	533.9
Minnesota	1,314.7	1,340.1	1,305.9	Wisconsin	1,534.3	1,576.1	1,570.8
Mississippi	594.0	610.5	609.5	Wyoming	117.9	124.9	125.0
Missouri	1,641.9	1,644.5	1,621.6				

NOTE: Current State employment data by major industry division are published in **Employment and Earnings**, table B–7. For historical data in available industry detail, see the annual compendium, **Employment and Earnings, States and Areas, 1939–70** (BLS Bulletin 1370–8).

SOURCE: State agencies in cooperation with U.S. Department of Labor, Bureau of Labor Statistics. More detailed industry data are available from the State agencies. For addresses see inside back cover of **Employment and Earnings.**

[p] = preliminary.

13. Employees on nonagricultural payrolls, by industry division and major manufacturing group [1]

[In thousands]

Industry division and group	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug.p
TOTAL	70,616	70,699	70,542	71,184	71,379	71,638	72,034	70,643	70,776	71,374	71,928	72,533	73,345	72,407	72,831
MINING	622	601	625	623	522	524	605	602	596	599	597	602	612	613	610
CONTRACT CONSTRUCTION	3,345	3,259	3,509	3,471	3,478	3,410	3,177	2,965	2,880	2,974	3,117	3,246	3,406	3,425	3,517
MANUFACTURING	19,369	18,610	18,651	18,840	18,709	18,693	18,595	18,440	18,537	18,653	18,713	18,824	19,142	18,749	19,174
Production workers [2]	14,033	13,487	13,524	13,738	13,616	13,605	13,514	13,373	13,465	13,572	13,626	13,723	14,006	13,616	14,024
Durable goods	11,198	10,590	10,485	10,657	10,605	10,612	10,575	10,522	10,590	10,671	10,732	10,811	10,965	10,704	10,867
Production workers [2]	8,043	7,612	7,514	7,695	7,650	7,660	7,629	7,581	7,648	7,723	7,781	7,852	7,988	7,724	7,888
Ordnance and accessories	242.1	193.0	189.9	190.2	188.3	187.3	185.5	184.2	183.0	182.9	183.9	185.5	189.5	191.1	194.5
Lumber and wood products	572.5	579.8	602.3	601.5	601.8	598.1	591.8	584.5	587.3	591.8	596.0	604.5	628.9	629.8	635.2
Furniture and fixtures	459.9	459.1	459.1	468.3	472.8	475.8	478.3	477.8	479.3	481.2	482.0	482.7	491.8	485.8	499.6
Stone, clay, and glass products	638.5	628.5	643.8	644.0	637.7	636.3	627.3	620.5	621.7	631.3	641.1	652.6	669.6	666.7	670.8
Primary metal industries	1,314.8	1,224.6	1,164.1	1,176.0	1,165.4	1,165.2	1,168.6	1,180.5	1,186.7	1,214.0	1,223.1	1,232.0	1,243.1	1,227.7	1,231.1
Fabricated metal products	1,379.9	1,331.9	1,332.4	1,354.1	1,349.2	1,350.7	1,343.4	1,333.1	1,338.7	1,349.0	1,355.5	1,365.5	1,388.0	1,359.6	1,376.5
Machinery, except electrical	1,976.9	1,791.0	1,767.6	1,788.4	1,774.4	1,778.9	1,786.2	1,782.3	1,806.6	1,808.2	1,814.2	1,827.8	1,848.2	1,829.5	1,838.7
Electrical equipment	1,922.9	1,787.8	1,777.2	1,803.2	1,800.2	1,806.7	1,805.8	1,793.6	1,800.8	1,806.9	1,811.3	1,822.1	1,849.4	1,827.0	1,844.1
Transportation equipment	1,806.8	1,751.4	1,694.6	1,768.7	1,749.4	1,750.6	1,743.3	1,730.1	1,741.5	1,754.8	1,767.6	1,774.1	1,774.5	1,622.0	1,685.1
Instruments and related products	458.6	432.0	432.4	434.8	436.2	436.7	435.3	435.1	436.8	438.1	440.6	444.9	452.9	451.1	461.4
Miscellaneous manufacturing	425.7	410.6	421.4	428.1	429.6	425.8	409.8	400.2	407.3	412.7	416.7	418.8	429.6	413.8	430.2
Nondurable goods	8,171	8,020	8,166	8,183	8,104	8,081	8,020	7,918	7,947	7,982	7,981	8,013	8,177	8,045	8,307
Production workers [2]	5,990	5,875	6,010	6,043	5,966	5,945	5,885	5,792	5,817	5,849	5,845	5,871	6,018	5,889	6,136
Food and kindred products	1,781.7	1,753.5	1,882.8	1,879.3	1,803.8	1,770.8	1,734.0	1,688.2	1,668.9	1,676.1	1,672.0	1,685.7	1,762.5	1,788.3	1,877.0
Tobacco manufactures	81.7	73.6	77.7	84.2	80.0	76.5	73.4	70.2	68.4	67.2	66.0	64.8	65.2	64.8	78.0
Textile mill products	977.6	961.7	964.7	964.5	965.5	973.7	976.3	972.3	976.6	985.0	985.6	989.8	1,007.0	980.6	1,004.6
Apparel and other textile products	1,372.2	1,361.5	1,366.1	1,374.2	1,379.0	1,380.6	1,355.6	1,335.7	1,365.9	1,371.5	1,365.1	1,361.3	1,375.3	1,295.5	1,369.3
Paper and allied products	706.5	687.5	688.1	696.7	691.9	693.5	693.5	684.3	683.9	687.1	690.7	695.7	710.0	701.4	713.4
Printing and publishing	1,106.8	1,087.7	1,080.6	1,081.4	1,087.4	1,087.9	1,091.4	1,085.5	1,087.6	1,091.5	1,091.9	1,091.3	1,096.8	1,087.7	1,092.5
Chemicals and allied products	1,051.3	1,014.8	1,015.4	1,009.4	1,004.7	1,003.6	1,001.0	995.3	996.6	999.6	1,001.2	1,003.1	1,013.7	1,008.1	1,015.6
Petroleum and coal products	190.4	189.8	193.2	191.9	190.4	189.1	188.6	183.2	186.8	186.8	187.8	189.4	192.9	192.5	192.6
Rubber and plastics products, nec	580.4	582.0	584.5	595.9	597.4	597.0	597.8	597.5	603.0	608.8	612.8	618.6	633.1	620.7	638.7
Leather and leather products	322.2	307.9	313.2	305.5	304.1	308.6	308.0	306.1	309.5	308.2	307.7	312.9	320.6	305.0	325.5
TRANSPORTATION AND PUBLIC UTILITIES	4,504	4,481	4,486	4,509	4,455	4,447	4,469	4,430	4,407	4,482	4,486	4,521	4,589	4,579	4.583
WHOLESALE AND RETAIL TRADE	14,922	15,174	15,151	15,242	15,327	15,537	16,089	15,266	15,147	15,274	15,460	15,592	15,771	15,690	15.701
Wholesale trade	3,824	3,855	3,886	3,880	3,896	3,905	3,915	3,871	3,866	3,894	3,902	3,926	3,997	4,013	4.015
Retail trade	11,098	11,319	11,265	11,362	11,431	11,632	12,174	11,395	11,281	11,380	11,558	11,666	11,774	11,677	11,686
FINANCE, INSURANCE, AND REAL ESTATE	3,690	3,800	3,865	3,829	3,826	3,836	3,841	3,833	3,844	3,867	3,885	3,913	3,969	3,993	4,003
SERVICES	11,630	11,917	11,994	11,986	12,020	12,032	12,029	11,926	12,031	12,131	12,279	12,401	12,540	12,528	12,492
Hotels and other lodging places	761.9	774.2	882.9	812.1	759.0	736.0	746.8	750.3	760.6	771.4	784.5	809.4	872.6	936.9	-------
Personal services	992.3	946.1	932.2	933.3	939.9	946.4	935.3	922.1	919.6	921.4	925.9	930.6	936.9	922.2	-------
Medical and other health services	3,052.4	3,239.6	3,273.3	3,279.8	3,294.2	3,305.7	3,312.8	3,326.3	3,345.2	3,361.9	3,374.9	3,396.9	3,433.6	3,451.1	-------
Educational services	1,136.2	1,158.6	973.5	1,109.3	1,210.3	1,230.2	1,220.5	1,193.5	1,230.9	1,245.4	1,238.9	1,230.1	1,131.8	1,024.9	-------
GOVERNMENT	12,535	12,858	12,261	12,684	13,042	13,159	13,229	13,181	13,334	13,394	13,391	13,434	13,316	12,930	12,751
Federal	2,705	2,664	2,690	2,666	2,659	2,655	2,684	2,654	2,656	2,656	2,664	2,662	2,659	2,650	2,645
State and local	9,830	10,194	9,571	10,018	10,383	10,504	10,545	10,527	10,678	10,738	10,727	10,772	10,657	10,180	10,106

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

[2] Production workers include working foremen and all nonsupervisory workers (including leadmen and trainees) engaged in fabricating, processing, assemblying, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, and watchman services, product development, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations.

NOTE: For additional detail, see **Employment and Earnings,** table B–2.

p=preliminary.

14. Employees on nonagricultural payrolls, by industry division and major manufacturing group, seasonally adjusted [1]

[In thousands]

Industry division and group	1971					1972							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug.p
TOTAL	70,529	70,853	70,848	71,042	71,185	71,584	71,729	72,030	72,263	72,558	72,630	72,592	72,871
MINING	609	616	521	525	607	616	612	613	603	602	598	597	595
CONTRACT CONSTRUCTION	3,219	3,250	3,290	3,320	3,245	3,320	3,236	3,272	3,233	3,256	3,247	3,177	3,227
MANUFACTURING	18,457	18,616	18,560	18,603	18,566	18,609	18,690	18,777	18,870	18,973	18,999	18,915	18,999
Production workers [2]	13,371	13,515	13,462	13,505	13,474	13,527	13,597	13,677	13,770	13,852	13,886	13,818	13,892
Durable goods	10,485	10,597	10,561	10,572	10,548	10,574	10,637	10,696	10,770	10,857	10,866	10,849	10,887
Production workers [2]	7,534	7,630	7,600	7,614	7,594	7,629	7,685	7,741	7,815	7,886	7,899	7,886	7,929
Ordnance and accessories	191	190	189	186	184	183	182	183	185	187	190	192	195
Lumber and wood products	583	591	597	601	600	604	603	604	608	608	608	612	615
Furniture and fixtures	456	465	467	470	474	478	481	484	486	489	491	495	496
Stone, clay, and glass products	627	633	631	634	632	640	641	645	646	655	656	652	653
Primary metal industries	1,156	1,182	1,187	1,178	1,176	1,186	1,187	1,213	1,219	1,226	1,220	1,214	1,223
Fabricated metal products	1,331	1,346	1,341	1,339	1,331	1,336	1,345	1,356	1,365	1,377	1,377	1,376	1,375
Machinery, except electrical	1,775	1,794	1,791	1,797	1,793	1,784	1,798	1,792	1,802	1,826	1,832	1,828	1,846
Electrical equipment	1,772	1,791	1,793	1,791	1,793	1,792	1,803	1,812	1,828	1,841	1,851	1,842	1,839
Transportation equipment	1,754	1,758	1,720	1,732	1,719	1,716	1,736	1,743	1,764	1,778	1,762	1,764	1,768
Instruments and related products	430	435	437	436	434	436	438	439	441	447	452	452	459
Miscellaneous manufacturing	410	412	408	408	412	419	423	425	426	423	427	422	418
Nondurable goods	7,972	8,019	7,999	8,031	8,018	8,035	8,053	8,081	8,100	8,116	8,133	8,066	8,112
Production workers [2]	5,837	5,885	5,862	5,891	5,880	5,880	5,912	5,936	5,955	5,966	5,987	5,932	5,963
Food and kindred products	1,748	1,755	1,728	1,750	1,748	1,757	1,749	1,757	1,751	1,750	1,764	1,753	1,743
Tobacco manufactures	70	72	69	71	69	71	71	73	75	74	74	73	70
Textile mill products	959	960	963	970	974	979	981	988	989	995	994	991	999
Apparel and other textile products	1,351	1,361	1,365	1,370	1,357	1,353	1,365	1,365	1,376	1,364	1,360	1,340	1,354
Paper and allied products	681	694	693	691	690	688	689	692	697	702	702	699	706
Printing and publishing	1,080	1,082	1,085	1,084	1,084	1,090	1,090	1,092	1,093	1,097	1,096	1,089	1,091
Chemicals and allied products	1,004	1,008	1,008	1,008	1,005	1,003	1,003	1,002	1,000	1,006	1,007	998	1,005
Petroleum and coal products	188	190	189	189	191	188	192	191	190	190	189	187	187
Rubber and plastics products, nec	582	591	594	592	594	600	604	612	617	623	631	628	636
Leather and leather products	309	306	305	306	306	306	309	309	312	315	316	308	321
TRANSPORTATION AND PUBLIC UTILITIES	4,428	4,460	4,442	4,434	4,465	4,502	4,479	4,536	4,522	4,539	4,539	4,520	5,424
WHOLESALE AND RETAIL TRADE	15,223	15,273	15,270	15,278	15,315	15,447	15,495	15,518	15,647	15,671	15,712	15,716	15,775
Wholesale trade	3,844	3,865	3,873	3,874	3,884	3,902	3,913	3,941	3,949	3,970	3,973	3,969	3,971
Retail trade	11,379	11,408	11,397	11,404	11,431	11,545	11,582	11,577	11,698	11,701	11,739	11,747	11,804
FINANCE, INSURANCE, AND REAL ESTATE	3,804	3,821	3,834	3,851	3,860	3,872	3,879	3,890	3,897	3,921	3,938	3,930	3,904
SERVICES	11,946	11,962	11,996	12,044	12,089	12,120	12,177	12,217	12,254	12,303	12,379	12,404	12,442
Hotels and other lodging places	760	796	784	785	801	813	813	814	806	813	834	806	--------
Personal services	935	938	937	941	932	293	933	929	927	926	922	916	--------
Medical and other health services	3,260	3,283	3,297	3,306	3,323	3,336	3,252	3,369	3,385	3,414	3,410	3,420	--------
Educational services	1,139	1,160	1,165	1,168	1,165	1,160	1,171	1,185	1,187	1,183	1,179	1,173	--------
GOVERNMENT	12,843	12,855	12,935	12,987	13,038	13,098	13,161	13,207	13,237	13,293	13,218	13,333	13,369
Federal	2,650	2,674	2,675	2,669	2,669	2,675	2,672	2,669	2,669	2,670	2,625	2,606	2,606
State and local	10,193	10,181	10,260	10,318	10,369	10,423	10,489	10,538	10,568	10,623	10,593	10,727	10,763

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

[2] Production workers include working foremen and all nonsupervisory workers (including leadmen and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, and watchman services, product development, auxiliary production for plant's own use (e.g., powerplant), and recordkeeping and other services closely associated with the above production operations.

NOTE: These data have been seasonally adjusted to reflect experience through May 1971. For additional detail, see September 1971 issue of **Employment and Earnings.**

p=preliminary.

15. Labor turnover rates in manufacturing, 1962 to date [1]

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total accessions													
1962	4.1	4.1	3.6	3.8	4.0	4.3	5.0	4.6	5.1	4.9	3.9	3.0	2.4
1963	3.9	3.6	3.3	3.5	3.9	3.9	4.8	4.3	4.8	4.8	3.9	2.9	2.5
1964	4.0	3.6	3.4	3.7	3.8	3.9	5.1	4.4	5.1	4.8	4.0	3.2	2.6
1965	4.3	3.8	3.5	4.0	3.8	4.1	5.6	4.5	5.4	5.5	4.5	3.9	3.1
1966	5.0	4.6	4.2	4.9	4.6	5.1	6.7	5.1	6.4	6.1	5.1	3.9	2.9
1967	4.4	4.3	3.6	3.9	3.9	4.6	5.9	4.7	5.5	5.3	4.7	3.7	2.8
1968	4.6	4.2	3.8	4.0	4.3	4.7	5.9	5.0	5.8	5.7	5.1	3.9	3.1
1969	4.7	4.6	3.9	4.4	4.5	4.8	6.6	5.1	5.6	5.9	4.9	3.6	2.9
1970	4.0	4.0	3.6	3.7	3.7	4.2	5.4	4.4	5.1	4.7	3.8	3.0	2.4
1971	3.9	3.5	3.1	3.5	3.7	3.9	4.9	4.0	5.3	4.8	3.8	3.3	2.5
1972		**4.1**	**3.7**	**4.0**	**4.0**	**4.8**	**5.2**	**p4.6**					
New hires													
1962	2.5	2.2	2.1	2.2	2.4	2.8	3.5	2.9	3.2	3.1	2.5	1.8	1.2
1963	2.4	1.9	1.8	2.0	2.3	2.5	3.3	2.7	3.2	3.2	2.6	1.8	1.4
1964	2.6	2.0	2.0	2.2	2.4	2.5	3.6	2.9	3.4	3.5	2.8	2.2	1.6
1965	3.1	2.4	2.4	2.8	2.6	3.0	4.3	3.2	3.9	4.0	3.5	2.9	2.2
1966	3.8	3.2	3.1	3.7	3.6	4.1	5.6	3.9	4.8	4.7	4.2	3.1	2.1
1967	3.3	3.0	2.7	2.8	2.8	3.3	4.6	3.3	4.0	4.1	3.7	2.8	2.0
1968	3.5	3.0	2.7	2.9	3.2	3.6	4.7	3.7	4.3	4.6	4.0	2.9	2.2
1969	3.7	3.3	3.0	3.4	3.5	3.8	5.4	3.9	4.3	4.8	4.0	2.8	2.1
1970	2.8	2.9	2.5	2.6	2.6	2.8	3.9	3.0	3.5	3.4	2.7	1.9	1.4
1971	2.5	2.0	1.9	2.2	2.3	2.6	3.5	2.7	3.4	3.3	2.7	2.2	1.6
1972		**2.5**	**2.4**	**2.7**	**2.8**	**3.6**	**4.1**	**p3.3**					
Total separations													
1962	4.1	3.9	3.4	3.6	3.6	3.8	3.8	4.4	5.1	5.0	4.4	4.0	3.8
1963	3.9	4.0	3.2	3.5	3.6	3.6	3.4	4.1	4.8	4.9	4.1	3.9	3.7
1964	3.9	4.0	3.3	3.5	3.5	3.6	3.5	4.4	4.3	5.1	4.2	3.6	3.7
1965	4.1	3.7	3.1	3.4	3.7	3.6	3.6	4.3	5.1	5.6	4.5	3.9	4.1
1966	4.6	4.0	3.6	4.1	4.3	4.3	4.4	5.3	5.8	6.6	4.8	4.3	4.2
1967	4.6	4.5	4.0	4.6	4.3	4.2	4.3	4.8	5.3	6.2	4.7	4.0	3.9
1968	4.6	4.4	3.9	4.1	4.1	4.3	4.1	5.0	6.0	6.3	5.0	4.1	3.8
1969	4.9	4.5	4.0	4.4	4.5	4.6	4.6	5.3	6.2	6.6	5.4	4.3	4.2
1970	4.8	4.8	4.3	4.4	4.8	4.6	4.4	5.3	5.6	6.0	5.3	4.3	4.1
1971	4.2	4.2	3.5	3.7	4.0	3.7	3.8	4.8	5.5	5.3	4.3	3.7	3.8
1972		**4.0**	**3.5**	**3.8**	**3.7**	**3.8**	**4.2**	**p5.0**					
Quits													
1962	1.4	1.1	1.1	1.2	1.3	1.5	1.5	1.4	2.1	2.4	1.5	1.1	0.8
1963	1.4	1.1	1.0	1.2	1.3	1.4	1.4	1.4	2.1	2.4	1.5	1.1	.8
1964	1.5	1.2	1.1	1.2	1.3	1.5	1.4	1.5	2.1	2.7	1.7	1.2	1.0
1965	1.9	1.4	1.3	1.5	1.7	1.7	1.7	1.8	2.6	3.5	2.2	1.7	1.4
1966	2.6	1.9	1.8	2.3	2.5	2.5	2.5	2.5	3.6	4.5	2.8	2.1	1.7
1967	2.3	2.1	1.9	2.1	2.2	2.2	2.3	2.1	3.2	4.0	2.5	1.9	1.5
1968	2.5	2.0	1.9	2.1	2.2	2.4	2.3	2.4	3.8	4.2	2.8	2.1	1.6
1969	2.7	2.3	2.1	2.4	2.6	2.7	2.6	2.7	4.0	4.4	3.0	2.1	1.6
1970	2.1	2.1	1.9	2.0	2.1	2.1	2.1	2.1	3.0	3.3	2.1	1.4	1.2
1971	1.8	1.5	1.3	1.5	1.6	1.7	1.8	1.8	2.8	2.9	1.9	1.5	1.2
1972		**1.7**	**1.6**	**1.9**	**2.0**	**2.2**	**2.2**	**p2.2**					
Layoffs													
1962	2.0	2.1	1.7	1.6	1.6	1.6	1.6	2.2	2.2	1.9	2.2	2.3	2.5
1963	1.8	2.2	1.6	1.7	1.6	1.5	1.4	2.0	1.9	1.8	1.9	2.1	2.3
1964	1.7	2.0	1.6	1.6	1.4	1.4	1.3	2.1	1.4	1.5	1.8	1.7	2.1
1965	1.4	1.6	1.2	1.2	1.3	1.1	1.1	1.8	1.6	1.3	1.4	1.5	1.9
1966	1.2	1.3	1.0	1.0	1.0	.9	1.0	2.0	1.1	1.0	1.1	1.3	1.7
1967	1.4	1.5	1.3	1.5	1.3	1.1	1.1	1.9	1.2	1.2	1.3	1.3	1.6
1968	1.2	1.5	1.2	1.1	1.0	1.0	.9	1.8	1.3	1.1	1.2	1.2	1.4
1969	1.2	1.2	1.0	1.0	.9	.9	.9	1.6	1.1	1.1	1.3	1.3	1.8
1970	1.8	1.7	1.5	1.6	1.7	1.5	1.5	2.3	1.7	1.7	2.2	2.1	2.2
1971	1.6	1.9	1.4	1.4	1.4	1.2	1.2	2.1	1.8	1.5	1.5	1.5	1.8
1972		**1.4**	**1.1**	**1.1**	**1.0**	**.8**	**1.1**	**p2.0**					

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Month-to-month changes in total employment in manufacturing and nonmanufacturing industries as indicated by labor turnover rates are not comparable with the changes shown by the Bureau's employment series because (1) the labor turnover series measures changes during the calendar month, while the employment series measures changes from midmonth to midmonth, and (2) the turnover series excludes personnel changes caused by strikes, but the employment series reflects the influence of such stoppages.

p=preliminary.

16. Labor turnover rates in manufacturing, by major industry group [1]

[Per 100 employees]

Major industry group	Accession rates						Separation rates								
	Total			New hires			Total			Quits			Layoffs		
	July 1971	June 1972	July 1972 p	July 1971	June 1972	July 1972 p	July 1971	June 1972	July 1972 p	July 1971	June 1972	July 1972 p	July 1971	June 1972	July 1972 p
MANUFACTURING	4.0	5.2	4.6	2.7	4.1	3.3	4.8	4.2	5.0	1.8	2.2	2.2	2.1	1.1	2.0
Seasonally adjusted [2]	3.7	3.9	4.3	2.5	2.9	3.1	4.4	4.6	4.6	1.8	2.3	2.2	1.5	1.4	1.4
Durable goods	3.4	4.7	4.1	2.2	3.7	2.9	4.7	3.8	5.0	1.5	1.8	1.8	2.4	1.0	2.2
Ordnance and accessories	1.8	2.9	------	.9	2.0	------	2.1	2.0	------	.7	.9	------	1.0	.5	------
Lumber and wood products	5.8	8.4	6.0	4.9	7.3	5.3	5.1	5.3	5.6	3.2	3.9	4.0	1.0	.5	.6
Furniture and fixtures	5.6	6.4	6.7	4.6	5.8	6.0	5.4	5.3	6.2	3.1	3.5	4.1	1.4	.6	1.1
Stone, clay, and glass products	4.1	6.1	4.5	3.1	4.9	3.6	4.1	4.0	4.2	1.9	2.3	2.2	1.3	.7	.9
Primry metal industries	2.1	3.7	2.7	1.1	2.6	1.6	5.2	2.8	2.9	1.2	1.1	1.1	2.9	.7	1.0
Fabricated metal products	4.3	5.3	------	2.9	4.2	------	4.4	4.3	------	1.6	2.1	------	1.8	1.3	------
Machinery, except electrical	2.3	3.7	2.9	1.4	2.9	2.3	2.8	2.9	2.7	.9	1.4	1.3	1.1	.7	.6
Electrical equipment	2.8	4.2	------	1.6	3.2	------	3.3	3.2	------	1.2	1.6	------	1.3	.6	------
Transportation equipment	3.5	4.1	------	1.8	2.7	------	8.7	4.9	------	1.2	1.4	------	6.7	2.4	------
Instruments and related products	2.3	4.2	3.1	1.7	3.5	2.5	2.6	2.8	2.9	1.2	1.6	1.4	.7	.4	.6
Miscellaneous manufacturing	5.7	7.0	6.8	4.0	5.9	5.0	5.7	5.4	6.2	2.3	3.1	2.7	2.4	1.1	2.3
Nondurable goods	4.8	5.9	5.3	3.4	4.6	3.8	4.9	4.6	5.1	2.3	2.6	2.6	1.8	1.1	1.7
Food and kindred products	7.6	8.6	8.1	5.3	6.1	5.5	5.9	5.4	6.3	2.6	2.8	3.1	2.6	1.8	2.5
Tobacco manufactures	4.5	3.7	5.7	2.0	2.3	2.4	3.9	2.6	3.0	1.1	1.4	1.2	2.1	.6	1.1
Textile mill products	5.0	6.5	5.5	3.8	5.5	4.4	5.4	5.7	5.8	3.4	4.1	3.9	1.0	.5	.8
Apparel and other textile products	6.3	6.4	6.7	3.8	4.6	4.5	7.8	6.1	8.2	3.1	3.3	3.8	3.7	1.9	3.3
Paper and allied products	2.9	4.6	3.1	2.3	3.8	2.5	3.1	2.9	3.0	1.5	1.6	1.6	.9	.5	.8
Printing and publishing	2.8	3.9	3.2	2.2	3.2	2.6	3.0	3.4	2.9	1.6	1.9	1.8	.8	.9	.7
Chemicals and allied products	1.9	3.1	2.0	1.4	2.5	1.6	2.1	2.4	2.1	.9	1.0	.9	.6	.8	.6
Petroleum and coal products	1.7	3.3	1.6	1.5	2.8	1.4	1.8	2.0	2.0	.7	.7	.7	.6	.7	.7
Rubber and plastics products, nec	4.2	6.1	5.1	3.0	5.1	4.0	4.4	4.6	4.9	2.0	2.8	2.8	1.4	.6	1.0
Leather and leather products	6.6	7.4	8.2	4.4	6.0	5.5	7.3	6.6	8.7	3.5	4.2	4.4	2.6	1.4	3.1

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data, are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Month-to-month changes in total employment in manufacturing and nonmanufacturing industries as indicated by labor turnover rates are not comparable with the changes shown by the Bureau's employment series because (1) the labor turnover series measures changes during the calendar month, while the employment series measures changes from midmonth to midmonth, and (2) the turnover series excludes personnel changes caused by strikes, but the employment series reflects the influence of such stoppages.

[2] These data have been seasonally adjusted to reflect experience through May 1971. For additional detail, see September 1971 issue of **Employment and Earnings.**

NOTE: For additional detail, see **Employment and Earnings,** table D–2.
p = preliminary.

17. Job vacancies in manufacturing [1]

Industry	Annual average		1971						1972						
	1970	1971	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June p	July p
Job vacancies in manufacturing (number in thousands)	132	88	90	106	98	90	79	78	90	97	111	124	127	125	134
Seasonally adjusted [2]	------	------	88	87	86	91	90	92	97	106	112	118	118	131	130
JOB VACANCY RATES [2]															
Manufacturing	0.7	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.6	0.7
Seasonally adjusted [2]	------	------	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.7	.7
Durable goods industries	.6	.4	.4	.5	.5	.4	.4	.4	.5	.5	.5	.6	.6	.6	.7
Nondurable goods industries	.7	.6	.6	.6	.6	.5	.5	.5	.5	.6	.6	.7	.7	17	.8
Selected durable goods industries:															
Primary metal industries	.5	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2	.3	.3	.3	.3
Machinery, except electrical	.7	.4	.4	.4	.5	.4	.4	.4	.5	.5	.6	.7	.7	.7	.8
Electrical equipment and supplies	.7	.5	.5	.6	.5	.6	.5	.5	.6	.7	.7	.8	.8	.8	.8
Transportation equipment	.5	.4	.5	.6	.5	.4	.4	.3	.4	.5	.5	.7	.6	.6	.6
Instruments and related products	1.0	.7	.8	.8	.8	.7	.6	.6	.7	.7	.9	1.1	1.1	1.3	1.3
Selected nondurable goods industries:															
Textile mill products	.9	.8	.8	1.0	.9	.9	.8	.8	.8	.9	1.1	1.2	1.2	1.1	1.3
Apparel and other textile products	1.4	1.2	1.3	1.4	1.2	1.2	1.0	1.1	1.2	1.2	1.4	1.3	1.4	1.4	1.5
Printing and publishing	.6	.4	.3	.4	.3	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4
Chemicals and allied products	.7	.4	.4	.4	.4	.4	.3	.3	.4	.4	.5	.6	.5	.5	.5

[1] Data have been adjusted to March 1970 benchmarks (comprehensive counts of employment). For months prior to July 1971, data are not comparable to those published in the February 1972 and earlier issues of the **Monthly Labor Review.**

[2] These data have been seasonally adjusted to reflect experience through April 1972. For additional detail, see September 1972 issue of **Employment and Earnings.**

[3] Computed by dividing the total number of job vacancies by the sum of employment plus the total number of job vacancies and multiplying the quotient of 100.

NOTE: For additional detail on this series, see **Employment and Earnings,** tables E–1, E–2, and E–3.
p = preliminary.

18. Gross average hours and earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division, 1947-71

Year	Average weekly earnings	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	Average weekly hours	Average hourly earnings
	Total private			Mining			Contract construction			Manufacturing		
1947	$45.58	40.3	$1.131	$59.94	40.8	$1.469	$58.87	38.2	$1.541	$49.17	40.4	$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
1949	50.24	39.4	1.275	62.33	36.3	1.717	67.56	37.7	1.792	53.88	39.1	1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	67.16	40.7	1.65
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.70	40.7	1.86
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.65	40.1	2.46	100.27	37.0	2.71	81.59	39.8	2.05
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.71	39.2	2.11
1959 [2]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.44	40.4	2.61	113.04	36.7	3.08	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.43	40.9	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.63	40.5	2.46
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.06	38.8	2.45	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.34	41.3	2.72
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.90	40.6	2.83
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.93	37.4	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	155.23	43.0	3.61	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.46	37.1	3.22	163.97	42.7	3.84	196.35	37.4	5.25	133.73	39.8	3.36
1971	126.91	37.0	3.43	171.72	42.4	4.05	213.36	37.3	5.72	142.44	39.9	3.57
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1947				$38.07	40.5	$0.940	$43.21	37.9	$1.140			
1948				40.80	40.4	1.010	45.48	37.9	1.200			
1949				42.93	40.5	1.060	47.63	37.8	1.260			
1950				44.55	40.5	1.100	50.52	37.7	1.340			
1951				47.79	40.5	1.18	54.67	37.7	1.45			
1952				49.20	40.0	1.23	57.08	37.8	1.51			
1953				51.35	39.5	1.30	59.57	37.7	1.58			
1954				53.33	39.5	1.35	62.04	37.6	1.65			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1956				57.48	39.1	1.47	65.68	36.9	1.78			
1957				59.60	38.7	1.54	67.53	36.7	1.84			
1958				61.76	38.6	1.60	70.12	37.1	1.89			
1959 [2]				64.41	38.8	1.66	72.74	37.3	1.95			
1960				66.01	38.6	1.71	75.14	37.2	2.02			
1961				67.41	38.3	1.76	77.12	36.9	2.09			
1962				69.91	38.2	1.83	80.94	37.3	2.17			
1963				72.01	38.1	1.89	84.38	37.5	2.25			
1964	$118.37	41.1	$2.88	74.28	37.9	1.96	85.79	37.3	2.30	$69.84	36.0	$1.94
1965	125.14	41.3	3.03	76.53	37.7	2.03	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.02	37.1	2.13	92.13	37.3	2.47	77.04	35.5	2.17
1967	131.22	40.5	3.24	81.76	36.5	2.24	95.46	37.0	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	86.40	36.0	2.40	101.75	37.0	2.75	84.32	34.7	2.43
1969	148.15	40.7	3.64	91.14	35.6	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	95.66	35.3	2.71	113.34	36.8	3.08	96.66	34.4	2.81
1971	169.24	40.2	4.21	100.74	35.1	2.87	121.36	37.0	3.28	102.26	34.2	2.99

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

[2] Data include Alaska and Hawaii beginning 1959.

NOTE: For additional detail, see **Employment and Earnings**, table C–1.

19. Gross average weekly hours of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug.p
TOTAL PRIVATE	37.1	37.0	37.4	37.0	37.0	37.0	37.3	36.7	36.8	36.9	37.0	36.9	37.4	37.6	37.7
MINING	42.7	42.4	42.3	42.1	42.8	42.3	42.8	42.5	42.0	42.2	42.4	42.4	43.1	42.6	42.7
CONTRACT CONSTRUCTION	37.4	37.3	38.3	36.9	38.2	37.9	36.5	35.8	36.0	36.8	36.6	36.8	37.6	38.0	38.3
MANUFACTURING	39.8	39.9	39.8	39.8	40.0	40.2	40.7	39.8	40.1	40.3	40.5	40.5	40.8	40.4	40.7
Overtime hours	3.0	2.9	3.0	3.1	3.1	3.1	3.2	2.8	3.0	3.1	3.3	3.3	3.5	3.3	3.5
Durable goods	40.3	40.4	40.0	40.0	40.5	40.7	41.4	40.4	40.7	41.0	41.2	41.2	41.6	40.9	41.2
Overtime hours	2.9	2.9	2.8	3.0	3.0	3.0	3.2	2.8	3.0	3.2	3.4	3.4	3.6	3.4	3.6
Ordnance and accessories	40.6	41.7	41.7	41.9	41.8	42.0	42.4	41.7	42.2	42.2	42.2	42.0	42.2	41.9	42.7
Lumber and wood products	39.7	40.3	40.5	40.4	41.0	40.6	40.8	40.0	40.4	40.9	41.1	41.3	41.8	41.0	41.8
Furniture and fixtures	39.2	39.8	40.4	40.0	40.4	40.4	40.9	39.7	39.8	40.2	40.2	40.2	41.1	40.0	41.0
Stone, clay, and glass products	41.2	41.6	42.3	41.9	42.1	41.9	41.6	40.9	41.2	41.8	41.9	42.0	42.3	42.1	42.6
Primary metal industries	40.5	40.4	38.8	39.5	39.7	39.9	41.0	40.7	41.0	41.3	41.5	41.5	41.8	41.3	41.9
Fabricated metal products	40.7	40.3	40.3	39.9	40.3	40.6	41.3	40.1	40.4	40.6	40.9	41.1	41.5	40.8	41.3
Machinery, except electrical	41.1	40.6	40.3	40.6	40.8	41.1	41.9	41.0	41.4	41.7	41.8	41.7	42.1	41.5	41.8
Electrical equipment	39.9	39.9	40.0	40.0	40.1	40.4	40.9	40.0	40.2	40.3	40.4	40.3	40.7	39.8	40.6
Transportation equipment	40.3	40.7	39.3	39.1	41.0	41.1	42.5	40.6	41.2	41.7	42.0	42.1	42.1	41.4	40.6
Instruments and related products	40.1	39.8	39.6	40.0	40.1	40.5	40.8	40.1	40.4	40.3	40.5	40.5	40.7	40.2	40.7
Miscellaneous manufacturing	38.7	38.9	39.2	38.9	39.3	39.5	39.5	38.7	39.2	39.3	39.5	39.2	39.6	38.6	39.0
Nondurable goods	39.1	39.3	39.5	39.5	39.4	39.6	39.8	39.1	39.2	39.4	39.5	39.5	39.9	39.8	39.9
Overtime hours	3.0	3.0	3.2	3.4	3.2	3.1	3.1	2.9	3.0	3.1	3.1	3.1	3.4	3.3	3.3
Food and kindred products	40.5	40.3	40.7	40.9	40.1	40.1	40.6	39.8	39.6	40.0	40.0	40.2	40.7	40.9	40.7
Tobacco manufactures	37.8	37.0	37.4	37.8	36.0	35.7	36.0	34.1	33.1	33.3	33.1	33.5	34.8	34.3	35.8
Textile mill products	39.9	40.6	40.8	40.6	41.0	41.4	41.5	40.8	41.0	41.3	41.3	41.1	41.7	40.9	41.3
Apparel and other textile products	35.3	35.5	36.0	35.5	35.9	36.3	35.9	35.3	35.9	36.0	35.9	35.6	36.0	35.9	36.2
Paper and allied products	41.9	42.1	42.5	42.2	42.3	42.4	42.8	41.9	42.2	42.4	42.6	42.5	43.0	42.9	43.1
Printing and publishing	37.7	37.6	37.7	37.7	37.6	37.6	38.0	37.1	37.2	37.6	37.8	37.6	37.9	38.0	38.3
Chemicals and allied products	41.6	41.6	41.3	42.1	41.5	41.6	41.9	41.6	41.6	41.8	41.9	41.6	42.0	41.8	41.6
Petroleum and coal products	42.7	42.4	42.6	42.8	42.6	42.1	42.3	41.7	41.4	41.6	42.5	42.3	42.4	42.2	41.7
Rubber and plastics products, nec	40.3	40.3	40.3	40.5	40.6	40.8	41.2	40.6	40.7	40.8	41.1	41.1	41.5	40.8	41.4
Leather and leather products	37.2	37.7	37.6	36.9	37.7	38.4	38.7	38.2	38.5	37.9	38.0	38.7	39.2	38.9	39.2
TRANSPORTATION AND PUBLIC UTILITIES	40.5	40.2	40.7	40.8	40.5	40.6	40.6	39.8	40.2	40.2	39.9	40.3	40.8	40.9	41.0
WHOLESALE AND RETAIL TRADE	35.3	35.1	36.0	35.2	35.0	34.9	35.5	34.7	34.6	34.8	34.8	34.8	35.5	36.0	36.1
Wholesale trade	40.0	39.8	39.9	39.7	39.8	39.8	40.3	39.6	39.7	39.8	39.8	39.8	40.0	40.0	39.9
Retail trade	33.8	33.7	34.7	33.7	33.5	33.4	34.1	33.2	33.0	33.2	33.3	33.3	34.1	34.8	34.8
FINANCE, INSURANCE, AND REAL ESTATE	36.8	37.0	37.3	36.9	37.0	37.0	37.0	37.3	37.1	37.1	37.3	37.0	37.2	37.4	37.2
SERVICES	34.4	34.2	34.7	34.1	34.1	34.0	34.2	33.9	34.0	34.0	34.0	33.8	34.2	34.8	34.7

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

NOTE: For additional detail, see **Employment and Earnings,** table C–2.

p=preliminary.

20. Gross average weekly hours of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group, seasonally adjusted

Industry division and group	1971					1972							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug.p
TOTAL PRIVATE	36.9	36.7	37.0	37.1	37.2	37.0	37.2	37.1	37.3	37.0	37.2	37.2	37.2
MINING	42.0	41.9	42.5	42.3	42.6	43.0	42.5	42.9	42.3	42.4	42.8	42.2	42.4
CONTRACT CONSTRUCTION	37.1	35.7	37.6	39.0	36.8	37.4	37.3	37.5	36.7	36.6	36.8	37.0	37.1
MANUFACTURING	39.8	39.5	39.8	40.1	40.3	40.0	40.5	40.4	40.8	40.5	40.6	40.6	40.7
Overtime hours	2.9	2.8	3.0	3.0	3.1	2.9	3.2	3.3	3.6	3.4	3.4	3.4	3.4
Durable goods	40.0	39.7	40.3	40.6	40.9	40.6	41.1	41.0	41.5	41.2	41.4	41.2	41.2
Overtime hours	2.8	2.7	2.8	2.9	3.0	2.9	3.2	3.3	3.7	3.5	3.5	3.5	3.6
Ordnance and accessories	41.9	41.7	41.8	41.9	42.0	41.2	42.4	42.3	42.4	42.0	42.0	42.5	42.9
Lumber and wood products	40.2	40.1	40.7	40.8	40.8	40.9	40.9	40.9	41.1	40.9	41.3	41.1	41.5
Furniture and fixtures	39.9	39.4	39.7	40.0	39.9	40.3	40.7	40.5	40.8	40.6	40.9	40.4	40.5
Stone, clay, and glass products	41.8	41.4	41.8	41.9	41.6	41.8	42.0	42.2	41.9	41.8	42.0	41.9	42.1
Primary metal industries	38.8	39.5	40.1	40.1	41.0	40.6	41.1	41.3	41.4	41.4	41.5	41.2	41.9
Fabricated metal products	40.2	39.3	40.1	40.4	40.9	40.4	41.0	40.8	41.2	41.1	41.2	41.2	41.2
Machinery, except electrical	40.8	40.5	40.8	41.1	41.3	41.0	41.4	41.4	41.8	41.7	42.1	42.0	42.3
Electrical equipment	40.0	39.6	39.9	40.1	40.3	40.1	40.7	40.3	40.8	40.4	40.5	40.3	40.6
Transportation equipment	39.9	38.5	40.5	40.5	41.7	40.7	41.9	42.1	42.9	42.0	42.0	41.5	41.2
Instruments and related products	39.8	39.7	39.9	40.2	40.4	40.3	40.8	40.3	40.7	40.7	40.6	40.5	40.9
Miscellaneous manufacturing	39.2	38.7	38.9	39.1	39.2	39.0	39.6	39.3	39.6	39.3	39.5	39.2	39.0
Nondurable goods	39.3	39.1	39.3	39.5	39.5	39.4	39.6	39.6	39.8	39.7	39.8	39.7	39.7
Overtime hours	3.1	3.1	3.0	3.0	3.0	3.1	3.2	3.3	3.3	3.2	3.4	3.3	3.2
Food and kindred products	40.1	40.1	40.0	39.9	40.4	40.1	40.2	40.6	40.7	40.4	40.6	40.5	40.1
Tobacco manufactures	37.1	36.6	34.7	35.6	35.6	34.8	33.6	34.4	33.8	33.9	34.3	34.6	35.6
Textile mill products	40.7	40.4	40.8	41.1	41.0	41.3	41.2	41.4	41.7	41.3	41.5	41.1	41.2
Apparel and other textile products	35.7	35.4	36.0	36.2	35.9	35.7	36.2	35.8	36.0	35.6	35.9	35.9	35.9
Paper and allied products	42.4	41.9	42.0	42.3	42.3	42.1	42.6	42.7	43.0	42.6	43.0	42.9	43.0
Printing and publishing	37.5	37.4	37.5	37.6	37.5	37.5	37.5	37.6	38.0	37.7	37.9	38.0	38.1
Chemicals and allied products	41.5	42.1	41.5	41.4	41.7	41.8	41.8	41.8	41.7	41.6	42.0	41.9	41.8
Petroleum and coal products	43.4	42.9	42.4	41.8	42.7	42.2	42.0	41.7	41.9	41.6	42.1	41.8	42.5
Rubber and plastics products, nec	40.1	40.0	40.3	40.6	40.9	40.8	41.0	41.2	41.5	41.2	41.5	41.0	41.2
Leather and leather products	37.6	37.3	37.9	38.3	37.9	38.0	38.5	38.2	39.1	38.7	38.6	38.4	39.2
TRANSPORTATION AND PUBLIC UTILITIES	40.5	40.6	40.3	40.4	40.5	40.0	40.4	40.6	40.3	40.5	40.7	40.5	40.8
WHOLESALE AND RETAIL TRADE	35.1	35.1	35.2	35.2	35.3	35.1	35.1	35.1	35.2	35.1	35.3	35.2	35.2
Wholesale trade	39.7	39.7	39.8	39.9	40.0	39.7	40.0	39.9	40.0	40.0	39.9	39.7	39.7
Retail trade	33.6	33.6	33.8	33.7	33.9	33.7	33.5	33.6	33.7	33.7	33.8	33.8	33.7
FINANCE, INSURANCE, AND REAL ESTATE	37.3	37.0	36.9	36.9	37.0	37.3	37.1	37.1	37.3	37.1	37.2	37.4	37.2
SERVICES	34.3	34.2	34.2	34.1	34.2	34.1	34.2	34.0	34.1	34.0	34.1	34.4	34.3

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312-8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

NOTE: These data have been seasonally adjusted to reflect experience through May 1971. For additional detail, see September 1971 issue of **Employment and Earnings.**

p=preliminary.

21. Gross average hourly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July p	Aug.p
TOTAL PRIVATE	$3.22	$3.43	$3.45	$3.49	$3.49	$3.48	$3.51	$3.54	$3.55	$3.57	$3.60	$3.61	$3.62	$3.62	$3.64
MINING	3.84	4.05	4.10	4.15	3.92	3.92	4.27	4.32	4.31	4.30	4.35	4.32	4.33	4.34	4.36
CONTRACT CONSTRUCTION	5.25	5.72	5.75	5.86	5.90	5.90	5.93	5.99	5.98	5.97	5.99	6.03	5.97	5.99	6.06
MANUFACTURING	3.36	3.57	3.56	3.60	3.60	3.60	3.69	3.71	3.72	3.74	3.77	3.79	3.79	3.79	3.79
Durable goods	3.56	3.80	3.79	3.83	3.82	3.83	3.93	3.95	3.96	3.99	4.02	4.03	4.04	4.02	4.05
Ordnance and accessories	3.61	3.85	3.88	3.90	3.91	3.88	3.98	3.98	4.04	4.02	4.06	4.07	4.09	4.10	4.07
Lumber and wood products	2.96	3.14	3.19	3.21	3.21	3.20	3.19	3.21	3.21	3.22	3.25	3.29	3.32	3.32	3.34
Furniture and fixtures	2.77	2.90	2.94	2.95	2.93	2.93	2.98	2.98	2.99	3.01	3.03	3.03	3.05	3.04	3.08
Stone, clay, and glass products	3.40	3.66	3.73	3.75	3.73	3.71	3.74	3.76	3.78	3.82	3.84	3.87	3.91	3.93	3.95
Primary metal industries	3.93	4.23	4.29	4.35	4.35	4.36	4.50	4.54	4.55	4.57	4.60	4.62	4.63	4.65	4.71
Fabricated metal products	3.53	3.74	3.75	3.77	3.77	3.78	3.87	3.88	3.89	3.92	3.95	3.96	3.98	3.98	3.98
Machinery, except electrical	3.77	3.99	4.02	4.04	4.04	4.04	4.16	4.16	4.19	4.21	4.23	4.24	4.26	4.24	4.26
Electrical equipment	3.28	3.50	3.50	3.52	3.51	3.52	3.60	3.60	3.62	3.63	3.64	3.66	3.67	3.67	3.70
Transportation equipment	4.06	4.44	4.37	4.42	4.44	4.44	4.62	4.60	4.65	4.67	4.72	4.74	4.73	4.66	4.73
Instruments and related products	3.35	3.53	3.55	3.57	3.55	3.56	3.62	3.67	3.69	3.70	3.71	3.72	3.72	3.72	3.73
Miscellaneous manufacturing	2.82	2.96	2.95	2.96	2.96	2.97	3.05	3.07	3.06	3.06	3.08	3.09	3.09	3.09	3.11
Nondurable goods	3.08	3.26	3.27	3.31	3.29	3.29	3.36	3.38	3.40	3.41	3.43	3.44	3.45	3.48	3.46
Food and kindred products	3.16	3.38	3.34	3.38	3.38	3.40	3.51	3.52	3.53	3.56	3.59	3.60	3.58	3.58	3.52
Tobacco manufactures	2.92	3.15	3.19	3.03	3.02	3.08	3.29	3.32	3.37	3.39	3.45	3.47	3.52	3.56	3.34
Textile mill products	2.45	2.57	2.57	2.58	2.59	2.59	2.62	2.69	2.71	2.71	2.72	2.71	2.72	2.71	2.73
Apparel and other textile products	2.39	2.49	2.50	2.53	2.52	2.52	2.55	2.56	2.58	2.57	2.58	2.57	2.60	2.58	2.61
Paper and allied products	3.44	3.68	3.73	3.77	3.73	3.73	3.80	3.81	3.83	3.84	3.86	3.88	3.93	3.98	3.98
Printing and publishing	3.92	4.20	4.23	4.28	4.27	4.27	4.36	4.35	4.36	4.39	4.43	4.46	4.46	4.49	4.49
Chemicals and allied products	3.69	3.94	3.99	4.03	4.00	4.00	4.06	4.10	4.12	4.11	4.13	4.16	4.20	4.22	4.21
Petroleum and coal products	4.28	4.58	4.59	4.66	4.65	4.65	4.65	4.84	4.88	4.88	4.94	4.96	4.95	4.97	4.99
Rubber and plastics products, nec	3.20	3.41	3.45	3.48	3.46	3.46	3.53	3.54	3.54	3.54	3.56	3.56	3.58	3.63	3.63
Leather and leather products	2.49	2.59	2.59	2.62	2.63	2.61	2.65	2.67	2.70	2.70	2.69	2.71	2.70	2.68	2.71
TRANSPORTATION AND PUBLIC UTILITIES	3.85	4.21	4.25	4.33	4.31	4.33	4.41	4.46	4.48	4.50	4.56	4.58	4.59	4.65	4.70
WHOLESALE AND RETAIL TRADE	2.71	2.87	2.88	2.90	2.91	2.91	2.91	2.97	2.98	2.99	3.00	3.00	3.01	3.01	3.01
Wholesale trade	3.44	3.67	3.70	3.72	3.72	3.74	3.79	3.82	3.82	3.83	3.86	3.84	3.85	3.88	3.88
Retail trade	2.44	2.57	2.57	2.60	2.60	2.60	2.61	2.66	2.66	2.67	2.68	2.68	2.69	2.69	2.69
FINANCE, INSURANCE, AND REAL ESTATE	3.08	3.28	3.30	3.30	3.31	3.30	3.34	3.40	3.40	3.41	3.45	3.43	3.43	3.45	3.43
SERVICES	2.81	2.99	2.99	3.04	3.03	3.04	3.06	3.09	3.11	3.11	3.13	3.12	3.11	3.12	3.10

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

NOTE: For additional detail, see **Employment and Earnings**, table C–2.

p=preliminary.

22. Gross average weekly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, by industry division and major manufacturing group

Industry division and group	Annual average		1971					1972							
	1970	1971	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June p	July p	Aug.p
TOTAL PRIVATE	$119.46	$126.91	$129.03	$129.13	$129.13	$128.76	$130.92	$129.92	$130.64	$131.73	$133.20	$133.21	$135.39	$136.11	$137.23
MINING	163.97	171.72	173.43	174.72	167.78	165.82	182.76	183.60	181.02	181.46	184.44	183.17	186.62	184.88	186.17
CONTRACT CONSTRUCTION	196.35	213.36	220.23	216.23	225.38	223.61	216.45	214.44	215.28	219.70	219.23	221.90	224.47	227.62	232.10
MANUFACTURING	133.73	142.44	141.69	143.28	144.00	144.72	150.18	147.66	149.17	150.72	152.69	153.50	154.63	153.12	154.25
Durable goods	143.47	153.52	151.60	153.20	154.71	155.88	162.70	159.58	161.17	163.59	165.62	166.04	168.06	164.42	166.86
Ordnance and accessories	146.57	160.55	161.80	163.41	163.44	162.96	168.75	165.97	170.49	169.64	171.33	170.94	172.60	171.79	173.79
Lumber and wood products	117.51	126.54	129.20	129.68	131.61	129.92	130.15	128.40	129.68	131.70	133.58	135.88	138.78	136.12	139.61
Furniture and fixtures	108.58	115.42	118.78	118.00	118.37	118.37	121.88	118.31	119.00	121.00	121.81	121.81	125.36	121.60	126.28
Stone, clay, and glass products	140.08	152.26	157.78	157.13	157.03	155.45	155.58	153.78	155.74	159.68	160.90	162.54	165.39	165.45	168.27
Primary metal industries	159.17	170.89	166.45	171.83	172.70	173.96	184.50	184.78	186.55	188.74	190.90	191.73	193.53	192.05	197.35
Fabricated metal products	143.67	150.72	151.13	150.42	151.93	153.47	159.83	155.59	157.16	159.15	161.56	162.76	165.17	162.38	164.37
Machinery, except electrical	154.95	161.99	162.01	164.02	164.83	166.04	174.30	170.56	173.47	175.56	176.81	176.81	179.35	175.96	178.07
Electrical equipment	130.87	139.65	140.00	140.80	140.75	142.21	147.24	144.00	145.52	146.29	147.06	147.50	149.37	146.07	150.22
Transportation equipment	163.62	180.71	171.74	172.82	182.04	182.48	196.35	186.76	191.58	194.74	198.24	199.55	199.13	192.92	192.04
Instruments and related products	134.34	140.49	140.58	142.80	142.36	144.18	147.70	147.17	149.08	149.11	150.26	150.66	151.40	149.54	151.81
Miscellaneous manufacturing	109.13	115.14	115.64	115.14	116.33	117.32	120.48	118.81	119.95	120.26	121.66	121.13	122.36	119.27	121.29
Nondurable goods	120.43	128.12	129.17	130.75	129.63	130.28	133.73	132.16	133.28	134.35	135.49	135.88	137.66	138.50	138.05
Food and kindred products	127.98	136.21	135.94	138.24	135.54	136.34	142.51	140.10	139.79	142.40	143.60	144.72	145.71	146.42	143.26
Tobacco manufactures	110.38	116.55	119.31	114.53	108.72	109.96	118.44	113.21	111.55	112.89	114.20	116.25	122.50	122.11	119.57
Textile mill products	97.76	104.34	104.86	104.75	106.19	107.23	108.73	109.75	111.11	111.92	112.34	111.38	113.42	110.84	112.75
Apparel and other textile products	84.37	88.40	90.00	89.82	90.47	91.48	91.55	90.37	92.62	92.52	92.62	91.49	93.60	92.62	94.48
Paper and allied products	144.14	154.93	158.53	159.08	157.78	158.15	162.64	159.64	161.63	162.82	164.44	164.90	168.99	170.74	171.54
Printing and publishing	147.78	157.92	159.47	161.36	160.55	160.55	165.68	161.39	162.19	165.06	167.45	167.70	169.03	170.62	171.97
Chemicals and allied products	153.50	163.90	164.79	169.66	166.00	166.40	170.11	170.56	171.39	171.80	173.05	173.06	176.40	176.40	175.14
Petroleum and coal products	182.76	194.19	195.53	199.45	198.09	195.77	196.70	201.83	202.03	203.01	209.95	209.81	209.88	209.73	208.08
Rubber and plastics products, nec	128.96	137.42	139.04	140.94	140.48	141.17	145.44	143.72	144.08	144.43	146.32	146.32	148.57	148.10	150.28
Leather and leather products	92.63	97.64	97.38	96.68	99.15	100.22	102.56	101.99	103.95	102.33	102.22	104.88	105.84	104.25	106.23
TRANSPORTATION AND PUBLIC UTILITIES	155.93	169.24	172.98	176.66	174.56	175.80	179.05	177.51	180.10	180.90	181.94	184.57	187.27	190.19	192.70
WHOLESALE AND RETAIL TRADE	95.66	100.74	103.68	102.08	101.85	101.56	103.31	103.06	103.11	104.05	104.40	104.40	106.86	108.36	108.66
Wholesale trade	137.60	146.07	147.63	147.68	148.06	148.85	152.74	151.27	151.65	152.43	153.63	152.83	154.00	155.20	154.81
Retail trade	82.47	86.61	89.18	87.62	87.10	86.84	89.00	88.31	87.78	88.64	89.24	89.24	91.73	93.61	93.61
FINANCE, INSURANCE, AND REAL ESTATE	113.34	121.36	123.09	121.77	122.47	122.10	123.58	126.82	126.14	126.51	128.69	126.91	127.60	129.03	127.60
SERVICES	96.66	102.26	103.75	103.66	103.32	103.36	104.65	104.75	105.74	105.74	106.42	105.46	106.36	108.58	107.57

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment) and data are not comparable with those published in issues prior to October 1971. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

NOTE: For additional detail, see **Employment and Earnings,** table C–2.

p=preliminary.

23. Gross and spendable average weekly earnings of production or nonsupervisory workers [1] on private nonagricultural payrolls, in current and 1967 dollars, 1960 to date

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Worker with 3 dependents				Worker with no dependents		Worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.63	108.65	79.82	87.04	87.58	95.51
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.06	100.59	78.99	83.59	86.30	91.32	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.34	115.58	91.57	94.21	99.45	102.31
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.90	114.90	93.28	93.28	101.26	101.26
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.46	102.72	95.94	82.49	104.61	89.95	133.73	114.99	106.62	91.68	115.90	99.66
1971	126.91	104.62	103.51	85.33	112.12	92.43	142.44	117.43	114.97	94.78	124.24	102.42
1971:												
August	129.03	105.68	105.07	86.05	113.79	93.19	141.69	116.04	114.42	93.71	123.65	101.27
September	129.13	105.67	105.15	86.05	113.86	93.18	143.28	117.25	115.59	94.59	124.89	102.20
October	129.13	105.50	105.15	85.91	113.86	93.02	144.00	117.65	116.12	94.87	125.45	102.49
November	128.76	105.02	104.87	85.54	113.57	92.63	144.72	118.04	116.65	95.15	126.01	102.78
December	130.92	106.35	106.47	86.49	115.28	93.65	150.18	122.00	120.64	98.00	130.25	105.81
1972:												
January	129.92	105.45	107.04	86.88	116.18	94.30	147.66	119.85	120.13	97.51	130.09	105.59
February	130.64	105.53	107.57	86.89	116.74	94.30	149.17	120.49	121.25	97.94	131.26	106.03
March	131.73	106.23	108.38	87.40	117.60	94.84	150.72	121.55	122.39	98.70	132.47	106.83
April	133.20	107.16	109.46	88.06	118.76	95.54	152.69	122.85	123.85	99.64	134.00	107.80
May	133.21	106.82	109.47	87.79	118.77	95.24	153.50	123.10	124.44	99.79	134.63	107.96
June	135.39	108.31	111.08	88.86	120.49	96.39	154.63	123.70	125.28	100.22	135.51	108.41
July p	136.11	108.45	111.61	88.93	121.05	96.45	153.12	122.01	124.16	98.93	134.34	107.04
August p	137.23	109.17	112.44	89.45	121.94	97.01	154.25	122.71	125.00	99.44	135.22	107.57

[1] The industry series have been adjusted to March 1970 benchmarks (comprehensive counts of employment). To reflect the retroactive tax exemption provisions of the Tax Reform Act of 1971, the spendable earnings series has been revised back to January 1971. Moreover, the Consumer Price Index has been revised back to August 1971, to reflect the retroactive repeal of the automobile excise tax. Because of these revisions, monthly data published in this table beginning with the January 1972 issue of the **Monthly Labor Review** are not comparable with such data in earlier issues. Comparable back data are published in **Employment and Earnings, United States, 1909–71** (BLS Bulletin 1312–8).

Data relate to production workers in mining and manufacturing; to construction workers in contract construction; and to nonsupervisory workers in transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for approximately four-fifths of the total employment on private nonagricultural payrolls.

Spendable average weekly earnings are based on gross average weekly earnings as published in table 22 less the estimated amount of the worker's Federal social security and income tax liability. Since the amount of tax liability depends on the number of dependents supported by the worker as well as on the level of his gross income, spendable earnings have been computed for 2 types of income receivers: (1) a worker with no dependents and (2) a married worker with 3 dependents.

The earnings expressed in 1967 dollars have been adjusted for changes in purchasing power as measured by the Bureau's Consumer Price Index.

These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," in **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6-13.

NOTE: For additional detail, see **Employment and Earnings,** table C–5.

p=preliminary.

24. Consumer and Wholesale Price Indexes, annual averages and changes, 1949–71 [1]

[1967 = 100]

Year	Consumer prices						Wholesale prices					
	All items		Commodities		Services		All commodities		Farm products, processed foods and feeds		Industrial commodities	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1949	71.4	−1.0	78.3	−2.6	56.9	4.8	78.7	−5.0	89.6	−11.7	75.3	−2.1
1950	72.1	1.0	78.8	.6	58.7	3.2	81.8	3.9	93.9	4.8	78.0	3.6
1951	77.8	7.9	85.9	9.0	61.8	5.3	91.9	11.4	106.9	13.8	86.1	10.4
1952	79.5	2.2	87.0	1.3	64.5	4.4	88.6	−2.7	102.7	−3.9	84.1	−2.3
1953	80.1	.8	86.7	−.3	67.3	4.3	87.4	−1.4	96.0	−6.5	84.8	.8
1954	80.5	.5	85.9	−.9	69.5	3.3	87.6	.2	−95.7	−.3	85.0	.2
1955	80.2	−.4	85.1	−.9	70.9	2.0	87.8	.2	91.2	−4.7	86.9	2.2
1956	81.4	1.5	85.9	.9	72.7	2.5	90.7	3.3	90.6	−.7	90.8	4.5
1957	84.3	3.6	88.6	3.1	75.6	4.0	93.3	2.9	93.7	3.4	93.3	2.8
1958	86.6	2.7	90.6	2.3	78.5	3.8	94.6	1.4	98.1	4.7	93.6	.3
1959	87.3	.8	90.7	.1	80.8	2.9	94.8	.2	93.5	−4.7	95.3	1.8
1960	88.7	1.6	91.5	.9	83.5	3.3	94.9	.1	93.7	.2	95.3	.0
1961	89.6	1.0	92.0	.5	85.2	2.0	94.5	−.4	93.7	.0	94.8	−.5
1962	90.6	1.1	92.8	.9	86.8	1.9	94.8	.3	94.7	1.1	94.8	.0
1963	91.7	1.2	93.6	.9	88.5	2.0	94.5	−.3	93.8	−1.0	94.7	−.1
1964	92.9	1.3	94.6	1.1	90.2	1.9	94.7	.2	93.2	−.6	95.2	.5
1965	94.5	1.7	95.7	1.2	92.2	2.2	96.6	2.0	97.1	4.2	96.4	1.3
1966	97.2	2.9	98.2	2.6	95.8	3.9	99.8	3.3	103.5	6.6	98.5	2.2
1967	100.0	2.9	100.0	1 8	100.0	4.4	100.0	.2	100.0	−3.4	100.0	1.5
1968	104.2	4.2	103.7	3.7	105.2	5.2	102.5	2.5	102.4	2.4	102.5	2.5
1969	109.8	5.4	108.4	4.5	112.5	6.9	106.5	3.9	r 108.0	r 5.5	106.0	3.4
1970	116.3	5.9	113.5	4.7	121.6	8.1	110.4	3.7	111.6	r 3.3	110.0	3.8
1971	121.3	4.3	117.4	3.4	128.4	5.6	113.9	3.2	113.8	2.0	114.0	3.6

[1] Historical price changes are shown in greater detail and for earlier years in the Bureau's **Handbook of Labor Statistics, 1971** (BLS Bulletin 1705).

25. Consumer Price Index—U.S. average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All items	121.3	r122.1	r122.2	r122.4	122.6	123.1	123.2	123.8	124.0	124.3	124.7	125.0	125.5	125.7
All items (1957–59=100)	141.0	r142.0	r142.1	r142.4	142.6	143.1	143.3	143.9	144.3	144.6	145.0	145.4	145.9	146.2
Food	118.4	120.0	119.1	118.9	119.0	120.3	120.3	122.2	122.4	122.4	122.3	123.0	124.2	124.6
Food at home	116.4	118.1	116.9	116.6	116.7	118.2	118.2	120.5	120.6	120.4	120.2	120.9	122.4	122.7
Food away from home	126.1	127.1	127.6	128.0	128.2	128.3	128.6	128.9	129.4	130.0	130.4	130.9	131.3	131.9
Housing	124.3	125.1	125.5	125.9	126.4	126.8	127.3	127.6	127.9	128.2	128.5	129.0	129.5	129.9
Rent	115.2	115.8	116.1	116.4	116.6	116.9	117.1	117.5	117.7	118.1	118.3	118.8	119.0	119.4
Homeownership	133.7	134.4	135.1	135.7	136.7	137.0	137.8	138.0	138.2	138.5	138.9	139.6	140.7	141.3
Apparel and upkeep	119.8	119.0	120.6	121.6	121.9	121.8	120.2	120.7	121.3	121.8	122.5	122.1	121.1	120.8
Transportation	118.6	r119.3	r118.6	r119.3	118.8	118.6	119.0	118.3	118.4	118.6	119.5	p 119.8	120.3	120.5
Health and recreation	122.2	123.1	123.6	123.5	123.7	123.9	124.3	124.7	125.0	125.5	125.8	126.1	126.3	126.5
Medical care	128.4	130.0	130.4	129.6	129.7	130.1	130.5	131.0	131.4	131.7	132.0	132.4	132.7	132.9
Special groups														
All items less shelter	119.3	r120.2	r120.2	r120.3	120.4	120.9	120.9	212.5	121.8	122.1	122.4	122.7	123.1	123.2
All items less food	122.1	r122.7	r123.1	r123.5	123.7	123.9	124.0	124.2	124.5	124.9	125.4	125.7	125.9	126.1
All items less medical care	120.9	r121.6	r121.7	r122.1	122.3	122.7	122.8	123.4	123.6	123.9	124.3	124.6	125.1	125.3
Commodities	117.4	r118.2	r118.1	r118.4	118.5	118.9	118.7	119.4	119.7	119.9	120.3	120.7	121.2	121.4
Nondurables	117.7	118.6	118.7	118.8	118.9	119.5	119.2	120.3	120.6	120.7	121.0	121.2	121.7	122.0
Durables	116.5	r116.9	r116.4	r117.1	117.4	117.2	117.3	117.1	117.3	117.7	118.4	119.2	119.6	119.7
Services	128.4	r129.4	r129.8	r130.0	130.4	130.8	131.5	131.8	132.0	132.4	132.7	133.1	133.5	133.8
Commodities less food	116.8	r117.1	r117.4	r118.0	118.1	118.1	117.7	117.8	118.2	118.5	119.2	119.4	119.4	119.5
Nondurables less food	117.0	117.2	118.2	118.7	118.7	118.8	118.1	118.4	118.9	119.1	119.7	119.5	119.3	119.4
Apparel commodities	120.1	119.1	120.9	122.0	122.4	122.2	120.3	120.9	121.6	122.1	122.9	122.4	121.3	120.9
Apparel commodities less footwear	119.9	118.6	120.7	121.9	122.3	122.1	119.9	120.6	121.3	121.8	122.6	122.0	120.7	120.0
Nondurables less food and apparel	115.2	116.2	116.6	116.8	116.5	116.8	116.8	117.0	117.3	117.4	117.9	117.9	118.2	118.6
Household durables	112.9	113.4	113.5	113.6	113.6	113.7	113.7	113.6	114.1	114.4	114.8	115.1	115.3	115.4
Housefurnishings	114.3	114.8	114.9	115.1	115.1	115.3	114.9	115.0	115.6	115.9	116.2	116.4	116.4	116.3
Services less rent	130.9	r131.9	r132.3	r132.5	132.9	133.3	134.1	134 4	134.7	135.0	135.3	135.7	136.2	136.4
Household services less rent	132.6	133.6	134.2	134.7	135.4	136.1	137.0	137.4	137.7	138.1	138.5	138.9	139.6	140.0
Transportation services	133.1	r134.1	r133.8	r133.9	134.0	134.2	135.6	135.7	135.5	135.6	135.8	136.0	136.3	136.3
Medical care services	133.3	135.1	135.6	134.6	134.8	135.3	135.8	136.4	136.9	137.3	137.6	138.0	138.4	138.6
Other services	122.5	122.8	123.7	123.8	124.0	124.1	124.3	124.5	124.7	125.1	125.3	125.6	125.8	125.9

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
FOOD	118.4	120.0	119.1	118.9	119.0	120.3	120.3	122.2	122.4	122.4	122.3	123.0	124.2	124.6
Food away from home	126.1	127.1	127.6	128.0	128.2	128.3	128.6	128.9	129.4	130.0	130.4	130.9	131.3	131.9
Restaurant meals	125.8	126.9	127.3	127.7	127.9	128.0	128.3	128.6	129.3	129.9	130.4	130.9	131.3	132.0
Snacks	127.5	128.2	128.6	129.5	129.4	129.6	130.0	130.0	130.2	130.6	130.7	131.0	131.1	131.6
Food at home	116.4	118.1	116.9	116.6	116.7	118.2	118.2	120.5	120.6	120.4	120.2	120.9	122.4	122.7
Cereals and bakery products	113.9	114.5	114.6	114.3	114.1	113.8	113.7	114.3	114.8	115.0	114.7	114.5	114.4	114.4
Flour	101.0	101.2	101.5	101.1	101.1	100.5	100.8	100.9	100.8	100.4	100.2	99.4	99.2	99.2
Cracker meal	129.8	131.1	131.5	131.6	131.7	131.9	132.2	133.9	134.9	135.4	135.5	135.9	135.9	135.9
Corn flakes	107.3	105.6	104.2	103.6	103.5	103.0	102.5	102.2	102.0	101.4	101.0	100.3	100.0	99.9
Rice	109.4	109.9	110.1	109.9	109.8	110.0	110.3	110.3	110.0	110.0	109.7	109.3	109.6	109.2
Bread, white	112.3	112.9	113.4	112.1	112.0	111.4	111.2	112.7	113.2	113.3	112.7	113.0	112.7	113.9
Bread, whole wheat	117.5	118.7	119.1	119.2	119.3	118.5	118.9	119.3	119.2	120.5	120.3	119.3	119.7	119.9
Cookies	108.7	110.0	109.9	109.9	108.7	109.3	109.2	109.7	110.7	111.2	111.4	109.5	109.9	109.1
Layer cake	120.1	121.2	121.5	120.7	120.5	120.8	119.6	119.2	120.4	120.1	119.8	119.9	120.2	119.9
Cinnamon rolls	118.2	119.1	118.6	119.6	119.2	118.5	119.0	119.2	120.0	120.8	120.8	121.3	120.7	119.0
Meats, poultry, and fish	116.9	118.7	119.1	118.4	118.1	118.9	120.7	126.3	126.8	125.9	124.8	126.4	129.9	130.8
Meats	116.7	118.4	118.8	118.3	118.2	119.1	121.1	127.5	127.9	126.9	125.6	127.5	131.3	132.5
Beef and veal	124.9	126.8	127.7	127.1	126.6	128.0	130.8	136.1	137.1	135.9	134.1	135.8	139.4	140.2
Steak, round	123.5	125.3	126.1	125.5	125.2	126.3	130.8	137.2	137.5	134.0	130.6	132.6	137.3	137.0
Steak, sirloin	122.8	125.0	127.8	125.3	123.5	125.5	128.5	132.1	132.3	130.9	127.5	131.9	136.9	136.6
Steak, porterhouse	124.1	128.1	129.5	127.3	125.7	127.5	131.1	134.4	134.8	132.2	130.4	134.0	139.2	139.3
Rump roast	122.4	124.1	124.0	125.2	124.0	124.4	128.1	134.6	135.4	132.7	129.2	132.1	135.6	136.5
Rib roast	126.2	129.9	130.8	129.3	128.8	131.8	135.2	139.2	140.1	138.2	136.6	136.7	141.0	141.0
Chuck roast	124.4	126.0	125.9	125.6	125.9	128.9	131.0	139.5	141.2	137.6	133.9	132.4	138.4	140.2
Hamburger	126.2	127.1	128.3	127.6	127.6	129.1	130.8	135.9	137.3	136.6	135.7	136.6	138.7	140.9
Beef liver	113.7	114.3	114.0	114.8	114.7	114.6	114.8	118.3	121.3	128.5	132.2	133.0	133.0	133.3
Veal cutlets	141.7	145.5	146.0	146.7	147.2	148.0	150.1	156.2	157.4	159.1	159.6	162.0	164.5	165.6
Pork	105.0	106.9	106.4	105.8	106.3	107.2	109.2	119.4	118.2	116.7	115.4	118.0	124.0	125.4
Chops	107.4	113.1	109.9	109.8	110.5	111.2	111.4	124.2	119.0	115.9	114.7	119.8	130.7	128.0
Loin roast	106.6	111.1	110.0	108.7	109.2	109.7	111.1	121.4	119.5	115.8	114.7	119.0	130.1	128.7
Pork sausage	111.4	111.4	113.0	112.8	112.0	111.4	112.9	120.3	123.5	124.6	124.9	126.1	129.1	132.6
Ham, whole	103.9	102.9	103.8	102.0	102.4	105.9	110.0	112.6	114.3	112.7	110.5	112.0	113.9	114.5
Picnics	108.0	107.4	106.7	107.9	108.7	111.3	113.3	122.7	123.8	122.8	121.0	119.9	122.7	128.3
Bacon	96.6	96.6	97.7	96.6	97.4	97.3	101.0	114.0	112.6	112.3	110.8	113.1	116.3	120.7
Other meats	115.6	116.4	117.0	116.5	116.5	116.6	116.8	120.3	121.6	122.0	121.7	122.8	124.0	125.9
Lamb chops	121.5	124.2	124.7	123.4	124.5	124.4	124.8	127.1	127.3	126.7	126.6	129.5	131.6	131.5
Frankfurters	115.1	115.7	116.0	116.0	115.9	115.2	115.4	121.3	123.3	123.1	122.1	122.4	124.4	127.6
Ham, canned	107.2	106.6	108.0	107.8	108.3	107.8	109.0	111.4	112.7	112.6	113.6	112.8	113.0	114.7
Bologna sausage	118.8	119.8	120.4	120.1	119.9	120.1	120.0	124.5	126.3	127.8	126.8	128.1	128.9	131.9
Salami sausage	116.3	117.6	117.7	116.8	116.4	117.4	116.9	119.8	122.5	123.8	124.2	125.4	126.8	128.3
Liverwurst	114.3	114.2	114.8	114.5	113.8	114.1	114.2	117.4	117.5	118.3	117.1	118.4	119.3	121.3
Poultry	109.0	112.1	112.2	110.0	108.1	107.5	108.4	110.7	111.6	109.4	108.4	108.9	111.8	110.6
Frying chicken	108.5	111.7	111.9	109.0	106.8	106.2	107.5	110.1	111.0	108.3	107.2	107.6	111.5	109.7
Chicken breasts	109.5	113.5	112.7	111.3	109.7	109.8	110.4	112.0	112.5	111.6	111.9	112.4	113.7	114.3
Turkey	111.1	112.6	113.3	113.7	112.9	111.4	111.1	112.2	113.7	112.9	110.9	111.4	111.6	111.4
Fish	130.2	131.9	132.5	132.8	132.9	133.2	134.7	137.0	138.3	139.8	140.2	141.3	142.0	142.8
Shrimp, frozen	117.6	119.9	119.7	120.1	120.6	120.4	123.1	128.3	131.9	133.9	133.7	136.3	136.5	136.8
Fish, fresh or frozen	140.2	142.4	142.5	143.0	142.7	142.7	144.7	145.0	144.9	146 2	147.7	149.1	151.5	154.2
Tuna fish, canned	128.4	129.1	129.2	128.9	128.2	128.7	128.6	130.4	132.0	133.3	133.7	134.0	133.3	132.3
Sardines, canned	134.7	136.3	138.5	139.1	139.7	140.9	142.2	144.1	144.1	145.4	145.7	145.6	146.6	147.8
Dairy products	115.3	116.0	116.1	116.0	115.9	116.1	116.4	116.9	117.3	117.4	117.3	117.0	116.8	116.6
Milk, fresh, grocery	114.6	115.2	115.4	115.3	115.2	115.2	115.7	116.4	116.9	116.9	116.8	116.3	116.0	115.6
Milk, fresh, delivered	117.6	118.1	118.1	118.1	118.1	118.5	118.8	119.4	120.0	120.0	120.3	120.3	120.3	120.4
Milk, fresh, skim	119.7	120.3	120.8	120.3	120.1	120.1	120.5	121.3	121.8	121.9	122.0	121.9	121.9	121.7
Milk, evaporated	118.6	121.2	121.2	121.4	120.2	120.6	120.9	120.9	120.8	120.8	120.5	118.8	118.1	117.9
Ice cream	106.2	106.5	106.9	106.1	106.4	107.2	106.7	106.1	107.1	106.8	106.5	106.7	106.5	106.1
Cheese, American process	121.0	122.0	121.8	122.1	122.3	122.1	122.3	123.4	123.4	124.2	124.1	125.4	124.5	124.7
Butter	105.8	105.7	105.8	105.8	105.7	105.4	105.8	105.8	105.8	105.7	105.3	104.8	104.7	104.6
Fruits and vegetables	119.1	123.6	116.6	115.6	117.8	124.4	120.9	123.9	121.4	122.1	123.9	127.2	128.4	128.1
Fresh fruits and vegetables	121.0	127.4	115.3	113.6	117.3	128.2	122.1	126.8	122.3	123.2	126.7	132.2	134.1	133.4
Fresh fruits	117.5	133.8	124.0	115.9	113.0	112.2	112.6	115.2	115.5	120.1	121.0	130.8	134.2	134.8
Apples	114.2	139.0	125.3	101.8	98.5	102.1	106.8	109.9	112.2	114.1	121.8	131.4	140.3	144.5
Bananas	95.5	99.5	98.5	101.8	94.1	92.2	92.6	100.4	98.3	109.4	104.4	108.4	105.0	100.2
Oranges	125.5	135.3	138.3	137.1	133.1	128.4	123.7	122.0	121.3	117.3	118.0	123.3	126.9	134.8
Orange juice, fresh	124.3	128.2	129.4	129.1	129.9	130.5	130.8	130.6	130.7	131.3	130.6	130.6	130.8	131.9
Grapefruit	135.7	175.9	171.6	153.5	126.8	120.6	121.2	121.1	124.6	122.4	131.9	145.1	152.4	180.3
Grapes [1]	143.8	169.7	120.3	119.6	138.2	------	------	------	------	------	------	------	180.9	150.1
Strawberries [1]	114.1	------	------	------	------	------	------	------	------	119.2	103.3	115.0	------	------
Watermelon [1]	141.7	119.0	------	------	------	------	------	------	------	------	------	144.8	121.0	124.2
Fresh vegetables	123.9	122.4	108.6	111.8	120.8	141.3	129.8	136.3	127.9	125.9	131.4	133.4	134.2	132.4
Potatoes	117.3	127.7	115.0	111.2	110.2	112.4	112.7	114.7	115.4	113.6	113.7	123.8	143.0	148.1
Onions	104.4	115.2	111.3	109.8	106.2	105.5	105.7	106.8	105.1	107.3	112.0	122.9	148.0	155.5
Asparagus [1]	131.0	------	------	------	------	------	------	------	163.5	120.9	141.0	138.1	145.7	------
Cabbage	122.2	109.4	103.4	106.4	113.3	158.3	145.3	144.1	133.4	125.7	134.1	124.9	122.5	119.6
Carrots	129.9	162.7	125.5	117.3	120.6	134.2	145.7	142.4	143.8	128.6	138.5	135.5	128.9	125.3
Celery	118.5	125.6	111.2	111.5	129.1	161.3	174.6	172.0	164.3	125.2	148.6	135.3	140.0	124.7
Cucumbers	120.1	90.0	84.8	96.6	104.9	125.2	120.9	148.2	145.5	162.4	122.0	128.8	119.3	115.9
Lettuce	124.1	124.0	111.4	123.2	146.6	173.0	133.6	152.1	106.4	115.2	109.3	120.9	110.8	114.7
Peppers, green	142.9	105.2	90.8	97.5	118.5	148.3	114.0	134.3	147.8	150.4	207.7	160.2	145.4	122.3

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
FOOD—Continued														
Spinach	129.2	129.0	128.1	130.8	131.0	140.0	143.8	143 8	135.8	135.5	136.5	135.2	137.9	142.8
Tomatoes	131.8	122.0	95.4	106.0	121.7	159.1	139.1	140.2	112.9	130.7	135.2	155.1	130.4	121.0
Processed fruits and vegetables	116.2	117.9	118.6	118.4	118.5	118.8	119.2	119.5	119.9	120.3	119.8	119.9	120.0	120.2
Fruit cocktail, canned	117.9	119.1	120.2	120.0	119.9	120.2	121.4	120.9	121.4	122.2	121.6	121.1	121.3	121.0
Pears, canned	116.7	117.4	117.7	117.5	116.9	116.5	116.9	117.3	117.2	117.3	117.3	117.7	117.7	118.1
Pineapple-grapefruit drink	113.6	114.1	114.0	114.5	115.1	114.4	114.7	114.4	115.2	115.6	114.8	114.3	115.6	115.1
Orange juice concentrate, frozen	127.2	133.6	136.3	136.0	135.3	135.6	135.8	135.9	136.6	136.6	136.2	135.3	136.0	135.6
Lemonade concentrate, frozen	113.9	114.8	115.5	115.9	115.3	116.9	117.4	117.5	117.8	118.0	117.3	117.3	115.5	115.2
Beets, canned	115.1	116.6	117.5	117.4	116.8	117.0	118.3	119.0	119.8	120.2	120.4	121.4	121.4	123.0
Peas, green, canned	106.6	107.6	108.0	107.0	108.0	108.6	108.6	108.5	107.9	108.7	107.4	107.2	107.6	107.0
Tomatoes, canned	115.6	116.2	116.6	115.7	115.7	115.1	114.9	115.3	115.5	115.4	115.6	115.5	115.8	117.3
Dried beans	122.8	128.1	129.5	130.6	131.9	133.2	133.9	135.4	136.5	137.1	137.0	136.9	137.2	138.1
Broccoli, frozen	117.7	118.7	118.4	117.9	117.8	117.9	117.8	118.5	119.0	119.2	118.1	118.9	118.7	118.1
Other food at home	115.9	116.7	115.5	116.2	115.6	116.6	116.2	115.6	116.7	116.2	116.0	114.5	115.3	116.0
Eggs	108.4	109.7	102.4	106.7	103.2	110.5	108.0	101.4	107.5	102.9	101.7	94.2	101.9	105.0
Fats and oils:														
Margarine	116.0	116.4	117.6	118.1	117.8	117.7	117.3	118.1	118.6	118.4	117.8	118.2	117.4	117.4
Salad dressing, Italian	109.3	110.0	110.2	109.9	110.6	110.9	110.2	110.4	110.8	111.4	110.6	109.1	109.5	109.2
Salad or cooking oil	120.1	121.6	123.3	123.4	123.5	123.5	123.9	124.0	123.7	123.0	122.3	121.5	120.1	120.0
Sugar and sweets	119.3	120.3	120.2	120.1	120.0	120.1	120.1	120.5	121.2	121.4	121.4	120.6	120.4	120.5
Sugar	112.5	113.2	113.5	113.4	113.5	113.5	113.6	114.3	114.9	115.3	115.4	114.8	114.5	114.4
Grape jelly	119.3	121.7	121.6	121.2	121.4	121.6	121.5	122.7	124.5	125.1	125.5	124.9	125.0	125.1
Chocolate bar	130.9	131.7	131.4	131.5	131.3	131.3	130.8	130.7	130.6	130.8	130.8	130.6	130.5	130.6
Syrup, chocolate flavored	113.2	113.4	113.2	113.0	112.5	112.7	113.3	113.4	113.5	113.4	112.6	111.1	110.4	110.7
Nonalcoholic beverages	121.6	122.0	121.0	121.2	120.9	120.5	120.4	120.7	120.9	120.9	121.0	120.5	120.3	120.6
Coffee, can and bag	121.8	121.8	119.1	119.3	119.0	118.5	118.2	118.3	118.3	118.2	118.1	117.2	117.2	118.4
Coffee, instant	124.7	125.2	125.4	125.3	125.1	125.1	124.7	125.5	125.1	125.0	125.0	124.3	123.4	122.3
Tea	107.6	108.0	108.0	107.8	107.8	106.0	106.1	107.1	108.1	108.2	108.9	109.0	108.8	109.4
Cola drink	125.9	126.7	127.0	127.3	127.1	127.1	127.7	127.8	128.1	128.2	128.2	127.8	128.2	128.0
Carbonated fruit drink	126.4	127.5	127.6	127.8	127.7	127.9	127.9	127.6	128.2	128.2	128.3	128.3	127.8	127.6
Prepared and partially prepared foods	112.7	113.5	113.4	113.4	113.2	113.3	113.5	114.1	114.4	114.5	114.7	114.4	114.3	114.8
Bean soup, canned	114.1	114.8	114.7	114.7	114.7	114.7	114.5	115.7	116.2	116.3	116.6	116.3	116.2	115.9
Chicken soup, canned	106.4	106.3	106.6	106.5	106.0	105.7	106.4	106.9	106.4	106.6	105.8	104.2	104.4	104.5
Spaghetti, canned	117.3	117.6	117.7	117.7	117.7	117.5	118.1	117.8	116.8	117.4	118.3	118.9	119.5	121.4
Mashed potatoes, instant	110.8	111.9	110.4	110.4	110.7	111.0	111.5	112.2	112.3	111.3	112.2	112.3	111.5	111.9
Potatoes, French fried, frozen	110.1	110.9	110.3	109.9	108.5	109.3	108.5	110.0	110.4	111.0	110.8	111.0	110.8	111.3
Baby food, canned	110.9	111.8	111.8	111.6	111.3	111.1	111.1	111.2	111.4	111.4	111.3	110.4	110.1	110.1
Sweet pickle relish	117.4	118.9	119.5	120.0	120.6	121.2	122.0	122.5	124.4	125.2	125.2	124.3	124.1	125.5
Pretzels	113.1	114.1	114.5	114.4	114.0	114.5	114.1	114.5	115.2	115.0	115.5	116.1	115.1	115.3
HOUSING	124.3	125.1	125.5	125.9	126.4	126.8	127.3	127.6	127.9	128.2	128.5	129.0	129.5	129.9
Shelter	128.8	129.5	130.1	130.6	131.3	131.6	132.3	132.5	132.7	133.0	133.4	134.1	134.9	135.5
Rent	115.2	115.8	116.1	116.4	116.6	116.9	117.1	117.5	117.7	118.1	118.3	118.8	119.0	119.4
Homeownership	133.7	134.4	135.1	135.7	136.7	137.0	137.8	138.0	138.2	138.5	138.9	139.6	140.7	141.3
Mortgage interest rates	120.4	118.1	118.7	119.1	118.9	118.6	118.4	118.2	117.7	117.1	117.0	117.1	117.2	117.3
Property taxes	131.1	132.2	133.1	134.6	136.3	137.6	141.1	141.8	143.6	144.7	145.0	144.8	144.9	145.7
Property insurance rates	119.9	121.5	121.5	122.4	122.4	122.4	122.4	122.4	122.4	122.6	122.7	122.6	123.4	123.4
Maintenance and repairs	133.7	135.8	136.8	137.0	137.1	137.4	137.8	138.0	138.6	139.2	139.9	140.6	141.1	141.9
Commodities	119.0	120.6	120.9	120.9	120.8	120.8	121.3	121.3	122.0	122.4	123.3	123.9	124.2	125.2
Exterior house paint	115.9	115.3	116.5	116.5	116.5	116.8	117.7	117.9	118.2	118.5	117.5	117.4	117.2	117.6
Interior house paint	114.5	115.2	115.5	115.6	115.3	115.4	115.8	115.6	116.3	116.4	117.2	117.5	117.4	117.5
Services	140.0	142.4	143.7	144.0	144.1	144.6	144.9	145.2	145.9	146.5	147.1	147.8	148.5	149.1
Repainting living and dining rooms	148.3	151.3	153.0	153.1	153.6	154.0	154.4	155.1	155.6	156.5	157.7	159.5	160.5	161.3
Reshingling roofs	144.8	148.8	150.1	150.7	150.6	151.6	152.0	152.3	153.0	154.3	155.0	156.2	156.2	157.1
Residing houses	130.6	132.1	132.8	133.1	133.2	133.3	133.4	133.7	133.9	134.5	135.0	135.2	135.9	136.4
Replacing sinks	140.6	143.0	143.4	143.4	143.6	143.7	143.9	144.2	145.1	145.5	145.7	145.8	146.1	146.7
Repairing furnaces	144.3	145.9	148.9	149.2	149.1	150.2	150.9	151.2	152.2	152.4	152.8	153.6	154.6	155.0
Fuel and utilities	115.1	116.3	116.3	116.3	116.8	117.9	118.7	119.3	119.6	119.9	120.1	120.1	120.2	120.1
Fuel oil and coal	117.5	117.8	117.8	117.8	118.1	118.1	118.7	118.7	118.7	118.6	118.7	117.8	117.7	117.9
Fuel oil, #2	116.1	116.4	116.4	116.4	116.4	116.4	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.6
Gas and electricity	114.7	115.7	115.7	115.7	116.2	118.2	119.0	119.4	119.7	102.2	120.5	120.3	120.3	120.5
Gas	116.3	116.8	116.8	116.8	118.1	120.5	121.7	121.9	122.2	122.3	122.2	121.2	121.2	121.4
Electricity	113.2	114.6	114.6	114.6	114.5	116.0	116.6	117.0	117.2	118.2	118.9	119.5	119.4	119.6
Other utilities:														
Residential telephone	108.0	110.2	110.2	110.2	110.2	110.7	111.8	113.5	113.5	113.7	114.0	114.9	115.0	114.1
Residential water and sewerage	133.4	135.0	135.0	135.0	136.4	136.4	136.4	136.4	137.7	137.7	137.7	137.7	138.8	138.8
Household furnishings and operations	118.1	119.1	119.4	119.5	119.5	119.6	119.5	119.6	120.1	120.5	120.8	121.0	121.1	121.2
House furnishings	114.3	114.8	114.9	115.1	115.1	115.3	114.9	115.0	115.6	115.9	116.2	116.4	116.4	116.3
Textiles	111.6	111.1	111.9	112.2	112.9	113.1	110.8	112.1	113.2	113.7	113.6	114.2	113.4	113.0
Sheets, percale, or muslin	113.9	110.2	114.0	113.4	116.5	116 5	110.1	114.1	114.4	116.0	114.9	116.7	113.4	111.7
Curtains, tailored, polyester marquisette	110.0	111.5	111.3	111.5	110.9	110 6	110.3	111.2	110.9	111.3	112.2	112.1	112.5	112.8
Bedspreads, chiefly cotton	107.8	107.0	107.4	107.8	108.4	108.8	105.1	106.9	109.8	111.0	111.5	111.6	110.3	109.9
Drapery fabric, cotton or rayon/acetate	118.4	118.9	118.8	119.5	119.0	119.1	118.9	119.6	121.2	121.1	121.7	122.7	123.9	124.2
Slipcovers, throws, ready made, chiefly cotton	111.8	112.4	111.6	112.5	112 8	113.2	113.1	113.0	114.6	113.7	113.7	113.8	114.9	114.6

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
HOUSING—Continued														
Furniture and bedding	119.1	119.6	119.7	119.9	119.9	120.1	119.8	119.5	120.7	121.0	121.7	121.5	121.3	121.1
Bedroom furniture, chest and dresser [2]	103.6	104.5	104.6	104.7	104.8	104.7	104.6	104.1	104.6	104.9	105.3	105.1	104.8	105.0
Dining room chairs [2]	103.0	102.9	103.4	103.3	103.4	103.5	103.4	103.3	104.2	104.9	105.3	105.1	104.1	103.2
Sofas, upholstered	117.5	117.5	117.5	119.4	119.1	119.5	119.3	119.0	119.7	120.2	120.6	120.8	120.6	120.4
Sofas, dual purpose	116.4	116.5	116.3	116.4	116.4	116.9	116.7	115.9	116.9	116.8	117.2	116.9	116.9	116.7
Bedding, mattress, and box springs [3]	103.4	104.0	103.7	104.1	103.9	104.4	103.7	104.4	104.4	104.5	104.5	104.5	104.9	104.9
Cribs	117.9	118.0	118.4	118.0	119.2	118.8	118.0	118.1	119.0	117.6	118.0	119.0	119.3	118.4
Cocktail table [4]	------	------	------	------	------	100.0	100.1	99.7	99.5	100.6	100.4	100.4	100.0	101.8
Recliner, upholstered [4]	------	------	------	------	------	100.0	99.2	98.2	98.6	98.7	98.7	98.0	98.0	98.1
Floor coverings	106.3	106.8	106.5	106.5	106.3	106.6	106.3	106.1	106.3	106.5	106.7	106.4	106.8	106.5
Broadloom carpeting, manmade fibers	102.3	102.7	102.2	102.3	101.8	102.1	101.9	101.4	101.5	101.6	101.8	101.4	101.7	101.4
Vinyl sheet goods	114.7	115.9	116.1	116.0	116.3	116.5	115.6	116.3	116.7	117.7	117.7	117.9	118.6	118.7
Vinyl asbestos tile	116.6	116.4	116.7	116.7	117.0	117.4	117.6	117.6	117.8	117.9	118.3	118.2	118.2	118.4
Appliances	105.5	105.7	105.8	105.8	105.7	105.8	105.8	105.7	105.8	105.7	105.7	105.8	105.8	105.7
Washing machines, automatic	109.4	109.9	110.1	110.0	110.0	110.0	110.2	110.4	110.6	110.4	110.4	110.5	110.6	110.4
Vacuum cleaners, canister type	103.8	104.3	104.3	104.1	103.9	103.6	104.0	103.8	103.7	103.7	103.8	104.0	103.8	103.5
Refrigerator-freezers	108.1	108.2	108.3	108.3	108.2	108.3	108.2	108.3	108.3	108.0	107.9	107.9	107.9	107.8
Ranges, free standing, gas or electric	111.0	111.4	111.2	112.0	111.0	111.3	111.2	110.4	110.5	110.4	110.0	111.0	111.3	111.3
Clothes dryers, electric	112.4	113.2	113.4	113.1	113.0	113.0	113.3	113.5	113.6	113.6	113.7	114.4	114.5	114.0
Air conditioners [1]	110.2	111.0	------	------	------	------	------	------	110.4	110.4	111.1	111.0	110.9	110.4
Room heaters, electric, portable [1]	108.1	------	------	108.0	108.5	108.9	108.6	108.4	108.5	------	------	------	------	------
Garbage disposal units	110.1	110.2	110.3	110.2	110.3	110.4	110.9	111.0	111.0	111.2	111.0	111.0	111.0	111.0
Other house furnishings:														
Dinnerware, earthenware	117.8	118.9	119.2	119.3	119.2	119.4	120.1	121.0	122.2	122.6	122.9	123.7	125.4	125.7
Flatware, stainless steel	120.4	121.5	121.7	122.1	122.0	121.8	122.0	122.2	121.4	121.8	121.6	122.9	123.7	124.7
Table lamps, with shade	121.0	122.3	122.2	122.0	122.2	121.8	122.0	122.2	121.7	122.2	121.8	123.0	124.4	124.8
Housekeeping supplies:														
Laundry soaps and detergents	109.8	111.1	111.1	110.9	110.6	110.8	111.0	111.0	111.2	111.1	110.9	111.0	111.1	111.1
Paper napkins	126.7	128.1	128.3	128.8	128.9	128.6	128.6	128.4	128.9	129.5	130.8	130.6	131.7	131.9
Toilet tissue	123.6	122.6	123.7	123.9	123.6	123.8	124.5	124.8	125.1	125.6	126.0	125.2	124.4	123.9
Housekeeping services:														
Domestic service, general housework	133.8	134.9	135.1	135.3	136.0	136.1	136.4	136.4	136.9	138.4	138.9	139.2	139.4	139.6
Baby sitter service	130.0	130.7	132.1	132.3	132.4	132.8	133.4	133.8	134.8	135.0	135.3	135.6	136.6	136.9
Postal charges	138.1	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6
Laundry, flatwork	133.3	134.6	135.0	135.4	135.6	136.3	136.4	136.6	137.0	137.6	138.0	138.5	139.0	139.5
Licensed day care service, preschool child	118.2	119.0	119.1	119.4	119.1	119.4	119.4	120.0	120.3	120.8	121.3	122.2	122.4	123.0
Washing machine repair	135.3	137.3	137.4	137.6	138.2	138.2	138.1	138.4	138.9	138.9	140.4	140.8	141.1	141.4
APPAREL AND UPKEEP	119.8	119.0	120.6	121.6	121.9	121.8	120.2	120.7	121.3	121.8	122.5	122.1	121.1	120.8
Men's and boys'	120.3	119.6	120.8	121.8	121.8	121.6	119.9	119.7	120.3	121.9	122.4	121.9	120.4	120.4
Men's:														
Topcoats, wool or all weather coats, polyester blend [1]	122.3	------	121.9	123.4	124.4	124.2	121.2	119.5	119.3	------	------	------	------	------
Suits, year round weight	129.0	127.7	130.5	132.4	133.0	131.5	126.5	125.6	127.6	131.1	132.4	131.8	128.1	128.6
Suits, tropical weight [1]	129.2	------	------	------	------	------	------	------	130.9	136.3	138.0	136.8	131.3	130.8
Jackets, lightweight	112.5	112.1	112.2	112.9	114.2	114.3	113.0	112.7	115.0	115.1	115.7	114.8	114.0	113.7
Slacks, wool or blend	116.8	115.4	118.2	118.2	117.6	116.8	115.7	116.3	115.7	117.2	116.7	114.9	113.5	114.4
Slacks, cotton or blend	132.3	130.9	132.5	133.9	134.7	134.7	134.0	137.1	137.4	137.0	137.3	133.9	133.1	135.3
Trousers, work, cotton	113.0	113.7	113.7	114.0	114.0	114.0	114.1	114.4	114.4	114.6	114.7	114.7	115.0	115.1
Shirt, work, cotton	113.3	114.0	114.2	114.6	114.8	114.5	114.5	114.2	114.5	114.9	115.1	115.5	115.4	115.4
Shirt, business, cotton	112.7	112.4	113.0	113.0	114.4	114.4	112.6	112.7	112.4	113.1	113.4	113.7	112.1	111.5
T-shirts, chiefly cotton	119.0	119.0	118.8	118.9	118.4	118.2	118.3	118.0	117.8	117.4	117.4	117.4	117.4	117.6
Socks, cotton or manmade fibers	115.5	114.9	115.2	115.7	115.7	115.8	114.3	114.9	116.2	116.6	116.7	116.7	115.9	116.0
Handkerchiefs, cotton	114.9	115.2	115.4	115.7	115.7	116.1	116.3	116.0	116.2	115.4	115.7	116.2	116.3	116.5
Boys':														
Coats, all purpose, cotton or cotton blend [1]	118.3	------	------	119.2	120.3	118.3	115.8	114.8	122.3	------	------	------	------	------
Sport coats, wool or blend [1]	122.0	------	123.5	128.1	118.3	121.3	118.1	------	------	------	------	------	------	------
Dungarees, cotton or blend	122.5	122.7	123.2	123.2	125.2	125.8	126.4	126.1	126.3	127.1	127.1	127.3	127.5	127.4
Undershorts, cotton	119.5	119.9	119.6	119.6	119.6	119.6	119.9	120.6	120.5	120.5	120.5	120.5	120.8	120.2
Women's and girls'	120.1	118.2	121.3	122.7	123.4	123.2	120.2	121.7	122.5	122.3	123.4	122.6	121.2	119.8
Women's:														
Coats, heavyweight, wool or wool blend [1]	122.9	------	121.7	127.2	127.7	126.0	116.2	------	------	------	------	------	------	------
Skirts, wool or wool blend [1]	131.7	------	131.1	135.7	142.1	142.1	135.0	125.3	------	------	------	------	------	------
Skirts, cotton or polyester cotton or manmade fibers	114.0	102.9	------	------	------	------	------	------	------	115.5	121.3	121.4	116.7	110.4
Blouses, cotton	121.9	119.1	122 1	120.0	122.2	121.6	117.6	122.9	1 2.2	123.7	124.3	122.8	123.4	120.8
Dresses, street, chiefly manmade fiber	127.6	126.8	127.5	129.4	131.1	130.1	129.6	131.3	320.4	130.1	129.6	128.8	127.4	126.5
Dresses, street, wool or wool blend [1]	140.4	------	140.3	144.3	143.8	142.7	138.4	------	------	------	------	------	------	------
Slips, nylon	110.7	111.1	111.1	111.1	110.4	111.2	111.2	111.0	110.5	110.9	110.9	111.0	110.8	110.8
Panties, acetate or nylon	115.2	115.7	115.8	115.4	116.2	116.2	116.7	116.3	116.5	116.6	117.0	118.1	118.1	118.3
Girdles, manmade blend	116.2	116.8	117.1	117.7	117.9	118.1	116.1	117.2	117.4	118.2	118.2	116.9	116.9	117.9
Brassieres, nylon lace	120.9	121.2	122.2	123.0	123.4	123.4	122.3	121.3	121.6	121.9	121.9	121.9	122.1	122.5
Hose, or panty hose, nylon, seamless	98.9	98.6	97.9	98.1	98.2	98.3	97.4	97.7	97.5	96.1	96.5	96.0	96.4	96.0
Anklets or knee-length socks, various fibers	115.8	114.8	114.8	114.6	115.6	116.4	115.9	115.8	116.1	115.9	114.9	114.4	114.4	113.8
Gloves, fabric, nylon or cotton	109.6	109.7	109.9	109.5	109.7	109.8	110.2	109.8	110.3	110.7	111.2	111.7	109.9	110.6
Handbags, rayon faille or plastic	132.4	134.2	135.6	134.8	136.8	138.2	138.9	140.2	141.5	142.5	143.2	144.6	142.8	144.5

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
APPAREL AND UPKEEP—Continued														
Girls':														
Raincoats, vinyl plastic or chiefly cotton [1]	116.5	-------	115.6	118.5	119.5	119.3	117.1	117.3	116.8	-------	-------	-------	-------	-------
Skirts, wool or wool blend [1]	106.8	-------	105.2	109.0	107.1	108.6	100.2	-------	-------	-------	-------	-------	-------	109.1
Dresses, cotton, manmade fibers or blends	107.4	107.4	109.3	110.3	109.4	109.3	108.9	107.2	119.2	121.4	125.3	119.2	120.0	122.6
Slacks, cotton [1]	131.3	-------	-------	131.8	131.5	131.7	131.1	-------	-------	-------	-------	-------	-------	-------
Slips, cotton blend	110.4	109.8	111.0	110.9	111.3	111.9	111.7	[e]112.1	112.1	111.1	111.0	110.2	110.5	110.3
Handbags	129.0	126.9	128.3	129.3	130.0	129.3	124.1	127.5	128.8	130.6	129.8	124.7	122.6	120.6
Footwear	121.5	121.5	122.2	122.7	132.2	123.1	122.7	122.7	123.5	124.1	124.6	124.7	124.6	125.1
Men's:														
Shoes, street (oxford or buckle strap)	119.6	119.2	120.9	119.8	121.1	121.0	119.7	119.9	121.6	121.4	123.1	123.8	124.2	124.5
Shoes, work, high	118.7	119.5	120.0	120.1	120.4	120.6	121.1	121.4	121.3	121.3	121.5	120.9	123.2	122.8
Women's:														
Shoes, street, pump	123.4	122.9	123.2	124.5	125.2	125.1	124.3	123.8	124.6	125.8	126.6	125.9	125.1	126.5
Shoes, evening, pump	120.2	119.6	120.3	121.0	121.0	121.1	120.7	120.5	121.4	122.0	122.1	122.3	121.8	122.1
Shoes, casual, pump	124.1	123.5	124.3	125.7	126.0	125.8	125.1	124.7	125.5	126.5	125.9	126.1	122.8	123.3
Houseslippers, scuff	121.9	123.5	123.4	123.5	123.6	123.4	124.0	124.0	124.2	124.5	124.3	124.8	125.4	125.6
Children's:														
Shoes, oxford	122.3	122.4	122.8	123.8	124.4	124.1	122.4	123.6	124.6	125.9	126.5	126.9	127.3	128.3
Sneakers, boys', oxford type	118.8	119.4	119.5	119.7	119.9	120.3	121.0	121.5	122.3	122.6	123.1	123.5	124.2	124.2
Dress shoes, girls', strap or pump	125.8	126.4	127.3	128.4	128.6	128.4	128.6	128.7	128.7	129.5	129.8	129.8	130.1	130.4
Miscellaneous apparel:														
Diapers, cotton gauze or disposable	112.0	112.5	112.7	112.8	113.3	113.3	113.0	113.0	113.2	113.5	114.0	114.5	115.3	116.0
Yard goods, polyester blend	122.1	121.9	122.1	122.1	122.3	121.9	120.6	120.5	118.9	118.1	117.8	119.0	119.1	119.3
Apparel services:														
Drycleaning, men's suits and women's dresses	116.6	116.8	117.1	117.2	117.0	117.1	117.2	117.4	117.4	117.4	117.5	117.5	117.6	117.7
Automatic laundry service	113.8	113.2	113.3	113.3	113.8	113.9	113.7	114.3	114.2	114.9	115.1	114.8	114.9	114.9
Laundry, men's shirts	119.1	119.2	119.1	119.2	119.2	120.4	120.5	120.7	120.9	120.6	120.8	121.0	121.6	122.2
Tailoring charges, hem adjustment	128.5	129.0	129.6	130.0	131.2	131.6	131.7	131.8	132.1	132.1	132.5	132.5	132.9	133.7
Shoe repairs, women's heel lift	112.0	112.4	113.5	114.0	114.0	113.8	113.8	113.8	114.0	114.6	115.1	115.4	115.6	116.7
TRANSPORTATION	118.6	[r]119.3	[r]118.6	[r]119.3	118.8	118.6	119.0	118.3	118.	118.6	119.5	119.8	120.3	120.5
Private	116.6	[r]117.3	[r]116.4	[r]117.2	116.6	116.3	116.4	115.7	115.9	116.1	117.1	117.3	117.8	118.1
Automobiles, new	112.0	[r]109.3	[r]105.6	[r]109.1	109.6	110.4	112.2	111.9	111.7	111.7	111.4	111.3	111.0	110.6
Automobiles, used	110.2	112.5	111.6	111.7	110.2	107.2	105.3	103.0	103.9	106.4	110.0	112.0	112.7	112.4
Gasoline, regular and premium	106.3	107.9	108.7	108.8	106.9	107.3	106.7	105.7	106.1	105.0	106.2	105.6	106.9	108.4
Motor oil, premium	120.0	121.0	121.5	121.7	121.8	121.9	122.3	122.5	122.7	122.9	123.3	123.4	123.9	124.2
Tires, new, tubeless	116.3	117.3	117.5	117.6	118.8	118.3	117.9	117.4	116.6	116.0	116.3	115.8	116.0	115.5
Auto repairs and maintenance	129.2	131.0	131.2	131.3	131.6	131.9	133.1	133.6	134.0	134.3	134.6	134.9	135.2	135.7
Auto insurance rates	141.4	142.9	142.9	141.8	141.8	141.8	141.0	140.8	140.9	140.7	140.6	140.7	141.1	141.1
Auto registration	123.2	123.7	123.7	123.7	123.7	123.7	127.1	127.1	127.1	127.5	127.5	127.5	127.5	127.5
Public	137.7	139.1	139.3	139.3	139.3	139.7	143.4	143.5	142.3	142.7	142.7	143.0	143.3	143.3
Local transit fares	143.4	144.0	144.0	144.0	144.0	144.4	150.2	150.3	148.4	149.1	149.1	149.9	150.3	150.3
Taxicab fares	126.5	131.7	131.7	131.7	131.7	132.8	132.8	132.8	132.9	132.9	132.9	133.6	133.6	133.6
Railroad fares, coach	126.8	127.4	127.7	127.7	127.6	128.2	128.2	128.2	126.9	127.0	127.0	122.7	122.9	122.9
Airplane fares, chiefly coach	126.9	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.2	129.2	129.2
Bus fares, intercity	132.7	132.9	135.9	135.9	135.9	136.1	136.1	136.1	137.6	137.6	137.6	138.1	138.1	138.1
HEALTH AND RECREATION	122.2	123.1	123.6	123.5	123.7	123.9	124.3	124.7	125.0	125.5	125.8	126.1	126.3	126.5
Medical care	128.4	130.0	130.4	129.6	129.7	130.1	130.5	131.0	131.4	131.7	132.0	132.4	132.7	132.9
Drugs and prescriptions	105.4	105.6	105.7	105.6	105.7	105.6	105.5	105.5	105.5	105.5	105.7	105.8	105.6	105.8
Over-the-counter items	110.2	110.2	110.3	110.4	110.5	110.2	110.3	110.6	110.8	110.9	111.7	111.6	111.2	111.5
Multiple vitamin concentrates	96.6	95.3	95.1	95.4	95.4	95.1	95.1	95.0	95.1	95.2	95.3	95.0	95.1	95.3
Aspirin compounds	114.1	114.2	115.1	115.8	115.4	114.0	114.1	114.5	115.0	115.4	117.7	118.1	116.6	116.8
Liquid tonics	101.3	101.3	100.7	100.9	100.8	100.8	100.8	101.2	101.2	101.2	101.3	101.3	101.2	101.4
Adhesive bandages, package	122.6	123.8	124.1	123.6	123.6	124.1	123.8	123.7	123.9	124.1	124.1	123.6	123.4	124.1
Cold tablets or capsules	111.3	112.2	112.0	112.0	113.2	112.9	112.8	113.1	113.5	113.2	113.9	113.9	114.2	114.5
Cough syrup	112.4	111.3	111.4	111.4	111.2	111.3	111.7	112.7	112.9	112.8	114.1	113.9	113.5	113.7
Prescriptions	101.3	101.7	101.8	101.6	101.6	101.7	101.5	101.2	101.1	100.9	100.7	100.9	100.9	100.9
Anti-infectives	80.2	80.0	79.9	79.6	79.4	79.1	78.9	77.4	76.7	76.0	75.2	75.4	74.7	74.3
Sedatives and hypnotics	122.9	123.8	124.2	123.8	124.6	124.8	124.7	124.9	125.1	125.2	125.9	126.5	127.4	127.6
Ataractics	101.7	102.3	102.6	102.5	102.6	102.6	102.6	102.7	102.8	102.8	102.7	102.9	103.3	103.3
Anti-spasmodics	107.1	108.1	108.1	107.9	107.8	108.0	107.9	107.7	107.8	107.8	107.9	108.0	108.0	108.0
Cough preparations	126.0	127.3	127.9	127.4	127.2	127.2	127.1	127.8	128.5	128.9	129.7	130.7	131.9	132.2
Cardiovasculars and antihypertensives	111.1	112.0	112.0	112.0	112.0	112.1	112.0	111.8	111.8	111.8	111.4	111.4	111.5	111.7
Analgesics, internal	107.8	108.2	108.3	107.7	107.9	108.3	108.2	109.1	109.2	109.4	109.5	109.5	109.6	109.8
Anti-obesity	114.9	116.6	117.1	117.0	117.0	117.3	117.7	117.7	117.5	116.7	117.1	117.2	118.0	118.0
Hormones	94.9	94.8	94.9	94.7	94.6	94.8	94.0	94.0	93.8	94.0	92.9	92.8	92.5	92.9
Professional services:														
Physicians' fee	129.8	131.2	131.5	131.7	132.0	132.2	132.3	132.6	132.9	133.2	133.3	133.9	134.0	134.2
General physician, office visits	131.4	132.7	133.0	133.0	133.1	133.3	133.3	133.5	134.0	134.2	134.3	135.0	135.1	135.2
General physician, house visits	131.0	132.0	133.6	133.9	134.1	134.6	134.8	135.1	135.5	135.6	135.8	137.0	137.2	137.3
Obstetrical cases	129.0	130.9	131.3	131.5	131.5	131.6	132.0	132.3	132.8	133.9	134.0	134.0	134.2	134.3
Pediatric care, office visits	132.0	133.4	133.5	133.6	134.7	135.3	135.3	135.6	135.5	135.6	135.6	135.8	135.9	136.1
Psychiatrist, office visits	124.8	125.7	125.7	125.9	127.2	127.3	127.9	128.3	128.5	128.5	128.5	129.0	129.2	129.3
Herniorrhaphy, adult	123.4	124.3	124.4	125.2	126.2	126.4	126.8	127.0	127.4	127.8	127.9	128.2	128.2	128.6
Tonsillectomy and adenoidectomy	125.2	128.0	128.0	128.2	128.7	128.7	128.7	129.2	129.2	129.6	129.8	130.0	129.8	130.4

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Group, subgroup, and selected items	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
HEALTH AND RECREATION—Continued														
Dentists' fees	127.0	127.9	128.2	129.6	129.8	130.0	130.5	130.6	131.0	131.6	131.9	132.4	132.7	132.8
Fillings, adult, amalgam, one surface	128.0	129.3	129.5	131.0	131.0	131.3	131.8	131.8	132.3	133.0	133.4	133.9	134.2	134.3
Extractions, adult	126.9	127.4	127.7	128.9	129.4	129.6	130.4	130.6	131.0	131.5	131.9	132.6	132.8	132.9
Dentures, full uppers	124.9	125.6	126.0	127.7	127.7	127.7	128.2	128.3	128.3	128.8	129.0	129.1	129.5	129.5
Other professional services:														
Examination, prescription, and dispensing of eyeglasses	120.3	121.9	122.1	122.6	122.9	122.9	123.1	123.8	124.0	124.5	124.7	125.0	125.0	125.3
Routine laboratory tests	116.1	117.2	117.6	117.8	117.8	118.6	118.7	118.9	119.4	119.7	120.7	120.7	120.7	120.8
Hospital service charges [5]							100.0	100.6	101.2	101.5	101.8	102.0	102.4	102.7
Semiprivate rooms	163.1	165.8	166.8	167.0	167.0	167.9	169.6	171.1	172.2	172.7	173.2	173.8	174.9	175.3
Operating room charges	156.2	156.7	158.0	159.1	159.0	162.6	163.5	165.0	166.0	166.6	167.3	167.2	168.6	170.0
X-ray, diagnostic series, upper G.I.	124.9	126.4	126.5	126.5	126.6	126.9	127.7	127.9	128.6	129.0	128.9	128.8	129.3	129.6
Laboratory test, urinalysis [5]							100.0	100.9	101.4	101.5	101.9	102.0	102.3	102.4
Anti-infective, tetracycline, HCL [5]							100.0	99.7	100.0	100.9	100.3	100.1	99.8	100.0
Tranquilizer, chlordizepoxide, HCL [5]							100.0	99.7	99.9	100.6	101.1	101.9	101.7	101.9
Electrocardiogram [5]							100.0	101.9	102.5	102.8	102.8	102.8	102.8	102.8
Intravenous solution, saline [5]							100.0	100.5	101.4	101.5	101.9	102.2	102.3	102.4
Physical therapy, whirlpool bath [5]							100.0	100.5	100.7	100.8	101.9	102.0	102.1	102.2
Oxygen, inhalation therapy [5]							100.0	101.2	101.5	101.6	101.7	101.9	102.0	102.0
Personal care	116.8	117.5	117.6	117.9	117.9	117.9	118.1	118.4	118.7	119.1	119.7	120.0	120.0	120.2
Toilet goods	113.8	114.5	114.6	114.9	114.8	114.8	115.1	115.4	115.8	116.3	117.1	117.4	117.3	117.4
Toothpaste, standard dentifrice	107.7	107.7	108.6	108.8	108.3	109.3	109.9	109.6	119.5	108.8	109.9	109.4	110.0	109.9
Toilet soap, hard milled	114.1	116.8	115.2	118.4	118.8	119.7	119.7	120.3	121.1	121.0	122.9	122.6	122.5	121.9
Hand lotions, liquid	119.5	119.0	119.7	120.5	120.0	120.4	121.2	124.0	123.8	125.1	125.2	126.0	124.9	127.1
Shaving cream, aerosol	106.6	106.9	107.2	107.1	107.8	107.3	107.1	106.4	107.2	107.5	108.0	108.2	107.0	107.1
Face powder, pressed	123.5	124.0	124.1	123.9	122.4	122.0	122.0	123.1	125.1	126.2	131.4	133.3	135.0	134.2
Deodorants, aerosol	105.6	106.0	106.4	106.3	105.9	105.9	104.9	105.0	105.6	105.6	106.0	105.5	105.6	105.1
Cleansing tissues	123.3	124.2	124.1	122.6	123.6	121.8	124.4	123.1	123.4	125.4	124.3	125.1	124.5	124.7
Home permanent wave sets	110.9	111.5	111.7	111.8	111.7	111.6	111.3	111.3	110.5	110.9	109.1	109.1	109.2	109.6
Personal care services	120.0	120.6	120.8	121.0	121.2	121.2	121.3	121.5	121.7	122.0	122.4	122.7	122.9	123.2
Men's haircuts	122.6	123.2	123.4	123.7	123.7	123.9	123.9	124.1	124.2	124.4	124.9	125.1	125.3	125.4
Beauty shop services	118.2	118.8	118.9	119.1	119.4	119.2	119.4	119.7	119.9	120.4	120.7	121.0	121.2	121.6
Reading and recreation	119.3	119.7	120.5	120.5	120.8	121.1	121.4	121.5	121.7	122.3	122.5	122.9	123.0	123.0
Recreational goods	106.6	106.9	107.1	107.2	107.2	107.3	107.4	107.3	107.6	107.7	107.8	108.0	108.1	108.1
TV sets, portable and console	100.1	99.9	100.0	100 2	100.3	100.3	99.9	99.7	100.0	99.8	99.6	99.5	99.4	99.4
TV replacement tubes	122.5	122.1	123.4	124.1	124.5	124.7	126.4	126.9	128.8	129.8	130.6	131.1	131.8	132.6
Radios, portable and table model	98.5	98.4	98.5	98.1	98.4	98.4	98.4	98.4	98.5	98.9	99.0	99.1	99.1	99.2
Tape recorders, portable	94.2	93.6	93.0	92.7	92.5	93.1	93.4	93.3	93.3	93.8	94.4	94.7	94.9	95.1
Phonograph records, stereophonic	103.5	105.8	106.5	106.5	106.5	107.1	107.2	107.0	106.6	106.4	106.5	107.2	107.5	107.6
Movie cameras, Super 8, zoom lens	89.4	89.3	89.1	89.2	88.9	88.9	88.3	88.7	88.8	88.8	87.5	88.2	88.3	88.3
Film, 35mm, color	108.3	108.4	108.4	108.3	108.5	108.7	108.6	108.3	108.3	108.3	108.2	108.1	108.0	108.2
Bicycle, boys'	112.6	114.0	113.7	114.0	113.6	113.3	113.8	114.2	114.9	114.8	116.0	117.0	117.4	117.1
Tricycles	111.2	111.9	112.0	111.9	111.7	112.2	112.6	113.0	113.4	112.7	113.1	114.0	114.3	114.5
Recreational services	125.2	126.1	126.3	126.2	126.6	126.4	126.9	127.0	127.3	127.8	128.0	128.7	128.9	128.6
Indoor movie admissions	137.6	138.2	138.9	138.3	138.7	137.9	139.0	138.6	139.2	140.7	141.2	142.5	144.1	143.3
Drive-in movie admissions, adult	140.1	142.5	142.5	142.3	142.3	142.5	143.1	143.5	143.7	143.8	145.9	147.8	146.7	147.1
Bowling fees, evening	116.3	116.1	116.1	116.7	117.7	117.6	117.9	118.4	119.1	119.3	118.9	118.6	118.4	117.8
Golf greens fees [1]	127.5	128.8	128.4	128.3						129.6	129.0	130.7	130.8	130.9
TV repairs, picture tube replacement	98.0	98.1	98.5	98.4	98.5	98.6	98.6	98.5	98.3	98.1	98.0	98.2	98.0	98.1
Film developing, color	116.7	117.7	118.3	118.1	118.3	118.2	118.2	118.3	118.2	118.1	117.8	116.6	116.5	116.4
Reading and education:														
Newspapers, street sale and delivery	129.6	130.5	130.6	130.5	130.6	130.7	130.7	130.9	130.8	131.6	131.8	132.8	133.1	133.1
Piano lessons, beginner	121.0	120.7	121.4	121.5	121.5	121.5	121.6	122.0	122.1	122.1	122.2	122.2	122.3	122.5
OTHER GOODS AND SERVICES	120.9	121.8	122.4	122.6	122.8	123.0	123.5	124.3	124.6	125.1	125.4	125.6	125.8	126.0
Tobacco products	126.4	127.9	128.9	128.9	129.0	129.2	130.2	132.0	132.5	132.7	133.2	134.0	134.0	134.1
Cigarettes, nonfilter tip, regular size	127.9	129.6	130.2	130.2	130.3	130.6	131.6	133.2	133.7	133.9	134.4	135.6	135.6	135.9
Cigarettes, filter, king	128.1	129.6	130.8	130.8	130.8	131.1	132.2	134.3	134.8	135.0	135.5	136.1	136.1	136.1
Cigars, domestic, regular	107.1	107.3	108.5	108.7	109.3	109.5	109.7	110.3	110.6	110.7	110.7	110.9	110.9	111.0
Alcoholic beverages	116.9	117.4	117.6	117.9	118.3	118.4	118.5	118.7	118.9	119.3	119.5	119.1	119.6	119.9
Beer	112.9	113.3	113.4	113.6	113.7	113.8	113.5	113.6	113.9	114.1	114.2	113.1	113.4	113.9
Whiskey, spirit blended and straight bourbon	106.4	107.0	107.0	106.8	106.9	107.0	107.4	108.5	108.5	108.6	108.6	108.5	109.0	108.9
Wine, dessert and table	122.3	123.9	124.5	124.7	124.9	125.1	125.3	125.6	125.9	126.4	126.5	126.7	127.5	127.6
Beer, away from home	126.4	126.8	127.1	127.7	128.8	128.8	129.3	129.0	129.1	130.1	130.5	130.7	131.2	131.5
Financial and miscellaneous personal expenses:														
Funeral services, adult	117.2	118.3	118.4	118.8	119.1	119.2	119.5	120.2	120.6	120.6	120.7	121.1	121.3	121.4
Bank service charges, checking accounts	110.6	110.9	110.9	109.3	109.3	109.5	109.7	108.5	108.2	107.4	107.4	107.4	107.0	107.0
Legal services, will	135.5	133.9	137.4	139.9	140.2	141.4	141.7	141.8	141.9	149.3	149.3	150.6	150.2	150.3

[1] Priced only in season.
[2] March 1970=100.
[3] June 1970=100.
[4] December 1971=100.
[5] January 1972=100.

NOTE: For a description of the general method of computing the monthly Consumer Price Index, see **BLS Handbook of Methods for Surveys and Studies** (BLS Bulletin 1711, 1971), chapter 10.

r=revised. These figures have been recalculated to reflect the retroactive repeal of the automobile excise tax. Indexes for August recalculated to reflect adjustments for refunds on new cars in the August 15–31 period. Indexes for services reflect revision of auto finance charges which are imputed to changes in new car prices.

26. Consumer Price Index [1]—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area [2]	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All items														
U.S. city average [3]	121.3	r122.1	r122.2	r122.4	122.6	123.1	123.2	123.8	124.0	124.3	124.7	125.0	125.5	125.7
Atlanta, Ga.	121.7	(4)	r122.0	(4)	(4)	123.5	(4)	(4)	132.8	(4)	(4)	124.8	(4)	(4)
Baltimore, Md.	123.4	(4)	r124.4	(4)	(4)	125.1	(4)	(4)	124.9	(4)	(4)	125.5	(4)	(4)
Boston, Mass.	122.8	(4)	(4)	r124.5	(4)	(4)	124.9	(4)	(4)	126.2	(4)	(4)	127.1	(4)
Buffalo, N.Y.	121.8	r122.8	(4)	(4)	123.1	(4)	(4)	124.9	(4)	(4)	126.1	(4)	(4)	126.8
Chicago, Ill.-Northwestern Ind.	120.8	r121.5	r121.7	r121.7	121.8	122.3	122.1	123.0	123.2	123.3	123.7	124.2	124.4	125.0
Cincinnati, Ohio-Kentucky	120.7	(4)	r121.4	(4)	(4)	121.9	(4)	(4)	123.0	(4)	(4)	124.6	(4)	(4)
Cleveland, Ohio	122.8	r123.2	(4)	(4)	124.4	(4)	(4)	125.9	(4)	(4)	126.1	(4)	(4)	126.2
Dallas, Tex.	121.3	r122.7	(4)	(4)	122.4	(4)	(4)	123.7	(4)	(4)	124.6	(4)	(4)	125.5
Detroit, Mich.	121.7	r122.8	r122.8	r122.8	123.4	123.7	124.2	124.9	125.0	125.0	125.5	126.0	126.7	126.9
Honolulu, Hawaii	118.9	(4)	r121.2	(4)	(4)	121.1	(4)	(4)	122.4	(4)	(4)	122.2	(4)	(4)
Houston, Tex.	120.9	(4)	(4)	r122.4	(4)	(4)	123.2	(4)	(4)	124.8	(4)	(4)	125.2	(4)
Kansas City, Mo.-Kansas	120.5	(4)	r121.5	(4)	(4)	121.4	(4)	(4)	122.4	(4)	(4)	123.9	(4)	(4)
Los Angeles-Long Beach, Calif.	118.5	r119.5	r120.0	r120.3	120.1	120.1	120.2	120.4	121.2	121.3	121.4	121.7	122.8	122.8
Milwaukee, Wis.	120.1	r121.4	(4)	(4)	120.9	(4)	(4)	122.2	(4)	(4)	122.8	(4)	(4)	124.6
Minneapolis-St. Paul, Minn.	121.7	(4)	(4)	r123.4	(4)	(4)	123.8	(4)	(4)	124.2	(4)	(4)	125.5	(4)
New York, N.Y.-Northeastern N.J.	125.9	r126.9	r127.3	r127.5	127.6	128.0	128.4	129.5	130.0	130.3	130.5	130.9	131.4	131.7
Philadelphia, Pa.-N.J.	123.5	r123.6	r124.6	r125.0	124.7	125.0	124.7	125.2	125.8	126.0	126.1	126.5	127.0	127.4
Pittsburgh, Pa.	121.5	(4)	(4)	r122.9	(4)	(4)	123.2	(4)	(4)	124.7	(4)	(4)	125.5	(4)
Portland, Oreg.-Wash. [5]	116.1	(4)	(4)	r117.4	(4)	(4)	118.1	(4)	(4)	118.4	(4)	(4)	119.6	(4)
St. Louis, Mo.-Ill.	119.6	(4)	r120.5	(4)	(4)	120.9	(4)	(4)	120.8	(4)	(4)	121.9	(4)	(4)
San Diego, Calif.	119.9	r120.7	(4)	(4)	120.9	(4)	(4)	122.3	(4)	(4)	123.8	(4)	(4)	125.1
San Francisco-Oakland, Calif.	120.2	(4)	r120.9	(4)	(4)	121.8	(4)	(4)	122.9	(4)	(4)	124.3	(4)	(4)
Scranton, Pa. [5]	121.4	r123.2	(4)	(4)	122.6	(4)	(4)	123.6	(4)	(4)	125.1	(4)	(4)	126.8
Seattle, Wash.	116.4	r117.6	(4)	(4)	117.6	(4)	(4)	119.0	(4)	(4)	118.8	(4)	(4)	119.9
Washington, D.C.-Md.-Va.	122.7	r123.5	(4)	(4)	124.2	(4)	(4)	124.7	(4)	(4)	125.6	(4)	(4)	127.7
Food														
U.S. city average	118.4	120.0	119.1	118.9	119.0	120.3	120.3	122.2	122.4	122.4	122.3	123.0	124.2	124.6
Atlanta, Ga.	118.1	119.3	119.0	118.4	118.7	119.6	120.6	122.1	122.6	123.7	123.3	123.6	124.3	126.0
Baltimore, Md.	121.0	122.6	122.2	121.8	121.7	123.2	121.9	123.2	123.9	122.7	122.7	123.2	125.0	126.0
Boston, Mass.	118.5	119.2	118.5	118.4	118.8	119.9	119.5	121.2	122.3	122.5	122.8	122.9	124.0	125.2
Buffalo, N.Y.	119.7	122.0	119.6	119.8	119.8	120.9	121.1	122.9	122.8	122.5	122.5	123.2	124.4	124.6
Chicago, Ill.-Northwestern Ind.	118.5	120.7	119.4	118.9	119.2	119.6	119.8	122.8	122.7	122.3	122.3	123.9	124.3	125.9
Cincinnati, Ohio-Kentucky	118.4	119.7	118.7	118.9	118.9	120.7	120.5	123.6	123.6	123.2	123.5	122.4	125.6	125.3
Cleveland, Ohio	118.9	119.0	118.2	118.1	118.4	119.2	118.9	121.7	122.1	121.7	121.6	122.9	124.4	124.7
Da as, Tex.	117.8	119.5	118.6	118.7	118.5	120.6	120.8	122.5	122.1	121.4	121.6	122.1	123.0	123.7
Detroit, Mich.	117.3	119.4	118.4	117.8	117.8	119.2	119.7	122.1	122.0	121.3	121.1	122.4	124.2	124.1
Honolulu, Hawaii	118.1	119.6	121.4	121.8	120.4	120.9	120.7	123.7	123.2	122.8	122.3	121.3	122.1	122.9
Houston, Tex.	118.8	120.5	120.1	120.2	120.0	121.5	121.9	123.2	124.0	123.6	123.2	123.6	124.8	125.4
Kansas City, Mo.-Kansas	118.6	120.3	120.0	119.5	119.8	120.8	120.9	122.8	122.8	122.5	122.0	123.2	124.1	124.2
Los Angeles-Long Beach, Calif.	114.9	115.8	115.1	115.3	115.8	116.6	117.5	118.9	118.8	119.2	119.0	120.0	121.3	121.2
Milwaukee, Wis.	115.7	117.6	116.8	116.3	116.3	117.2	117.0	119.4	119.4	119.1	119.4	120.1	120.9	122.2
Minneapolis-St. Paul, Minn.	119.2	122.1	119.5	119.1	119.2	120.6	120.5	122.0	122.8	122.9	123.3	124.1	125.3	125.9
New York, N.Y.-Northeastern N.J.	123.1	124.9	124.2	124.3	124.3	125.2	125.2	126.9	127.4	127.4	127.3	128.1	129.5	129.8
Philadelphia, Pa.-N.J.	120.1	121.8	121.4	121.0	120.6	122.0	122.2	123.8	124.3	124.2	123.0	123.0	124.0	124.3
Pittsburgh, Pa.	118.9	120.1	119.4	119.0	119.4	120.9	120.9	122.6	123.1	122.4	121.5	121.5	123.0	123.0
Portland, Oreg.-Wash [5]	113.4	------	------	112.5	------	------	114.9	------	------	116.4	------	------	118.9	------
St. Louis, Mo.-Ill.	118.0	120.0	118.8	118.3	118.5	119.4	119.7	120.9	120.8	121.0	121.4	122.0	123.5	123.8
San Diego, Calif.	117.3	118.2	117.8	117.7	118.6	119.5	120.0	121.8	121.8	122.0	122.3	123.4	124.2	124.2
San Francisco-Oakland, Calif.	116.1	116.6	115.5	116.3	116.9	118.9	119.1	120.2	119.8	119.7	120.9	121.2	122.4	122.0
Scranton, Pa. [5]	120.1	122.8	------	------	119.6	------	------	123.6	------	------	121.7	------	------	125.2
Seattle, Wash.	115.9	117.0	116.8	116.3	116.5	r118.2	118.4	119.6	119.0	119.1	119.3	120.4	121.1	121.7
Washington, D.C.-Md.-Va.	120.2	122.2	121.3	121.4	121.2	122.0	120.9	123.7	124.0	123.8	122.9	124.8	126.1	127.5

[1] See table 25. Indexes measure time-to-time changes in prices. They do not indicate whether it costs more to live in one area than in another.

[2] The areas listed include not only the central city but the entire urban portion of the Standard Metropolitan Statistical Area, as defined for the 1960 Census of Population; except that the Standard Consolidated Area is used for New York and Chicago.

[3] Average of 56 "cities" (metropolitan areas and nonmetropolitan urban places beginning January 1966).

[4] All items indexes are computed monthly for 5 areas and once every 3 months on a rotating cycle for other areas.

[5] Old series (old market basket components).

[6] In the March and April 1971 Monthly Labor Review, these indexes were on a 1957–59=100 base. Indexes are now on a 1967=100 base.

r revised. These figures have been recalculated to reflect the retroactive repeal of the automobile excise tax. Indexes for August recalculated to reflect adjustments for refunds on new cars in the August 15–31 period.

27. Wholesale Price Index,[1] by group and subgroup of commodities

[1967 = 100 unless otherwise specified[2]]

Code	Commodity group	Annual average 1971	1971					1972							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
	All commodities	113.9	114.9	114.5	114.4	114.5	115.4	116.3	117.3	117.4	117.5	118.2	118.8	119.7	119.9
	All commodities (1957–59=100)	120.9	121.9	121.5	121.4	121.5	122.4	123.4	124.5	124.6	124.7	125.4	126.0	127.0	127.2
	Farm products and processed foods and feeds	113.8	114.6	113.0	113.0	113.6	115.9	117.4	119.6	119.1	118.3	120.0	121.3	124.0	123.8
	Industrial commodities	114.0	115.1	115.0	115.0	114.9	115.3	115.9	116.5	116.8	117.3	117.6	117.9	118.1	118.5
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	112.9	113.2	110.5	111.3	112.2	115.8	117.8	120.7	119.7	119.1	122.2	124.0	128.0	128.2
01-1	Fresh and dried fruits and vegetables	120.1	115.9	103.6	115.8	127.1	126.3	124.9	127.5	112.8	117.6	120.6	121.7	129.9	138.9
01-2	Grains	100.9	92.8	89.0	88.3	87.8	95.3	94.1	93.0	93.8	96.0	97.5	94.5	96.3	99.8
01-3	Livestock	118.3	121.3	119.1	120.9	121.0	124.7	132.2	139.6	136.7	133.8	139.8	146.4	152.4	148.1
01-4	Live poultry	100.3	100.8	102.8	93.5	92.3	87.2	94.3	105.4	107.6	94.1	96.3	102.9	118.4	106.8
01-5	Plant and animal fibers	92.8	93.4	95.2	96.3	97.3	102.5	109.5	113.2	114.3	122.1	130.1	127.3	125.4	120.6
01-6	Fluid milk	118.8	119.3	119.2	119.2	118.8	119.0	120.5	120.5	121.8	122.1	122.5	121.7	122.0	122.0
01-7	Eggs	100.8	110.1	107.8	92.4	88.5	114.4	92.6	91.9	107.7	87.2	90.6	91.9	102.2	99.3
01-8	Hay, hayseeds, and oilseeds	109.2	114.3	108.9	107.9	109.0	109.2	108.7	110.2	114.4	118.5	116.9	116.9	116.8	115.9
01-9	Other farm products	115.4	113.9	115.6	115.4	111.8	117.3	118.0	116.8	117.5	118.0	119.5	119.9	121.8	134.6
02	Processed foods and feeds	114.3	115.4	114.6	114.1	114.4	115.9	117.2	118.8	118.6	117.7	118.6	119.6	121.5	121.0
02-1	Cereal and bakery products	111.4	111.4	111.3	111.3	111.5	111.6	112.2	112.4	112.6	112.8	113.3	113.3	113.6	115.3
02-2	Meats, poultry, and fish	116.0	117.7	117.5	116.9	117.1	120.4	125.4	130.5	127.3	123.6	126.8	131.4	135.8	132.3
02-3	Dairy products	115.4	115.4	115.4	116.4	116.3	117.4	117.3	117.5	118.0	117.5	117.4	115.3	117.7	118.6
02-4	Processed fruits and vegetables	114.3	116.2	115.7	115.3	115.4	115.8	116.0	116.1	116.7	118.3	119.0	119.5	119.6	120.2
02-5	Sugar and confectionery	119.2	120.5	119.8	118.7	119.1	120.2	120.1	121.1	121.9	121.1	120.8	121.3	122.2	121.3
02-6	Beverages and beverage materials	115.8	116.1	116.0	116.4	116.6	116.4	116.4	116.8	116.7	117.2	117.2	117.8	117.9	118.9
02-71	Animal fats and oils	130.9	144.0	136.5	132.1	130.1	122.3	121.4	133.5	130.4	127.8	127.3	125.8	124.1	124.0
02-72	Crude vegetable oils	128.8	147.5	135.6	128.9	128.6	118.2	114.2	116.8	115.6	118.9	112.8	112.0	106.9	104.1
02-73	Refined vegetable oils	134.8	140.7	133.6	127.9	130.4	122.7	121.0	120.1	120.6	120.9	119.6	119.1	115.8	107.5
02-74	Vegetable oil end products	121.1	124.6	123.3	122.8	122.8	122.0	121.7	121.1	120.8	120.7	120.7	121.5	121.4	121.5
02-8	Miscellaneous processed foods	113.2	113.8	113.0	112.7	113.0	113.1	113.6	113.8	113.7	113.8	115.0	114.4	114.4	113.9
02-9	Manufactured animal feeds	104.4	104.7	101.3	98.7	100.3	104.5	103.8	103.7	108.5	108.5	108.4	107.7	110.9	111.7
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	108.6	109.7	109.7	109.6	109.8	110.6	111.3	112.0	112.1	112.6	113.3	113.6	114.0	114.1
03-1	Cotton products	110.6	112.5	112.2	112.2	112.5	113.6	116.7	118.0	119.6	120.5	121.5	122.6	123.0	122.8
03-2	Wool products	93.5	92.7	92.5	92.4	92.3	91.5	92.0	92.2	92.0	93.0	98.3	99.2	100.0	101.1
03-3	Manmade fiber textile products	100.8	103.1	103.1	102.5	103.2	104.3	105.4	105.9	106.1	107.2	108.0	108.6	108.9	108.7
03-5	Apparel	112.9	113.6	113.8	113.8	113.8	113.8	113.8	114.0	114.1	114.1	114.3	114.4	115.1	115.1
03-6	Textile housefurnishings	104.2	104.8	104.1	104.1	104.1	106.1	106.2	108.5	108.7	108.7	109.3	109.5	109.5	109.9
03-7	Miscellaneous textile products	117.2	117.2	119.8	120.8	121.2	136.2	137.4	141.6	130.9	131.1	129.8	125.8	122.6	121.4
04	Hides, skins, leather, and related products	114.0	114.4	114.7	114.7	115.1	116.2	117.8	119.1	123.0	127.2	129.5	130.9	131.6	134.6
04-1	Hides and skins	115.1	114.6	117.7	117.2	123.1	128.6	136.0	148.9	173.8	188.6	200.3	204.1	212.5	243.0
04-2	Leather	112.5	114.4	113.4	113.4	113.5	117.0	120.0	120.6	128.4	138.1	137.8	138.6	138.1	140.6
04-3	Footwear	116.8	117.1	117.1	117.1	117.1	117.1	118.1	118.5	120.1	122.4	124.6	125.8	126.5	126.5
04-4	Other leather and related products	108.3	108.2	109.0	109.0	109.1	109.8	110.6	111.2	111.9	113.7	115.3	116.7	116.5	118.7
05	Fuels and related products and power	114.2	114.8	115.3	114.8	114.7	115.0	116.0	116.1	116.5	116.9	117.5	118.2	118.6	119.7
05-1	Coal	181.8	182.9	182.9	182.9	182.9	190.2	192.7	192.6	192.6	191.2	191.2	191.2	191.2	191.5
05-2	Coke	148.7	150.5	150.5	150.5	150.5	150.5	150.5	155.0	155.0	155.3	155.3	155.3	155.3	155.3
05-3	Gas fuels	108.0	107.2	108.4	108.8	108.8	107.9	110.0	110.2	110.9	112.5	113.0	112.9	113.2	114.3
05-4	Electric power	113.6	115.3	116.4	116.3	116.2	116.3	118.9	120.0	120.0	120.5	121.2	121.5	122.1	122.1
05-61	Crude petroleum	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	114.7
05-7	Petroleum products, refined	106.8	107.3	107.3	106.3	106.2	106.1	106.1	105.5	106.3	106.6	107.3	108.5	109.1	110.7
06	Chemicals and allied products	104.2	104.3	104.3	104.2	103.8	103.4	103.4	103.5	103.4	104.1	104.4	104.3	104.2	104.4
06-1	Industrial chemicals	102.0	102.4	102.4	102.4	101.7	101.1	101.4	101.4	101.0	101.5	101.4	101.4	101.5	101.3
06-21	Prepared paint	115.6	115.9	115.9	115.9	115.9	115.9	116.2	117.3	117.9	118.3	118.3	118.3	118.3	118.3
06-22	Paint materials	101.5	99.8	99.7	99.7	99.7	101.9	102.7	102.7	102.7	103.0	103.5	103.9	104.2	105.2
06-3	Drugs and pharmaceuticals	102.4	102.7	102.6	102.6	102.4	102.5	102.3	102.2	102.5	102.4	102.8	103.1	103.2	103.3
06-4	Fats and oils, inedible	133.5	134.2	132.9	129.0	125.3	115.9	111.3	110.7	103.5	112.2	116.0	115.9	113.2	121.4
06-5	Agricultural chemicals and chemical products	92.2	91.0	91.0	90.4	90.3	90.3	90.3	90.2	90.6	92.2	92.1	92.3	91.9	92.0
06-6	Plastic resins and materials	88.9	89.0	89.5	89.9	89.2	89.0	88.6	89.3	88.9	88.3	88.6	87.9	87.9	88.2
06-7	Other chemicals and allied products	112.1	112.4	112.4	112.5	112.5	112.4	112.4	112.5	112.7	113.5	114.1	113.8	113.3	113.5
07	Rubber and plastic products	109.2	109.8	109.7	109.5	109.5	109.4	109.5	109.2	108.9	108.7	108.8	108.9	109.2	109.5
07-1	Rubber and rubber products	112.2	113.7	113.7	113.3	113.3	113.3	113.4	113.0	112.9	112.9	113.0	113.3	113.8	114.3
07-11	Crude rubber	99.3	99.6	99.3	99.0	98.5	98.5	99.2	98.8	98.5	98.2	98.6	98.6	98.8	98.7
07-12	Tires and tubes	109.2	111.4	110.8	110.8	110.8	110.8	110.3	108.4	108.4	108.4	108.4	108.7	109.5	109.7
07-13	Miscellaneous rubber products	118.0	119.3	119.8	119.2	119.2	119.2	119.7	120.4	120.4	120.4	120.4	120.8	121.3	122.1
07-21	Plastic construction products [3]	94.7	94.1	94.7	94.6	94.1	93.8	93.7	93.8	93.6	93.6	93.3	93.5	93.3	93.3
07-22	Unsupported plastic film and sheeting [4]	101.1	100.1	100.0	100.0	100.1	100.0	100.0	99.9	98.9	98.4	98.5	98.1	98.2	98.3
07-23	Laminated plastic sheets, high pressure [4]	99.2	98.6	98.6	98.2	98.0	97.9	98.2	98.6	98.1	98.4	98.4	97.9	98.3	97.9
08	Lumber and wood products	127.0	134.6	134.3	131.8	131.3	132.7	134.9	137.7	139.5	141.1	142.7	144.2	146.1	148.1
08-1	Lumber	135.5	146.7	146.8	142.7	141.9	143.8	146.9	150.4	152.4	155.1	157.0	159.0	161.6	164.1
08-2	Millwork	120.7	123.8	123.7	123.7	123.7	124.3	124.9	125.5	125.8	126.6	127.6	128.4	129.6	130.0
08-3	Plywood	114.7	120.5	119.1	116.2	115.9	117.8	120.2	125.1	128.9	128.9	130.3	131.7	132.9	135.9
08-4	Other wood products	118.8	118.9	118.9	118.8	119.5	119.1	119.6	119.9	120.1	121.1	122.7	123.4	125.6	126.8

See footnotes at end of table.

27. Continued—Wholesale Price Index,[1] by group and subgroup of commodities

[1967 = 100 unless otherwise specified[2]]

Code	Commodity group	Annual average 1971	1971					1972							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
	INDUSTRIAL COMMODITIES—Continued														
09	**Pulp, paper, and allied products**	110.1	110.6	110.6	110.6	110.6	110.7	110.8	111.6	112.3	112 8	113.2	113.5	113.7	114.1
09-1	Pulp, paper, and products, excluding building paper and board	110.4	110.8	110.8	110.9	110.9	111.0	111.1	111.9	112.5	113.1	113.4	113.8	114.0	114.4
09-11	Woodpulp	112.0	112.4	111.5	111.5	111.5	111.5	111.5	111.5	111.5	111.5	111.5	111.5	111.5	111.5
09-12	Wastepaper	111.9	112.8	114.5	117.2	117.2	124.6	124.9	126.6	129.3	131.0	130.5	137.7	137.7	138.9
09-13	Paper	114.1	114.7	114.7	114.7	114.7	114.7	114.9	115.3	115.7	115.9	115.9	116.2	116.7	116.7
09-14	Paperboard	102.4	102.8	102.8	102.9	102.9	102.7	102.7	103.5	103.6	105.6	105.8	106.0	106.0	106.0
09-15	Converted paper and paperboard products	109.7	110.1	110.2	110.1	110.1	110.1	110.3	111.4	112.2	112.7	113.3	113.5	113.7	114.3
09-2	Building paper and board	103.0	104.3	104.5	104.6	104.7	104.6	104.7	104.7	105.6	106.1	106.5	106.6	106.8	107.2
10	**Metals and metal products**	119.0	121.1	121.1	121.0	120.9	120.8	121.4	122.6	123.4	123.5	123.6	123.6	123.5	123.7
10-1	Iron and steel	121.8	125.3	125.6	125.5	125.3	125.3	126.8	128.2	128.3	128.3	128.3	128.1	128.3	128.6
10-13	Steel mill products	123.0	128.1	128.2	128.1	128.2	128.2	129.6	131.0	130.9	130.9	130.7	130.4	130.3	139.2
10-2	Nonferrous metals	116.0	117.1	116.5	116.3	116.0	114.9	114.4	115.0	117.2	117.6	117.8	117.6	116.8	116.8
10-3	Metal containers	121.7	124.2	124.2	124.2	124.2	124.2	124.2	127.1	127.1	127.3	127.3	128.8	129.9	130.9
10-4	Hardware	116.5	117.7	117.7	117.7	117.7	117.7	118.4	119.0	119.2	119.6	120.2	120.4	120.5	120.7
10-5	Plumbing fixtures and brass fittings	116.4	118.3	118.3	118.3	118.3	118.4	118.2	118.6	118.9	119.0	119.0	119.7	119.7	120.2
10-6	Heating equipment	115.5	116.8	116.7	116.3	116.5	116.3	115.9	116.2	117.0	117.9	118.1	118.6	119.0	119.2
10-7	Fabricated structural metal products	118.2	119.6	120.3	120.3	120.3	120.4	121.6	122.0	122.1	122.1	122.0	122.2	122.2	122.5
10-8	Miscellaneous metal products	119.0	119.8	119.9	119.7	119.7	120.9	121.3	123.2	124.1	124.3	124.4	124.4	124.2	124.7
11	**Machinery and equipment**	115.5	116.1	116.0	116.0	115.9	116.2	116.5	117.1	117.3	117.6	117.9	118.1	118.3	118.3
11-1	Agricultural machinery and equipment	117.2	117.5	117.5	117.5	117.5	118.6	119.9	121.5	122.0	122.1	122.3	122.7	122.7	122.8
11-2	Construction machinery and equipment	121.4	121.9	121.8	121.8	122.0	123.2	124.3	124.7	125.0	125.7	125.6	125.9	125.9	126.1
11-3	Metalworking machinery and equipment	117.3	118.1	118.0	118.1	118.2	118.4	118.5	118.9	119.4	119.7	120.0	120.2	120.5	120.8
11-4	General purpose machinery and equipment	119.1	120.3	120.2	120.2	120.2	120.5	120.8	121.2	121.5	121.9	122.2	122.7	122.9	123.0
11-6	Special industry machinery and equipment	120.9	121.6	121.7	122.0	122.0	122.1	122.6	123.1	123.0	123.4	123.5	123.7	123.9	124.0
11-7	Electrical machinery and equipment	109.5	109.9	109.7	109.6	109.3	109.3	109.5	110.0	110.1	110.2	110.5	110.6	110.7	110.6
11-9	Miscellaneous machinery	117.2	118.0	117.8	117.8	117.8	117.9	118.3	118.8	119.0	119.6	120.3	120.7	120.8	120.8
12	**Furniture and household durables**	109.9	110.2	110.2	110.2	110.2	110.2	110.2	110.8	110.9	111.0	111.1	111.2	111.4	111.7
12-1	Household furniture	114.8	115.5	115.6	115.6	115.4	115.5	116.0	116.7	116.8	116.9	117.1	117.2	117.4	117.8
12-2	Commercial furniture	118.1	118.2	118.2	118.2	118.2	118.2	118.3	118.3	118.7	119.2	119.4	119.5	119.8	119.8
12-3	Floor coverings	98.8	97.6	97.6	97.6	97.6	97.9	98.1	98.2	98.2	98.2	98.2	98.6	98.8	98.8
12-4	Household appliances	107.2	107.4	107.6	107.5	107.6	107.4	106.9	107.5	107.4	107.5	107.2	107.1	107.3	107.7
12-5	Home electronic equipment	93.8	94.0	93.8	93.8	93.4	93.4	93.3	92.9	93.0	92.8	92.9	92.6	92.4	92.4
12-6	Other household durable goods	120.9	122.1	122.1	121.9	122.0	122.1	122.3	124.1	124.5	124.5	125.0	125.4	126.4	126.8
13	**Nonmetallic mineral products**	122.4	124.2	124.2	124.1	124.0	124.2	124.3	124.6	124.8	125.6	125.9	125.8	126.2	126.7
13-11	Flat glass	123.9	124.3	124.3	124.3	123.1	123.6	123.6	123.6	122.4	121.1	121.5	121.1	121.8	122.8
13-2	Concrete ingredients	121.9	124.0	124.1	124.1	124.3	124.2	124.4	124.6	124.6	126.4	126.7	126.8	126.9	128.1
13-3	Concrete products	120.6	122.8	122.6	122.6	122.6	122.9	123.4	123.8	124.5	125.1	125.1	125.3	126.0	126.1
13-4	Structural clay products excluding refractories	114.2	114.9	114.9	114.9	114.9	114.9	114.8	116.1	116.2	117.2	117.2	117.4	117.5	117.5
13-5	Refractories	126.9	126.9	126.9	127.1	127.1	127.1	127.1	127.1	127.1	127.1	127.1	127.1	127.1	129.6
13-6	Asphalt roofing	125.5	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2
13-7	Gypsum products	106.8	114.3	114.5	113.6	112.1	114.1	113.4	112.8	115.3	114.9	113.4	113.9	115.7	116.1
13-8	Glass containers	131.6	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	136.2	136.2	136.2	136.4	136.4
13-9	Other nonmetallic minerals	124.1	125.7	125.7	125.7	125.6	125.6	125.7	125.9	126.4	126.4	128.4	127.4	127.1	127.1
14	**Transportation equipment**[5]	110.3	110.5	109.6	110.7	110.8	112.9	113.4	113.6	113.6	113.7	113.8	114.2	114.1	114.2
14-1	Motor vehicles and equipment	114.7	114.9	113.8	115.2	115.3	117.5	117.9	118.0	118.0	118.0	118.1	118.5	118.4	118.5
14-4	Railroad equipment	121.1	122.5	122.5	122.5	122.5	122.6	123.7	123.9	127.3	128.4	129.6	129.6	130.2	130.2
15	**Miscellaneous products**	112.8	113.0	113.0	113.0	113.1	113.2	113.7	114.0	114.2	114.1	114.1	114.2	114.9	115.1
15-1	Toys, sporting goods, small arms, ammunition	112.6	112.6	112.6	112.6	112.8	113.1	113.5	114.0	114.5	114.0	114.1	114.4	114.5	114.5
15-2	Tobacco products	116.7	116.8	116.8	116.8	116.8	116.7	117.4	117.4	117.4	117.4	117.5	117.5	117.5	117.5
15-3	Notions	111.6	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7	111.7
15-4	Photographic equipment and supplies	106.1	106.3	106.3	106.3	106.5	106.5	106.4	106.7	106.9	106.2	106.2	106.2	106.3	107.0
15-9	Other miscellaneous products	112.3	112.9	112.9	112.9	112.9	113.0	113.9	114.4	114.5	115.0	114.9	115.2	117.4	117.6

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes also were made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data previously published. See Wholesale Prices and Price Indexes, January 1967 (final) and February 1967 (final) for a description of the changes.

[2] As of January 1971 the indexes were converted from the former base of 1957–59 = 100 to the new base of 1967 = 100. Technical details and earlier data on the 1967 base furnished upon request to the Bureau.

[3] December 1969 = 100.

[4] December 1970 = 100.

[5] December 1968 = 100.

NOTE: For a description of the general method of computing the monthly Wholesale Price Index, see **BLS Handbook of Methods** (BLS Bulletin 1711, 1971). Chapter 11.

28. Wholesale Price Index for special commodity groupings [1]

[1967 = 100 unless otherwise specified[2]]

Commodity group	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities—less farm products	114.0	115.1	114.9	114.8	114.8	115.4	116.1	116.9	117.1	117.3	117.8	118.2	118.7	118.9
All foods	115.5	116.6	115.1	115.3	116.3	118.1	118.9	120.8	119.3	118.0	119.4	120.7	123.4	123.3
Processed foods	115.6	116.9	116.4	116.1	116.2	117.5	119.2	121.2	120.3	119.1	120.2	121.5	123.5	122.7
Textile products, excluding hard and bast fiber products	103.7	105.2	105.0	104.7	105.1	106.1	107.6	108.7	109.1	110.0	111.4	112.2	112.5	112.6
Hosiery	95.6	95.5	95.5	95.5	95.5	96.0	96.0	96.0	96.0	96.0	96.0	96.4	96.2	96.1
Underwear and nightwear	108.1	108.6	108.4	108.4	108.4	108.4	108.7	109.6	109.6	109.6	109.8	110.0	110.1	112.8
Refined petroleum products	106.8	107.3	107.3	106.3	106.2	106.1	106.1	105.5	106.3	106.6	107.3	108.5	109.1	110.7
East Coast	120.0	120.8	120.8	120.4	119.2	119.2	119.2	119.9	119.9	119.9	119.9	119.9	119.9	119.9
Mid-Continent	103.3	103.1	103.1	101.6	101.6	101.6	101.6	100.2	100.2	103.1	103.1	103.1	103.1	103.1
Gulf Coast	100.0	100.7	100.7	98.4	98.4	98.4	98.4	96.9	99.2	99.2	99.2	102.3	103.8	107.2
Pacific Coast	112.7	113.0	113.3	113.8	113.8	112.7	113.3	114.1	113.3	113.3	113.3	113.3	113.3	114.3
Midwest	112.5	113.1	113.1	113.1	113.1	113.1	113.1	113.1	112.8	112.8	112.8	113.0	113.0	113.1
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns [3]	103.2	103.3	103.3	103.3	103.0	102.9	103.0	103.2	103.2	103.7	103.9	103.8	103.7	103.8
Pharmaceutical preparations	102.2	102.5	102.5	102.5	102.3	102.4	102.2	102.1	102.5	102.4	102.8	103.1	103.2	103.1
Lumber and wood products, excluding millwork and other wood products [4]	130.1	140.0	139.7	135.9	135.3	137.2	140.1	143.9	146.4	148.4	150.2	152.1	154.3	156.9
Special metals and metal products [5]	117.6	119.0	118.7	119.0	119.0	119.7	120.3	121.1	121.6	121.7	121.8	121.9	121.8	122.0
Fabricated metal products [6]	118.4	119.7	120.0	119.9	119.9	120.4	121.0	122.2	122.7	122.8	122.9	123.2	123.3	123.7
Copper and copper products [7]	116.6	117.8	117.0	116.7	116.0	114.0	115.0	116.3	120.1	119.9	119.4	118.8	116.9	116.8
Machinery and motive products	115.3	115.8	115.3	115.8	115.8	116.7	117.2	117.6	117.7	117.9	118.2	118.5	118.5	118.6
Machinery and equipment, except electrical	118.9	119.6	119.6	119.6	119.7	120.1	120.6	121.1	121.4	121.8	122.1	122.4	122.6	122.7
Agricultural machinery, including tractors	117.3	117.7	117.7	117.7	117.7	118.9	120.4	122.1	122.6	122.7	122.8	123.2	123.2	123.3
Metalworking machinery	118.6	119.4	119.2	119.3	119.5	119.8	119.9	120.3	120.8	121.2	121.5	121.6	121.9	122.2
Numerically controlled machine tools (Dec. 1971 =100)						100.0	100.0	100.5	100.6	101.5	102.3	102.3	102.3	102.5
Total tractors	120.7	120.8	120.8	120.8	120.8	122.5	124.1	124.6	125.0	125.4	125.6	125.7	125.7	125.7
Industrial valves	116.3	118.6	118.6	118.6	119.1	119.1	119.1	120.2	120.2	120.2	120.5	121.3	121.3	121.4
Industrial fittings	122.4	122.6	122.6	122.6	122.6	123.0	123.8	123.1	123.1	124.2	124.2	121.9	121.3	121.0
Abrasive grinding wheels	122.1	123.5	123.5	123.5	123.5	123.5	123.5	123.8	126.5	126.8	126.8	126.8	126.8	126.8
Construction materials	119.5	122.9	123.0	122.2	122.0	122.4	123.2	124.2	124.9	125.7	126.2	126.6	127.2	127.8

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data reviously published. See **Wholesale Prices and Price Indexes, January 1967** (final) and February 1967 (final) for a descri tion of the changes.

[2] As of January 1971 the indexes were converted from the former base of 1957–59 = 100 to the new base of 1967 = 100. Technical details and earlier data on the 1967 base furnished upon request to the Bureau.

[3] Introduced in February 1971.

[4] Formerly titled "Lumber and wood products, excluding millwork."

[5] Metals and metal products, agricultural machinery and equipment, and motor vehicles and equipment.

[6] Introduced in July 1972. See **Wholesale Prices in Price Indexes, July 1972** for a description.

[7] Formerly titled "Copper and copper base metals."

29. Wholesale Price Index,[1] by durability of product

[1967 = 100[2]]

Commodity group	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities	113.9	114.9	114.5	114.4	114.5	115.4	116.3	117.3	117.4	117.5	118.2	118.8	119.7	119.9
Total durable goods	117.0	118.4	118.2	118.2	118.1	118.6	119.2	120.0	120.4	120.7	121.0	121.2	121.4	121.6
Total nondurable goods	111.7	112.4	111.7	111.6	111.8	113.0	114.1	115.3	115.2	115.1	116.2	117.0	118.5	118.6
Total manufactures	113.8	114.9	114.7	114.5	114.5	115.1	115.7	116.5	116.7	116.9	117.4	117.8	118.3	118.5
Durable	117.0	118.5	118.3	118.3	118.3	118.8	119.3	120.0	120.4	120.8	121.0	121.3	121.5	121.7
Nondurable	110.5	111.2	111.0	110.6	110.7	111.3	112.0	112.8	112.9	112.9	113.6	114.3	115.1	115.1
Total raw or slightly processed goods	114.4	114.8	113.2	113.8	114.3	116.8	118.9	120.9	120.7	120.4	122.4	123.3	126.3	126.9
Durable	112.2	110.4	111.1	110.4	108.9	107.4	110.3	113.1	116.2	115.0	115.0	114.1	114.2	115.3
Nondurable	114.6	115.1	113.4	114.0	114.6	117.3	119.3	121.3	121.0	120.7	122.7	123.8	127.0	127.5

[1] As of January 1967, the index incororated a revised weighting structure r eflecting 1963 values of shi ments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure and may differ from data rev iously published. See Wholesale Prices and Price Indexes, January 1967 (final) and February 1967 (final) for a description of the changes.

[2] As of January 1971 the indexes were converted from the former base of 1957–59 = 100 to the new base of 1967 = 100. Technical details and earlier data on the 1967 base furnished upon request to the Bureau.

NOTE: For a description of the series by durability of product and data beginning with 1947, see **Wholesale Prices and Price Indexes, 1957** (BLS Bulletin 1235, 1958).

30. Wholesale Price Index,[1] by stage of processing

[1967 = 100[2]]

Commodity group	Annual average 1971	1971					1972							
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
All commodities	113.9	114.9	114.5	114.4	114.5	115.4	116.3	117.3	117.4	117.5	118.2	118.8	119.7	119.9
Crude materials for further processing	115.0	115.2	113.9	114.3	114.3	117.0	120.2	123.1	123.1	123.0	125.5	127.2	130.1	130.3
RAW MATERIALS														
Foodstuffs and feedstuffs	114.2	114.5	112.1	112.6	112.7	115.8	119.3	122.9	122.0	121.0	124.0	126.7	131.2	130.7
Nonfood materials except fuel	110.5	110.2	111.1	111.1	111.1	112.8	115.4	117.3	119.5	121.3	123.2	122.7	122.6	124.2
Manufacturing	109.7	109.3	110.3	110.3	110.2	112.2	115.1	117.1	119.5	121.5	123.5	123.0	122.8	124.6
Construction	119.1	120.1	120.3	120.3	120.5	120.4	120.7	120.9	121.0	121.2	121.5	121.5	121.5	122.1
Crude fuel	138.5	139.3	140.3	140.6	140.6	142.7	145.4	145.6	146.2	146.9	147.3	147.2	147.5	148.5
Manufacturing industries	129.6	130.2	131.4	131.8	131.8	132.8	135.5	135.7	136.5	137.6	138.1	138.0	138.4	139.5
Nonmanufacturing industries	150.4	151.2	152.0	152.2	152.2	155.7	158.4	158.6	159.0	159.1	159.4	159.4	159.6	160.4
INTERMEDIATE MATERIALS														
Intermediate materials: Supplies and components	114.0	115.6	115.4	115.0	115.0	115.4	115.9	116.7	117.2	117.7	118.2	118.5	118.8	119.2
Materials and components for manufacturing	113.0	114.6	114.4	114.2	114.2	114.4	114.9	115.7	115.9	116.4	116.9	117.1	117.3	117.5
Materials for food manufacturing	116.2	118.3	117.1	116.6	116.8	117.3	117.9	119.4	118.6	117.8	118.5	119.2	120.1	119.8
Materials for nondurable manufacturing	105.6	106.3	106.2	105.9	105.9	106.3	107.0	107.4	107.5	108.7	109.3	109.6	109.7	110.0
Materials for durable manufacturing	118.8	121.7	121.6	121.4	121.2	121.0	121.5	122.7	123.3	123.7	123.9	123.8	123.8	124.3
Components for manufacturing	114.7	115.5	115.6	115.4	115.6	115.8	116.0	116.5	116.6	117.0	117.6	118.0	118.1	118.2
Materials and components for construction	119.5	122.5	122.5	121.9	121.8	122.3	123.1	124.2	124.9	125.5	125.9	126.3	126.7	127.2
Processed fuels and lubricants	113.4	114.6	115.3	114.6	114.4	114.3	116.0	116.8	116.9	117.3	118.1	118.7	119.3	119.8
Manufacturing industries	115.2	116.6	117.5	117.2	117.0	117.0	119.2	120.4	120.4	120.8	121.7	122.0	122.5	122.5
Nonmanufacturing industries	110.6	111.5	111.9	110.6	110.4	110.1	111.0	111.1	111.5	111.9	112.6	113.7	114.4	115.6
Containers	116.6	117.5	117.6	117.6	117.6	117.6	117.8	119.5	120.0	121.2	121.3	122.0	122.4	123.1
Supplies	110.9	111.3	110.3	109.6	110.1	111.1	111.0	111.4	112.8	113.0	113.3	113.4	114.4	114.9
Manufacturing industries	113.1	113.2	113.2	113.2	113.2	113.2	113.2	113.9	114.2	114.5	114.8	114.9	115.0	115.5
Nonmanufacturing industries	109.9	110.4	109.0	107.9	108.6	110.2	110.1	110.3	112.3	112.4	112.8	112.8	114.2	114.7
Manufactured animal feeds	104.3	104.6	100.8	97.9	99.8	104.4	103.6	103.3	108.3	108.1	108.1	107.3	110.7	111.4
Other supplies	112.6	113.2	113.0	113.0	113.0	113.0	113.2	113.8	114.1	114.3	115.0	115.5	115.8	116.1
FINISHED GOODS														
Finished goods (including raw foods and fuels)	113.5	114.1	113.6	113.8	114.0	115.0	115.5	116.3	116.1	115.8	116.4	116.9	117.8	117.9
Consumer goods	112.7	113.3	112.7	112.9	113.1	114.2	114.7	115.6	115.2	114.8	115.5	116.1	117.3	117.4
Foods	115.2	116.1	114.9	115.0	115.7	117.7	118.7	120.6	119.4	118.0	119.5	120.7	123.3	123.1
Crude	115.8	115.8	109.6	112.2	116.1	121.5	117.4	117.9	115.7	113.4	115.1	115.6	121.2	124.5
Processed	115.0	116.1	115.8	115.5	115.6	117.0	118.8	121.0	120.0	118.7	120.2	121.6	123.6	122.8
Other nondurable goods	111.3	111.8	111.9	111.7	111.7	111.8	112.0	112.1	112.4	112.7	113.1	113.5	113.8	114.2
Durable goods	110.9	111.1	110.4	111.3	111.3	112.6	112.9	113.2	113.1	113.2	113.1	113.2	113.5	113.6
Producer finished goods	116.6	117.1	116.9	117.1	117.0	117.8	118.4	118.8	119.0	119.3	119.4	119.6	119.7	119.8
Manufacturing industries	117.3	117.9	117.8	117.9	117.8	118.2	118.7	119.1	119.2	119.5	119.6	119.8	120.0	120.1
Nonmanufacturing industries	116.0	116.4	116.0	116.3	116.3	117.4	118.1	118.4	118.8	118.9	119.1	119.4	119.4	119.5
SPECIAL GROUPINGS														
Crude materials for further processing, excluding crude foodstuffs and feedstuffs, plant and animal fibers oilseeds, and leaf tobacco	122.7	122.3	123.0	122.9	122.6	123.4	125.6	127.0	129.1	129.3	129.9	129.8	130.2	132.3
Intermediate materials, supplies and components excluding intermediate materials for food manufacturing and manufactured animal feeds	114.3	115.9	115.9	115.7	115.6	115.8	116.4	117.2	117.6	118.2	118.6	119.0	119.2	119.5
Consumer finished goods, excluding consumer foods	111.2	111.5	111.3	111.6	111.6	112.1	112.3	112.5	112.7	112.9	113.1	113.4	113.7	114.0

[1] As of January 1967, the index incorporated a revised weighting structure reflecting 1963 values of shipments. Changes were also made in the classification structure, and titles and composition of some indexes were changed. Titles and indexes in this table conform with the revised classification structure, and may differ from data previously published. See **Wholesale Prices and Price Indexes,** January 1967 (final) and February 1967 (final) for a description of the changes.

[2] As of January 1971 the indexes were converted from the former base of 1957–59 = 100 to the new base of 1967 = 100. Technical details and earlier data on the 1967 base furnished upon request to the Bureau.

NOTE: For a description of the series by stage of processing see **Wholesale Prices and Price Indexes,** January 1967 (final) and February 1967 (final).

31. Industry-sector price indexes for output of selected industries [1]

[1967 = 100 unless otherwise specified[2]]

1963 SIC code	Industry	Annual average 1971	1971					1972							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
	MINING														
1111	Anthracite	144.9	144.7	145.6	144.7	144.7	144.7	146.4	146.4	146.4	146.4	146.4	146.4	146.4	150.5
1211	Bituminous coal	185.0	186.1	186.1	186.2	186.2	194.1	196.6	196.6	196.6	195.0	195.0	195.0	195.0	195.0
1311	Crude petroleum and natural gas	113.0	113.1	113.5	113.6	113.6	113.3	113.9	114.0	114.2	114.6	114.8	114.8	114.8	116.3
1421	Crushed and broken stone	117.7	118.5	118.5	118.5	118.8	118.8	119.1	119.4	119.4	119.7	120.1	120.1	120.1	120.8
1442	Construction sand and gravel	120.6	121.9	122.3	122.3	122.3	122.2	122.5	122.5	122.7	122.8	123.0	123.1	123.2	123.4
1475	Phosphate rock	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
1476	Rock salt	118.3	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4	124.4
1477	Sulfur	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8
	MANUFACTURING														
2011	Meat slaughtering plants	115.6	117.5	117.5	117.1	117.1	120.8	125.4	130.6	126.0	123.0	128.0	133.4	136.6	133.6
2013	Meat processing plants	110.7	111.4	110.2	112.0	112.4	114.9	117.4	124.5	124.0	122.1	123.5	125.2	128.6	130.5
2015	Poultry dressing plants	111.0	112.0	113.0	106.0	104.9	100.8	106.8	114.1	115.3	104.9	107.6	113.0	124.4	115.7
2021	Creamery butter	113.1	113.4	113.5	113.6	113.6	114.2	113.9	114.0	113.8	113.7	113.5	113.5	113.6	116.3
2033	Canned fruits and vegetables	111.7	113.7	113.0	112.5	112.6	113.0	113.3	112.9	113.6	114.6	114.9	115.6	115.5	116.5
2036	Fresh or frozen packaged fish	141.2	148.4	145.3	145.3	150.0	158.1	165.3	167.9	166.0	173.2	167.9	164.1	165.8	162.1
2041	Flour and other grain mill products (12/71=100)							98.4	97.8	99.5	98.7	97.9	97.7	97.7	102.6
2042	Prepared animal feeds (12/71=100)							100.5	100.2	101.7	101.9	102.2	101.6	102.8	103.7
2044	Rice milling	98.9	99.3	99.3	99.3	99.3	100.5	100.5	100.5	100.5	100.5	103.1	103.1	103.1	103.1
2052	Biscuits, crackers and cookies	119.3	119.6	119.6	119.6	119.6	119.6	119.6	120.6	122.2	123.0	123.1	121.2	122.2	126.0
2061	Raw cane sugar	116.9	119.5	116.7	116.7	118.1	121.3	126.7	123.5	126.1	123.6	119.5	120.9	125.0	128.2
2062	Cane sugar refining	118.3	119.8	119.4	119.4	119.6	120.0	120.9	123.0	123.6	125.4	124.9	125.1	125.5	126.7
2063	Beet sugar	116.8	117.3	117.0	117.0	117.0	117.3	118.0	119.7	120.2	121.2	120.8	120.9	121.5	121.8
2073	Chewing gum	123.6	126.2	126.2	126.2	126.2	126.2	125.9	125.9	125.9	125.9	125.9	125.9	125.9	126.0
2082	Malt liquors	110.2	110.2	110.2	110.2	110.9	110.6	110.7	110.9	110.4	110.7	110.6	110.7	110.7	110.8
2083	Malt	98.5	98.9	98.9	98.9	98.9	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
2084	Wines and brandy	117.0	120.4	120.4	120.5	c120.5	119.4	119.7	125.0	125.1	125.2	125.2	125.3	126.1	126.1
2091	Cottonseed oil mills	111.4	120.0	118.1	105.2	104.9	108.5	106.7	106.4	106.4	104.9	103.6	102.7	107.2	107.1
2092	Soybean oil mills	111.4	120.8	109.2	110.3	110.9	111.3	109.6	112.7	120.0	123.1	121:8	120.0	125.7	122.5
2094	Animal and marine fats and oils	125.7	124.4	125.4	122.6	120.3	114.0	113.1	115.7	117.0	125.6	129.1	128.9	128.3	138.9
2096	Shortening and cooking oils	121.0	125.0	123.3	122.4	122.2	121.1	120.6	120.2	119.8	119.8	119.8	120.5	120.3	120.2
2098	Macaroni and noodle products	106.3	106.4	106.5	105.8	105.8	105.8	105.8	105.8	105.9	106.0	106.2	106.2	106.2	106.1
2111	Cigarettes	117.4	117.3	117.3	117.3	117.3	117.3	118.2	118.2	118.2	118.2	118.2	118.2	118.2	118.2
2121	Cigars	108.1	109.6	109.6	109.6	109.6	109.1	109.1	109.1	109.1	109.1	109.1	109.1	109.1	109.1
2131	Chewing and smoking tobacco	125.0	125.1	125.1	125.1	125.1	125.1	125.1	125.1	125.1	125.1	125.8	125.8	125.8	125.8
2254	Knit underwear mills	107.8	108.3	108.3	108.2	108.3	108.2	108.7	109.8	109.8	109.8	110.1	110.2	110.3	110.3
2272	Tufted carpets and rugs	96.0	94.2	94.2	94.2	94.2	94.5	94.8	95.1	94.9	e 94.9	94.9	95.5	95.8	95.8
2281	Yarn mills, except wool (12/71=100)							101.0	102.5	103.1	104.2	105.4	106.2	106.6	106.5
2311	Men's and boys' suits and coats	128.0	129.1	131.0	131.2	131.3	131.3	131.5	131.3	131.2	131.0	131.3	131.8	132.7	132.7
2321	Men's dress shirts and nightwear	111.9	112.3	112.4	112.4	111.4	111.1	111.5	111.7	111.9	112.0	112.0	112.3	112.7	112.7
2322	Men's and boys' underwear	110.3	110.6	110.6	110.6	110.5	110.5	111.0	111.7	111.8	111.8	112.0	112.1	112.1	112.1
2327	Men's and boys' separate trousers	110.6	110.9	111.0	111.0	111.0	111.0	110.7	111.0	111.0	108.3	108.4	108.1	107.1	107.1
2328	Work clothing	113.7	114.7	114.6	114.6	114.6	114.9	115.0	115.1	115.1	116.3	116.9	117.1	117.1	118.0
2337	Women's suits, coats and skirts (12/71=100)							100.0	100.0	100.0	100.0	100.0	100.0	100.5	100.5
2381	Fabric dress and work gloves	111.8	111.7	111.8	111.8	111.5	111.5	113.2	113.6	115.0	118.7	120.1	121.5	122.3	122.5
2421	Sawmills and planing mills (12/71=100)							102.2	104.8	106.4	108.2	109.5	111.0	112.7	114.5
2426	Hardwood dimension and flooring	115.5	118.8	118.5	118.2	118.2	119.4	120.6	120.8	121.9	124.9	125.6	127.0	127.6	128.3
2431	Millwork plants (12/71=100)							100.5	100.6	101.3	102.2	103.2	104.1	104.6	104.7
2432	Veneer and plywood plants (12/71=100)							102.3	106.8	110.5	110.7	112.2	113.6	115.0	116.8
2442	Wirebound boxes and crates (12/67=100)	117.6	117.9	117.9	117.9	118.3	118.5	119.8	120.1	120.5	121.6	122.3	123.9	123.9	126.5
2511	Wood furniture, not upholstered (12/71=100)							100.7	101.4	101.7	101.7	101.8	101.9	102.0	102.3
2512	Wood furniture upholstered (12/71=100)							100.3	100.6	100.2	100.6	100.6	100.6	101.2	101.6
2515	Mattresses and bedsprings	108.8	109.0	109.0	109.0	109.0	109.0	108.9	109.6	109.6	109.6	110.9	110.9	111.0	111.6
2521	Wood office furniture	117.1	117.3	117.3	117.3	117.5	117.5	117.5	117.5	117.9	118.5	118.9	119.1	119.1	119.1
2647	Sanitary paper products	119.1	119.5	119.5	119.5	119.5	119.5	119.5	119.6	119.6	120.1	121.1	121.1	121.1	121.2
2654	Sanitary food containers	106.0	106.2	106.2	106.2	106.2	106.2	106.2	106.3	106.4	107.2	107.6	107.7	107.2	107.2
2819	Inorganic chemicals, nec. (12/71=100)							100.1	100.2	100.2	101.5	101.7	101.7	101.5	101.9
2822	Synthetic rubber	99.9	99.9	99.9	99.9	99.7	99.7	99.7	99.7	99.7	99.7	99.9	e 100.0	100.2	100.2
2823	Cellulosic man-made fibers	102.5	102.8	102.8	102.9	102.7	103.7	104.3	104.8	105.9	e105.9	106.0	106.0	106.0	106.5
2824	Organic fibers, noncellulosic	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.1	98.1	98.1	98.1	98.1	98.1	97.8
2834	Pharmaceutical preparations (12/71=100)							99.9	99.8	100.1	100.0	100.4	100.6	100.7	100.6
2841	Soap and other detergents (12/71=100)							100.0	100.0	100.0	100.0	100.2	100.1	100.1	100.2
2844	Toilet preparations (12/71=100)							100.0	100.1	99.8	100.0	99.7	99.7	97.9	98.1
2871	Fertilizers	91.8	89.7	89.7	89.8	89.8	89.7	89.7	89.5	90.2	90.6	90.5	90.6	90.6	90.4

See footnotes at end of table.

31. Continued—Industry-sector price indexes for output of selected industries [1]

[1967 = 100 unless otherwise specified[2]]

1963 SIC code	Industry	Annual average 1971	1971					1972							
			Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
	MANUFACTURING—Continued														
2872	Fertilizers, mixing only	102.5	102.3	102.4	102.5	102.4	102.3	102.3	101.5	102.9	103.3	103.1	103.3	103.3	102.9
2892	Explosives	112.8	112.8	112.8	112.8	112.8	112.7	112.7	112.7	112.9	113.1	114.6	114.9	114.4	114.4
2911	Petroleum refining	105.7	106.2	106.3	105.3	105.2	105.0	105.1	104.5	105.2	105.6	105.9	107.1	107.7	109.1
3021	Rubber footwear (12/71=100)							102.9	106.7	106.7	106.8	106.8	106.9	106.9	106.9
3111	Leather tanning and finishing	113.0	114.7	113.9	114.0	114.0	117.5	120.4	121.1	129.0	139.0	138.7	139.5	138.9	141.4
3121	Industrial leather belting	125.5	126.0	125.6	125.6	126.3	126.3	125.6	126.6	125.8	126.9	127.0	136.8	136.2	137.2
3141	Shoes, except rubber (12/71=100)							100.7	101.1	102.6	104.7	106.7	107.6	108.2	108.2
3211	Flat glass (12/71=100)							100.0	100.0	99.5	99.0	98.9	98.8	98.9	99.4
3221	Glass containers	131.5	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	136.1	136.1	136.1	136.3	136.3
3241	Cement, hydraulic	124.6	127.6	127.8	127.8	127.8	127.8	127.8	128.1	128.1	131.5	131.8	131.9	132.1	134.0
3251	Brick and structural clay tile	119.1	120.0	120.0	120.0	120.0	120.0	119.9	122.5	122.7	123.2	123.3	123.5	123.5	123.5
3255	Clay refractories	128.7	128.7	128.7	128.9	128.9	128.9	128.9	128.9	128.9	128.9	128.9	128.9	128.9	131.5
3259	Structural clay products nec	109.2	109.9	110.0	110.0	109.9	109.9	109.9	109.9	109.9	109.9	109.9	109.9	110.5	110.5
3261	Vitreous plumbing fixtures	112.1	114.3	114.6	114.8	114.4	114.7	113.9	114.4	114.9	115.3	115.3	116.0	116.2	116.3
3262	Vitreous china food utensils	132.4	133.4	133.4	133.4	133.4	133.4	133.4	135.8	137.9	137.9	137.9	137.9	140.2	140.2
3263	Fine earthenware food utensils	125.5	131.1	131.1	131.1	131.1	131.1	134.6	134.8	140.3	140.3	140.3	140.3	140.4	140.4
3271	Concrete block and brick	118.4	118.9	119.1	119.1	119.1	119.1	120.0	120.5	120.8	122.0	122.5	122.9	123.8	124.1
3273	Ready mixed concrete	122.5	124.8	124.6	124.6	124.6	124.9	125.3	125.8	126.7	127.3	127.3	127.4	128.1	128.0
3275	Gypsum products	107.0	114.4	114.5	113.7	112.3	114.1	113.4	113.0	115.3	114.9	113.6	114.0	115.7	116.1
3291	Abrasive products (12/71=100)							100.0	100.3	101.3	101.9	102.1	102.2	102.5	102.9
3312	Blast furnace and steel mills	123.4	128.2	128.3	128.3	128.3	128.3	129.6	130.9	130.9	130.9	131.0	130.6	130.6	130.6
3315	Steel wire drawing, etc.	120.2	124.3	125.3	125.2	125.7	125.7	127.1	127.6	127.7	127.9	127.9	128.2	128.2	128.2
3316	Cold finishing of steel shapes	124.1	128.5	128.9	128.9	128.9	128.9	127.9	132.4	132.4	132.1	130.7	129.9	129.9	129.7
3317	Steel pipe and tube	121.9	128.4	128.4	128.2	128.2	128.2	128.6	128.5	128.7	129.2	129.2	129.2	129.4	129.4
3321	Gray iron foundries (12/68=100)	115.1	116.1	116.2	116.3	116.4	116.4	116.1	116.7	116.9	116.8	116.9	117.7	117.9	118.3
3333	Primary zinc	113.3	118.8	118.8	118.8	118.8	118.8	119.0	119.1	119.2	122.3	126.1	126.0	126.1	126.1
3334	Primary aluminum	115.9	115.9	115.9	115.9	115.9	115.9	101.5	99.2	95.9	95.9	95.9	95.9	96.3	96.3
3339	Primary nonferrous metals, nec	112.8	111.8	106.5	104.9	105.1	107.2	110.4	112.2	114.2	115.4	117.8	120.4	123.6	126.8
3341	Secondary nonferrous metals (12/71=100)							96.3	96.0	99.7	100.5	100.0	99.1	99.6	100.1
3351	Copper rolling and drawing	119.0	120.5	120.0	120.0	119.7	118.3	120.3	122.2	125.6	125.4	125.6	125.5	123.6	123.5
3352	Aluminum rolling and drawing (12/68=100)	108.2	108.4	108.4	108.3	108.3	108.3	108.3	108.2	108.3	108.6	108.9	108.8	108.8	108.8
3356	Nonferrous rolling and drawing, nec. (12/71=100)							100.1	101.1	101.3	101.8	102.2	102.1	102.1	102.0
3411	Metal cans	121.9	124.0	124.0	124.0	124.0	124.0	124.0	127.5	127.6	127.6	127.6	129.3	130.0	131.2
3423	Hand and edge tools (12/67=100)	120.8	123.1	123.1	123.0	123.2	123.2	124.4	125.0	125.0	125.9	126.0	126.4	126.7	127.2
3431	Metal plumbing fixtures	114.0	117.7	117.7	117.6	117.8	117.8	116.9	116.9	117.5	117.9	118.0	119.3	119.4	119.6
3493	Steel springs	111.9	111.5	113.3	113.1	114.3	115.9	116.6	118.7	118.9	119.0	119.0	119.0	119.0	119.1
3494	Valves and pipe fittings (12/71=100)							100.3	100.6	100.6	100.9	101.1	100.9	100.8	100.7
3496	Collapsible tubes	118.4	120.0	120.0	119.9	119.9	119.9	119.9	120.5	120.7	120.8	120.9	120.8	120.8	123.7
3498	Fabricated pipe and fittings	133.0	135.6	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7
3519	Internal combustion engines	117.4	118.4	118.5	118.5	118.5	119.3	120.2	120.9	121.1	121.1	121.5	121.4	121.1	121.3
3533	Oil field machinery	123.3	124.0	123.9	123.9	123.9	123.9	125.3	125.6	125.6	126.5	128.4	128.7	129.6	129.4
3534	Elevators and moving stairways	121.0	122.2	122.2	122.2	122.2	122.2	122.3	122.3	122.3	122.3	122.3	122.3	122.3	121.8
3535	Conveyors and conveying equipment (12/71=100)							100.2	101.1	101.1	101.2	101.5	102.1	102.1	102.2
3537	Industrial trucks and tractors	120.4	123.5	121.7	121.7	121.7	124.2	124.2	123.3	123.4	123.5	123.5	123.3	123.6	123.9
3541	Machine tools, metal cutting types (12/71=100)							100.2	100.7	100.9	101.4	102.0	102.1	102.2	102.6
3542	Machine tools, metal forming types (12/71=100)							100.3	100.7	101.4	101.4	101.4	101.4	101.6	101.8
3552	Textile machinery (12/69=100)	108.9	109.8	110.1	110.4	110.4	110.4	111.0	111.3	111.3	111.4	111.4	111.1	111.2	111.5
3562	Ball and roller bearings	114.2	114.6	114.6	114.6	114.6	114.6	115.0	115.7	116.2	116.8	117.6	117.6	117.6	117.6
3572	Typewriters	103.4	103.5	103.5	103.5	103.5	103.5	103.5	104.0	104.4	104.5	104.5	104.7	104.7	104.7
3576	Scales and balances	114.3	114.1	114.1	114.5	114.5	114.5	116.5	116.5	117.6	117.8	118.5	118.6	119.0	118.6
3611	Electric measuring instruments (12/71=100)							100.5	100.7	101.2	101.2	100.2	100.3	100.3	100.2
3612	Transformers	97.3	95.6	95.5	94.8	92.4	93.0	94.4	94.1	94.3	95.5	95.4	95.1	95.3	95.5
3613	Switchgear and switchboards	113.3	113.1	112.7	113.0	112.5	112.3	112.0	112.1	112.4	111.7	111.0	111.5	111.5	111.7
3624	Carbon and graphite products (12/67=100)	113.1	113.3	113.3	113.3	113.3	113.3	113.4	113.4	113.4	113.4	113.6	114.3	114.1	114.2
3634	Electric housewares and fans (12/71=100)							99.7	99.9	100.1	99.8	99.4	99.4	99.4	99.4
3635	Household vacuum cleaners	100.4	100.5	100.5	100.5	100.5	100.4	100.4	100.4	101.8	101.8	101.8	101.8	102.0	102.0
3641	Electric lamps	113.6	113.8	113.8	114.3	114.0	114.2	114.2	114.5	116.3	117.4	117.7	117.6	117.6	117.8
3642	Lighting fixtures (12/71=100)							100.3	101.1	101.1	101.5	101.8	101.8	111.2	102.1
3652	Phonograph records	106.8	105.4	105.4	105.4	105.4	105.4	113.2	113.2	113.2	113.2	111.2	111.2	111.2	
3671	Electron tubes, receiving type	132.0	132.2	132.2	132.2	132.2	132.2	132.1	139.8	139.9	139.9	144.1	144.1	144.1	144.1
3672	Cathode ray picture tubes	86.4	87.7	83.3	83.0	83.0	83.0	83.0	82.9	83.1	82.8	83.7	83.7	84.1	84.2
3673	Electron tubes, transmitting	111.4	111.7	111.6	111.6	111.6	111.4	111.4	111.2	112.1	112.4	114.1	114.1	114.1	114.2
3674	Semiconductors	93.9	93.7	93.5	93.5	93.5	93.0	93.0	93.1	92.5	92.3	92.5	92.5	92.6	91.1
3692	Primary batteries, dry and wet	118.9	123.0	123.0	123.0	123.0	123.0	123.0	123.0	123.0	123.1	123.1	123.1	123.2	123.2
3693	X-ray apparatus and tubes (12/67=100)	128.5	129.5	129.5	129.5	129.5	129.5	132.1	132.1	132.1	132.1	132.1	131.9	132.1	132.3
3861	Photographic equipment (12/71=100)							100.0	100.3	100.5	99.9	99.9	99.9	100.0	100.7
3941	Games and toys	112.9	113.0	113.0	113.0	113.0	113.1	113.3	114.3	115.5	115.7	115.7	115.8	115.8	115.8

[1] For a description of the series, see **BLS Handbook of Methods** (BLS Bulletin 1711, 1971), Chapter 12. See also "Industry and Sector Price Indexes," in the **Monthly Labor Review,** August 1965, pp. 974–982.

[2] As of January 1971, the indexes were converted from the former base 1957–59 = 100 to the new base of 1967=100. Other bases are shown in parenthesis following the title.

NOTE: Beginning in January 1967, index weights and classifications are based on the 1963 Censuses of Manufactures and Minerals. They were formerly based on the 1958 Industrial Censuses.

c=corrected.

32. Work stoppages resulting from labor-management disputes [1]

Month and year	Number of stoppages		Workers involved in stoppages		Man-days idle during month or year	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1945	4,750		3,470		38,000	0.31
1946	4,985		4,600		116,000	1.04
1947	3,693		2,170		34,600	.30
1948	3,419		1,960		34,100	.28
1949	3,606		3,030		50,500	.44
1950	4,843		2,410		38,800	.33
1951	4,737		2,220		22,900	.18
1952	5,117		3,540		59,100	.48
1953	5,091		2,400		28,300	.22
1954	3,468		1,530		22,600	.18
1955	4,320		2,650		28,200	.22
1956	3,825		1,900		33,100	.24
1957	3,673		1,390		16,500	.12
1958	3,694		2,060		23,900	.18
1959	3,708		1,880		69,000	.50
1960	3,333		1,320		19,100	.14
1961	3,367		1,450		16,300	.11
1962	3,614		1,230		18,600	.13
1963	3,362		941		16,100	.11
1964	3,655		1,640		22,900	.15
1965	3,963		1,550		23,300	.15
1966	4,405		1,960		25,400	.15
1967	4,595		2,870		42,100	.25
1968	5,045		2,649		49,018	.28
1969	5,700		2,481		42,869	.24
1970	5,716		3,305		66,414	.37
1971	5,135		3,263		47,417	.26
1970: January	279	458	71.1	269.9	3,710.8	.25
February	330	529	116.3	329.6	2,110.6	.15
March	427	630	316.2	402.5	2,471.2	.16
April	640	884	451.1	523.1	5,431.1	.34
May	699	1,050	331.1	675.4	6,650.7	.46
June	657	1,060	288.1	538.0	5,845.6	.36
July	585	989	242.2	467.1	5,112.1	.32
August	527	950	127.3	340.7	3,851.8	.26
September	560	971	591.1	785.0	8,669.5	.57
October	448	881	231.1	753.9	11,573.6	.73
November	340	695	83.6	552.0	7,798.0	.54
December	224	529	455.5	919.9	3,188.7	.20
1971: January	416	647	234.5	319.9	2,868.2	.20
February	359	632	128.4	206.0	1,934.5	.14
March	457	725	150.0	260.0	2,489.5	.15
April	550	859	180.5	269.3	2,388.6	.15
May	612	957	726.9	817.7	4,000.1	.28
June	617	1,031	280.4	420.0	4,093.6	.26
July	499	938	747.8	937.6	7,894.8	.52
August	437	890	182.5	489.8	5,022.5	.32
September	351	668	108.2	316.0	3,109.5	.20
October	304	551	245.6	311.9	5,480.6	.36
November	315	561	234.6	450.3	5,032.4	.33
December	218	485	43.7	236.2	3,102.8	.20
1972: January [r]	310	470	80	155	2,303	.15
February [r]	320	480	61	140	1,618	.11
March [r]	400	580	127	165	1,544	.09
April [r]	440	640	146	217	2,031	.14
May [r]	510	720	126	203	2,139	.13
June [p]	425	670	311	388	3,513	.21
July	380	640	177	426	3,185	.21

[1] The data include all known strikes or lockouts involving 6 workers or more and lasting a full day or shift or longer. Figures on workers involved and man-days idle cover all workers made idle for as long as 1 shift in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments or industries whose employees are made idle as a result of material or service shortages.

[p]=preliminary.

[r]=revised.

33. Indexes of output per man-hour, hourly compensation, unit costs, and prices, private economy, seasonally adjusted

[Indexes 1967=100]

Year and quarter	Output		Man-hours		Output per man-hour		Compensation per man-hour [1]		Real compensation per man-hour [2]		Unit labor costs		Unit nonlabor payments [3]		Implicit price deflator	
	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm	Private	Private nonfarm
1969: 1st	107.3	107.4	103.4	104.0	103.7	103.2	112.5	111.9	104.9	104.2	108.5	108.3	102.6	102.6	106.2	106.2
2d	107.7	108.1	104.2	104.9	103.4	103.0	114.5	113.7	104.9	104.2	110.7	110.4	102.8	102.6	107.6	107.4
3d	108.2	108.5	104.5	105.4	103.6	103.0	116.7	115.6	105.5	104.5	112.7	112.3	103.0	103.0	108.9	108.8
4th	107.5	107.9	104.0	105.2	103.3	102.5	119.5	118.0	106.5	105.2	115.6	115.1	102.1	101.8	110.4	110.1
Annual average	107.7	108.0	104.0	104.9	103.5	102.9	115.8	114.8	105.5	104.5	111.9	111.6	102.6	102.5	108.3	108.1
1970: 1st	106.8	107.0	103.7	104.9	103.0	102.0	121.5	119.9	106.6	105.2	117.9	117.5	102.1	101.6	111.8	111.5
2d	107.3	107.3	103.1	104.0	104.0	103.2	123.1	121.9	106.4	105.3	118.3	118.1	104.2	104.1	112.8	112.8
3d	107.9	108.1	102.0	103.1	105.8	104.9	126.0	124.5	107.6	106.4	119.1	118.7	105.7	105.8	113.9	113.9
4th	106.5	106.5	100.8	102.0	105.6	104.4	127.7	126.1	107.7	106.3	120.9	120.7	107.4	107.9	115.6	115.9
Annual average	107.1	107.2	102.4	103.5	104.6	103.6	124.5	123.1	107.0	105.8	119.0	118.8	104.9	104.9	113.5	113.5
1971: 1st	108.7	108.7	101.3	102.5	107.3	106.1	130.1	128.4	108.8	107.5	121.2	121.1	110.3	110.6	117.0	117.1
2d	109.7	109.8	101.7	102.8	107.8	106.9	132.0	130.7	109.3	108.2	122.4	122.3	111.6	111.7	118.2	118.3
3d	110.4	110.5	101.4	102.6	108.8	107.6	134.1	132.5	109.9	108.6	123.2	123.1	112.5	112.5	119.0	119.1
4th	112.3	112.7	102.2	103.3	109.9	109.1	135.9	134.4	110.8	109.6	123.6	123.3	112.6	112.3	119.3	119.1
Annual average	110.3	110.4	101.7	102.8	108.5	107.4	133.0	131.5	109.6	108.4	122.6	122.4	111.8	111.8	118.4	118.4
1972: 1st	114.3	114.9	103.1	104.2	110.8	110.3	138.6	137.3	112.0	110.9	125.1	124.5	113.5	113.1	120.6	120.2
2d	r117.1	r117.8	r104.1	r105.5	112.5	111.6	r140.4	r138.8	r112.6	r111.3	124.9	r124.3	115.2	r114.6	r121.1	r120.6
	Percent change over previous quarter at annual rate [4]															
1969: 1st	3.6	3.2	3.4	4.2	0.2	−1.0	6.1	5.6	1.1	0.6	5.9	6.7	1.5	0.7	4.2	4.4
2d	1.8	2.5	3.3	3.6	−1.5	−1.1	7.0	6.6	.1	−.3	8.6	7.7	.6	.1	5.5	4.9
3d	1.7	1.8	.9	1.9	.8	.0	8.2	7.0	2.2	1.1	7.3	7.1	1.0	1.5	4.9	5.0
4th	−2.5	−2.5	−1.6	−.7	−1.0	−1.8	9.8	8.6	3.8	2.7	10.8	10.6	−3.6	−4.6	5.4	4.9
1970: 1st	−2.6	−3.0	−1.4	−1.2	−1.2	−1.8	−6.9	6.5	0.6	0.2	8.2	8.4	0.2	0.5	5.2	5.2
2d	1.7	1.1	−2.2	−3.6	4.0	4.8	5.4	7.1	−1.0	.5	1.4	2.2	8.2	10.2	3.8	4.9
3d	2.3	2.9	−4.3	−3.5	7.0	6.6	9.6	8.9	4.9	4.1	2.5	2.1	6.2	6.7	3.8	3.7
4th	−5.1	−5.7	−4.5	−4.0	−.6	−1.7	5.6	4.9	.2	−.4	6.3	6.8	6.4	8.1	6.3	7.2
1971: 1st	8.7	8.6	2.1	2.1	6.5	6.4	7.7	7.8	4.3	4.4	1.1	1.3	11.3	10.5	4.7	4.5
2d	8.7	4.1	1.7	1.0	2.0	3.1	6.1	7.2	1.6	2.7	4.0	4.0	4.9	4.0	4.3	4.0
3d	2.5	2.4	−1.2	−0.5	3.8	2.9	6.4	5.6	2.3	1.5	2.5	2.7	3.2	2.7	2.8	2.7
4th	7.2	8.1	3.0	2.6	4.1	5.4	5.6	6.0	3.3	3.6	1.5	0.5	0.2	−0.6	1.0	0.1
1972: 1st	7.0	8.1	3.6	3.5	3.3	4.5	8.1	8.7	4.6	5.1	4.7	4.0	3.5	3.0	4.2	3.7
2d	r10.2	r10.6	r4.0	r5.3	6.0	5.0	r5.4	r4.4	r2.2	r1.3	r−0.6	r−0.5	r5.9	r5.4	r1.7	r1.5
	Percent change of previous year [5]															
1st	1.8	1.6	−2.3	−2.3	4.2	4.0	7.1	7.2	2.1	2.1	2.8	3.1	8.0	8.8	4.7	5.1
2d	2.3	2.3	−1.3	−1.2	3.7	3.5	7.2	7.2	2.7	2.7	3.4	3.5	7.2	7.3	4.8	4.9
3d	2.3	2.2	−0.5	−0.4	2.9	2.6	6.4	6.4	2.1	2.0	3.4	3.7	6.4	6.3	4.5	4.6
4th	5.5	5.8	1.4	1.3	4.1	4.4	6.4	6.7	2.9	3.1	2.3	2.1	4.8	4.1	3.2	2.8
1972: 1st	5.1	5.6	1.8	1.6	3.3	4.0	6.6	6.9	2.9	3.2	3.2	2.8	2.9	2.3	3.1	2.6
2d	r6.7	r7.3	r2.3	r2.7	4.3	4.4	6.4	6.2	3.1	2.9	r2.0	1.7	3.2	2.6	r2.4	r2.0

[1] Wages and salaries of employees plus employers contributions for social, insurance and private benefit plans. Also includes an estimate of wages, salaries and supplementary payments for the self-employed.

[2] Compensation per man-hour adjusted for changes in the consumer price index.

[3] Nonlabor payments include profits, depreciation, interest, rental income and indirect taxes.

[4] Percent change computed from original data.

[5] Current quarter divided by comparable quarter a year ago.

NOTE: Data for 1969, 1970, and the first two quarters of 1971 have been adjusted to new benchmarks and are not comparable to those previously published in the **Monthly Labor Review.**

SOURCE: Output data from the Office of Business Economics, U.S. Department of Commerce. Man-hours and compensation of all persons from the Bureau of Labor Statistics.

r=revised.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1972 512-361/3

PUBLICATIONS OF THE BUREAU OF LABOR STATISTICS

Periodical subscriptions and individual publications may be ordered through the Bureau's regional offices or directly from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Make check or money order payable to the Superintendent of Documents. Use order blank on next page.

Periodicals

MONTHLY LABOR REVIEW. $9 a year; $11.25, foreign; single copy, 75 cents. Articles on employment, labor force, wages, prices, productivity, unit labor costs, collective bargaining, worker satisfaction, social indicators, and labor developments abroad. Regular features include a review of developments in industrial relations, significant court decisions in labor cases, book reviews, and current labor statistics.

EMPLOYMENT AND EARNINGS. Monthly. $10 a year; $12.50, foreign; single copy, $1. Current data for the United States as a whole, for individual States, and for more than 200 local areas on employment, hours, earnings, and labor turnover.

OCCUPATIONAL OUTLOOK QUARTERLY. $1.50 for four issues during the school year; $2, foreign; single copy, 45 cents. Current information on employment trends and outlook, supplementing and bringing up to date information in the *Occupational Outlook Handbook*.

CURRENT WAGE DEVELOPMENTS. Monthly. $4.50 a year; $5.75, foreign; single copy, 45 cents. Wage and benefit changes resulting from collective bargaining settlements and management decisions; statistical summaries; and special reports on wage trends.

Handbooks

HANDBOOK OF LABOR STATISTICS. Annual. 1971 edition, Bulletin 1705, $3.25. Historical tables of major series published by BLS. Related series from other government agencies and foreign countries.

OCCUPATIONAL OUTLOOK HANDBOOK. Biennial. 1972–73 edition, Bulletin 1700, $6.25. Employment outlook, nature of work, training, requirements for entry, line of advancement, location of jobs, earnings, and working conditions for 700 occupations in 30 major industries, including farming.

EMPLOYMENT AND EARNINGS, STATES AND AREAS. Annual. Latest edition (1939–70), Bulletin 1370–8, $4.50. Historical State and area employment and earnings statistics in the nonfarm sector of the economy.

EMPLOYMENT AND EARNINGS, UNITED STATES Annual. Latest edition (1909–71), Bulletin 1312–8. $5. Detailed industry statistics on employment, hours, and earnings of the nonagricultural work force.

DIRECTORY OF NATIONAL AND INTERNATIONAL LABOR UNIONS IN THE UNITED STATES. Biennial. Latest edition (1969), Bulletin 1665, $1.25. Names of officers and professional employees, number of members, and number of locals of each union, along with sections on union membership, structure, and function.

HANDBOOK OF METHODS. Latest edition (1971), Bulletin 1711, $2. Brief account of each major statistical program of the Bureau of Labor Statistics, sources of original data, definition of terms and concepts, methodology and techniques, uses and limitations of data.

A sampling of other publications

BLACK AMERICANS: A DECADE OF OCCUPATIONAL CHANGE. Bulletin 1931, 40 cents. Companion report to Bulletin 1699. Visual presentation of data on 1960–70 progress of blacks in moving up the occcupational ladder toward higher paid jobs.

BLACK AMERICANS, A CHARTBOOK. Bulletin 1699, $1.25. Visual presentation of data on progress and problems of blacks in recent years.

WAGE CALENDAR 1972. Bulletin 1724, 50 cents. Resume of collective bargaining activity anticipated in 1972, with detailed tables on agreements scheduled to expire, contract reopenings, and deferred wage increases due.

LABOR LAW AND PRACTICE IN VENEZUELA. Report 386, 70 cents. One of a series of studies providing background information on the labor scene in foreign countries. Describes the country and its workers, the structure of government, labor, and management, and conditions of employment.

A BRIEF HISTORY OF THE AMERICAN LABOR MOVEMENT. 1970 edition, Bulletin 1000, $1.

PRICES, ESCALATION, AND ECONOMIC STABILITY. Interpretive pamphlet, 1971, 30 cents.

THE MEANING AND MEASUREMENT OF PRODUCTIVITY. Bulletin 1714, 30 cents.

AREA WAGE SURVEY: CHARLOTTE, N.C. METROPOLITAN AREA, JANUARY 1972. Bulletin 1725–48, 35 cents. One of a series summarizing results of wage surveys in 90 metropolitan

areas, with data on occupational earnings, establishment practices, and supplementary wage benefits. Various pagings and prices.

INDEXES OF OUTPUT PER MAN-HOUR, SELECTED INDUSTRIES. Annual. Latest edition (1939 and 1947–70), Bulletin 1692, $1.25. Annual indexes of output per man-hour, output per employee, and unit labor requirements. Also, indexes for related data on output, employment, and man-hours.

DIGEST OF SELECTED PENSION PLANS. 1970 edition, $5. (Subscribers receive basic volume and periodic revision sheets.) Principal features of selected pension plans for (1) employees under collective bargaining and (2) salaried employees.

INDUSTRY WAGE SURVEY: WOMEN'S AND MISSES' COATS AND SUITS, AUGUST 1970. Bulletin 1728, 35 cents. One of a series summarizing results of surveys of wages and related benefits in a specific industry. Various pagings and prices.

To order any of the publications listed, please complete the order form below and mail it to the Superintendent of Documents or to the U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS, at any of the regional addresses shown on the inside front cover.

Make check or money order payable to the Superintendent of Documents.

Order Form

Enclosed find $_____ for the publications listed below:

Name_____

Street_____

City_____ State_____ Zip_____

Quantity	Item (title and publication number, if any)	Price

For prompt, accurate shipment please fill in the following label—please print or typewrite

---

U.S. GOVERNMENT PRINTING OFFICE
PUBLIC DOCUMENTS DEPARTMENT
WASHINGTON, D.C. 20402

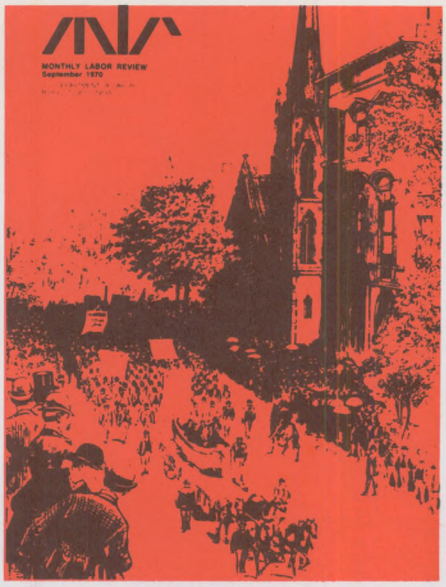
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

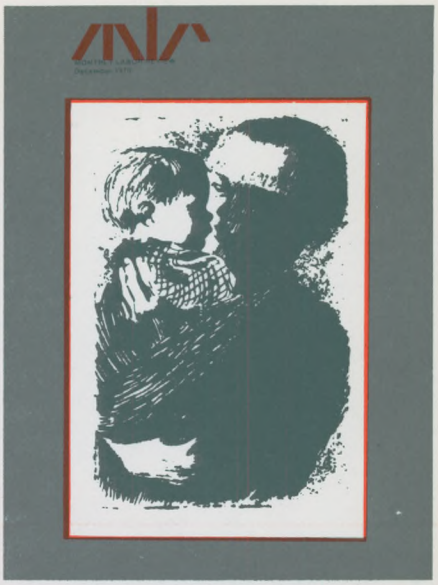
U.S. GOVERNMENT PRINTING OFFICE
POSTAGE AND FEES PAID

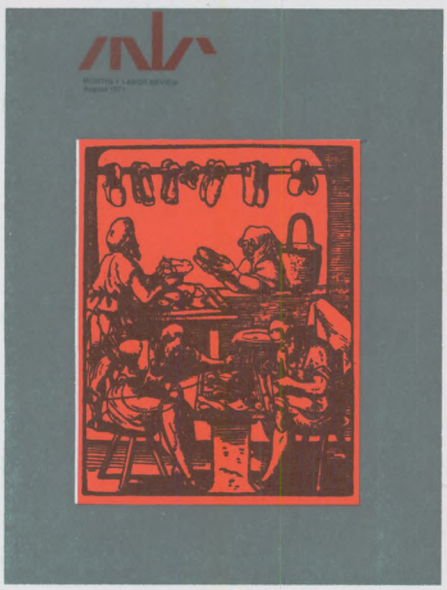
Name .....

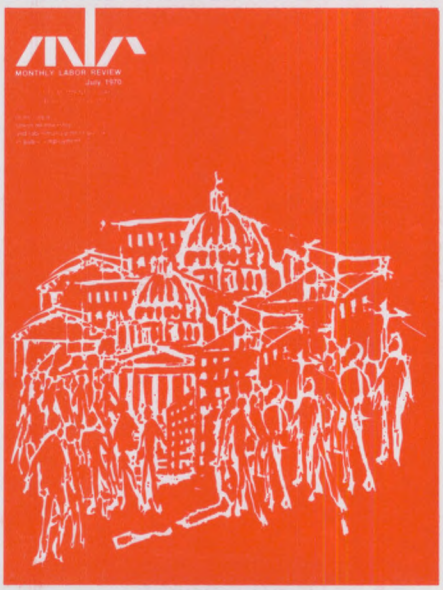
Street Address .....

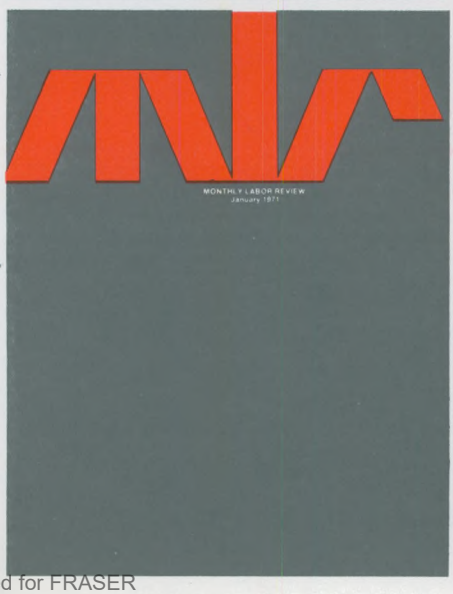
City, State, Zip Code .....

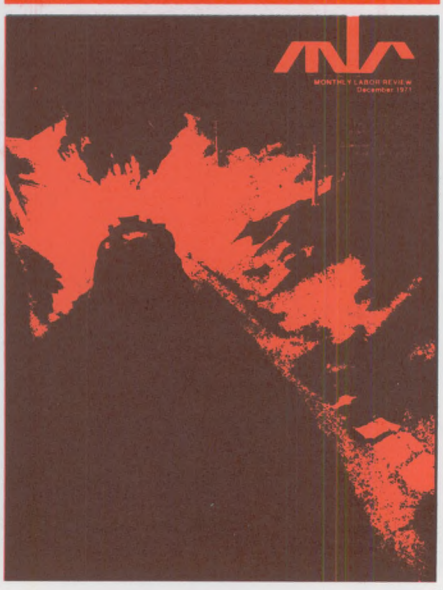












Monthly Labor Review
the award-winning professional journal in economics and the social sciences