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In this issue:
The future of work

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Labor Month in Review

Population growth. The Commission on Population Growth and the American Future completed its task —to explore the effects of population growth to the year 2000 and to develop proposals designed to cope with population problems.

The Commission's conclusions, based on 2 years of study: The United States can no longer uncritically accept the population growth ethic that "more is better." The impact of population growth on the economy, the environment, and society at large indicates the desirability of a slower rate of growth. Population stabilization—each pair of adults, on the average, giving birth to two children—should be achieved in 20 years. (The current reproduction rate is 2.4 children per woman.) By slowing the pace at which growth-related problems accumulate, population stabilization would facilitate working out solutions in an orderly, democratic manner.

The 24-member Commission, chaired by John D. Rockefeller III, was established by Congress in 1970 at the suggestion of President Nixon. More than 200 scientists and experts on economic, environmental, government, and social problems assisted in the inquiry or testified at public hearings. Among the specific recommendations of the majority of the Commission:

Fertility. Begin a national and voluntary program to reduce unwanted fertility, to increase the safety of pregnancy, and to improve the health of children. Finance through public and private health programs "the full cost of all health services related to fertility, including contraceptive, prenatal, delivery, and postpartum services; pediatric care for the first year of life; safe termination of unwanted pregnancy; and medical treatment of infertility."

Contraceptives. Adopt State legislation insuring that all persons have ready and practicable access to contraceptive information, procedures, and supplies. "Permit minors to receive contraceptive and prophylatic information and services in appropriate settings sensitive to their needs and concerns." Increase Federal spending for research into improved contraceptive methods.

Abortion. Liberalize State laws restricting abortion along the lines of the New York State statute, such abortions to be performed on request by duly authorized physicians under conditions of medical safety. Provide public funds to support abortion services in States with liberalized laws. Include abortion in comprehensive health benefits, provided by public and private programs. Provide access to voluntary contraceptive sterilization, the decision to be made solely by physician and patient.

Child care. Subsidize more fully families qualified to adopt, but unable to assume the full financial cost of a child's care. Review current laws, practices, procedures, and regulations which govern the adoptive process.

Immigration. Stabilize immigration at its present level. Require the Bureau of the Census, in coordination with the Immigration and Naturalization Service, to report biennially to the Congress on the impact of immigration on the Nation's demographic position. Pass legislation imposing civil and criminal sanctions on employers of illegal border-crossers or aliens not authorized to work.

Distribution. Develop a Federal set of population distribution guidelines to serve as a framework for regional, State, and local plans and development. Develop worker-relocation counseling and assistance programs for persons now restricted by physical remoteness and immobility. Promote expansion of job opportunities in urban areas within or near declining areas having demonstrated a potential for growth. Eliminate current patterns of racial and economic segregation in housing.

The full report, *Population and the American Future,* will be available this fall. A summary version of one of the research reports prepared for the Commission begins on the following page. □

The future of work: Three possible alternatives

The role of work in our society will change; fertility patterns will affect the direction of change and the climate in which choices will be made

DENIS F. JOHNSTON

CURRENT INTERPRETATIONS of the meaning of work in American society range from a reassertion of its traditional significance to the view that its fundamental *raison d'etre* is about to be removed by advances in automation—advances which have been heralded as the "cybernetic revolution."[1] A corresponding range of views is evident with respect to the meaning of work in the life of the individual—from the assertion that work will continue to provide a central focus for personal satisfaction and status achievement to the argument that our traditional work ethic is undergoing rapid erosion, to be displaced by new criteria of personal worth and achievement unrelated to work performance.[2]

The three "scenarios" which follow depict possible alternative directions of change which may emerge in our society with regard to the role and significance of work. The first is labeled the "green" scenario, in deference to the controversial work by Charles A. Reich.[3] The second is labeled the "blue" scenario; it is basically antithetical to the first, and implies a strong commitment to full employment and the preservation of the traditional role of work in our society. The third scenario, representing a synthesis, is labeled the "turquoise" scenario. These scenarios are deliberately simplified "ideal type" constructs; they are intended to be exploratory and should not be construed as forecasts of expected outcomes.

In the long run, the size and age distribution of the population are significant factors influencing both the felt needs of the society and the supply of workers to meet those needs. For this reason, the description of the three scenarios is followed by a summary of two alternative sets of population and labor force projections, designed to illustrate the cumulative effects of different fertility levels over a span of 70 years. Different fertility levels influence the likelihood that our society will evolve toward one or another of the scenarios, and are in turn influenced by the changing values and life styles expressed in the different scenarios. These relationships are considered briefly in the concluding section.

Denis F. Johnston is senior demographic statistician in the Office of Manpower Structure and Trends, Bureau of Labor Statstics. An expanded discussion of this subject, entitled "Illustrative Projections of the Labor Force of the United States to 2040," will be included among the Research Reports of the Commission on Population Growth and the American Future, to be published in the fall of 1972.

The green scenario

In this scenario, the displacement of workers by increasingly sophisticated, self-regulating machinery is assumed to extend rapidly from basic activities of production and distribution into white-collar and service occupations as well.[4] An increasing proportion of the population of working age is unable to find a need for their services. Concern for economic security or for material goods is no longer a significant motivation for the expenditure of work effort, since the supply of these goods is ensured by increasingly automated processes, and their distribution among the members of society is ensured by a variety of social mechanisms. With the provision of material needs and related services assured, the desire for growing material affluence is gradually displaced by concern for psychic and social enrichment in nonwork settings.

An underlying assumption here is, of course, a nearly complete separation of work and rewards. Members of such a society would share in the consumption of goods and services in much the same way they presently share in the use of such "free" goods as air and water. Under these conditions, conventional definitions of labor force, work, and em-

ployment would lose much of their relevance. The society would evolve into a two-caste system, comprising a small elite of highly trained cybernetic engineers and a growing majority of persons whose primary relationship to the economy would be limited to consumption. The life styles of this majority would be oriented toward highly diversified forms of expressive behavior—a veritable greening of America.[5]

The notion that the importance of work in our society will continue to diminish can be supported by statistical indicators reflecting the decline in the length of the average working day, the increase in the length of paid vacations, and the reduced proportion of life spent in the labor force. The following tabulation,[6] showing the change in expectations of the average 20-year-old working man, reflects the declining proportion of life spent in the labor force:

	1900	*1950*	*1968*
Life expectancy	42.2	48.9	49.2
Work life expectancy	39.4	43.1	41.5
Retirement expectancy	2.8	5.8	7.7
Percent of life in retirement	6.6	11.9	15.6

Although comparable estimates and projections for women are not available, it is apparent that the increasing labor force participation of women compensates, at least in part, for the reduction in work effort among men. Nevertheless, both sexes are entering the labor force later and retiring earlier, so that a continued reduction in the total proportion of time spent at work is likely.

If work absorbs less of an individual's time, it does not necessarily follow that it has less meaning or importance for him. However, a few studies and a larger number of impressionistic accounts have pointed to the emergence of life styles in which work is no longer regarded as intrinsically or personally valuable, but is accepted primarily for the monetary rewards it brings.[7] In one such study, only about one-third of the jobs surveyed were found to be "ego-involving," with the bulk of these concentrated in the upper white-collar groups. The remainder, including the overwhelming majority of entry-level positions, were classified as "society-maintaining."[8] As the new entrants to the labor force acquire both the habits of industry and the requisite skills in their chosen fields, they may be expected to search for an adult "identity" in terms of their work role. To the extent that this search is frustrated by the paucity of challenging or "ego-involving" jobs, a further erosion of the traditional work ethic may be ahead.[9]

The intuitive appeal of our first scenario is undeniable. It envisions a society which enjoys the ultimate liberation—from both the fear of want and from the need to submit to the disciplines of work. But its implications are profoundly disturbing, and its underlying assumptions can be challenged. Most disturbing is the likelihood that reliance upon an automated system, controlled and understood by a select minority, implies an elitist control of the majority.

But the conceptual leap from a vision of what is technologically feasible in theory to the conclusion that such a vision is about to be realized involves a non sequitur of classic proportions. Our experience with the impact of automation does not thus far indicate the disappearance of work to be done—especially when we consider the mounting social and ecological problems associated with increased production and consumption.[10] Undoubtedly, rapid technological advances will continue to produce major changes in the nature and content of work, but it does not necessarily follow that the need for, and importance of, work will be diminished.

Moreover, our green scenario may also be flawed by its misconception of the value orientations of the youthful dissidents and apostles of "deviant" life styles. Those who refuse to participate in a "corrupt" society, or who reject the notion of engaging in "meaningless" work or ritualistic and "irrelevant" education are not necessarily denying the values which underlie these pursuits; they may instead be advocating reforms designed to reassert them in purer form.[11] The emergence of an increasingly cybernated technology, accompanied by increasing levels of education and aspiration among persons of working age, may indeed produce dramatic changes in the relative emphasis given to the economic, social, and psychological components of job content and performance, but work is likely to retain its traditional position as a major factor in orienting the individual within the society.[12]

The blue scenario

The essential characteristic of this scenario is the realization and maintenance of a full employment economy, together with the progressive removal of remaining barriers to the employment of those

groups whose desire for employment has been frustrated by a variety of handicaps or by discrimination. Two basic assumptions differentiate this scenario from the one preceding. First, the pace and direction of technological change is modified and channeled by the introduction of measures which ensure a sustained high level of demand for workers. Second, this demand is matched by a supply of appropriately trained persons willing to work.

On a number of counts, this is a plausible outlook. First, our experience with the impact of automation thus far suggests a continued expansion in the number and variety of professional, technical, and service occupations geared to the operation of automated machinery. Second, our attempts to reduce the social costs of the externalities associated with our current patterns of production and consumption may require substantial inputs of labor-intensive work effort rather than increased automation. For example, a drastic reduction in the use of chemical pesticides and fertilizers might well entail a considerable expansion in the labor inputs required to maintain production of agricultural products in the future. Third, it is conceivable that the United States, in concert with other highly industrialized countries, might attempt to boost production and income in the less developed countries. The resulting expansion of effective demand for U.S. goods and services would generate increased demand for U.S. labor. Fourth, the demand for work and the income it brings is far more pervasive in our society than the demand for income unrelated to work. Evidence of the strength of this value is the Employment Act of 1946, which expressed the need to create and maintain conditions under which useful employment opportunities would be afforded to those who are "able, willing, and seeking to work." This act provides the necessary legislative underpinning for a "full employment" policy. Should attempts to achieve full employment conflict with efforts to attain other national objectives, there is ample leeway, under the carefully qualified wording of this act, for the development of policies and programs designed to ensure "reasonably full" employment. If such policies were to include measures which reduced other sources of income to those deemed able to work while at the same time effectively removing existing barriers to the employment of those who are willing to work, our blue scenario would be quite realistic.

Finally, efforts to achieve our national goals in a number of areas are likely to generate a high level of demand for labor, thus facilitating the achievement of full employment. Assuming national commitment to 16 major goals, Leonard A. Lecht of the National Planning Association first estimated the dollar cost of attaining each of these goals, and then translated these costs into estimates of associated manpower requirements. Lecht's major findings strongly contradict the view that millions of workers are about to become redundant because of the spread of automation; he found, instead, that full achievement of these goals by the mid-1970's would require the employment of about 10 percent more workers than are expected to be in the labor force by that time.[13]

Other experts foresee neither the displacement of workers nor the abandonment of work as a means of livelihood, but rather the emergence of government (particularly at the State and local levels) as a dominant employer of *first* resort.[14] This argument is based on the conviction that solutions to our mounting social and environmental problems can be developed only through governmental initiative and coordination. They envision new forms of public-private collaboration in dealing with these problems, recognizing the key role of government in developing and monitoring the large-scale programs which may be called for. The significance of their findings lies in their agreement that continued increases in productivity do not necessarily imply a reduction in demand for labor, particularly if the society devotes more attention and resources to the difficult public problems emerging.

The turquoise scenario

This setting assumes continued improvement and application of automated machinery and related technological advances in meeting the growing needs of the society. It differs from the first scenario, however, in regard to the life styles which are seen to accompany this advance. In the turquoise setting, the economic security and material wealth generated and maintained by an increasingly cybernated technology are accompanied by sustained demand for work in four major areas: (1) a core of highly trained technicians and engineers needed to maintain and improve the machinery of production and distribution, supplemented by a growing corps of ombudsmen to

provide the feedback information needed to direct this machinery in accordance with public wishes and agreed-upon social values; (2) a growing number of workers in the fields of public and personal services; (3) a growing number of craftsmen and artisans whose handiwork continues to be valued because of its individualistic, nonmachine characteristics and stylistic qualities; and (4) a major expansion of employment in what Toffler has aptly termed the experience industries—a blending of recreational and educational opportunities packaged to appeal to the interests of an increasingly affluent and educated population enjoying greater amounts of leisure time.[15]

In this scenario, work retains much of its conventional significance, both in economic terms and in sociopsychological terms. However, unlike our blue scenario, it envisions a major transformation in the relative importance of economic and noneconomic work needs. As a shrinking proportion of workers is engaged in the basic tasks of production and distribution, more and more workers are involved in occupations whose productivity grows slowly, or in modes of work for which conventional measures of productivity are inappropriate. This shift links the economic sector more closely to noneconomic forces, such as changes in life styles, so that nonmaterial cultural values tend to become the primary determinants of what we produce and consume.[16]

The salient feature of this scenario is the gradual reunification of work and leisure into a holistic pattern as was characteristic of most preindustrial societies. Such a reunification may already be observed in the guise of coffee breaks, informal on-the-job socializing, and increasing concern for the amenities of the work setting. But these are only the surface manifestations of more profound changes. The proliferation of on-the-job training courses, for example, reflects an increasing concern with the need to elicit from workers a greater sense of commitment by increasing their opportunities for growth and fulfillment within the work setting. What is significant in these developments is not the claim or belief that such innovations are conducive to increased productivity, but rather the fact that they represent an attempt to humanize the work setting.

The basic pressure for continued modifications in these directions stems from the increasing educational attainment of workers, together with the progressive removal of barriers to the employment of individuals whose participation in the labor market was formerly restricted. The more highly educated individuals now entering the labor force in rapidly increasing numbers have acquired high aspiration levels and expectations concerning their work roles and careers. Their enormous potential cannot be tapped without opening up new channels of communication for mutual education and sharing of experience and outlooks.[17]

A corresponding set of accommodations may be expected if the goal of equal opportunity for meaningful work is to be achieved by the "disadvantaged." The possible measures to be adopted or expanded in this area range from a variety of training courses—remedial education, skill upgrading, and the like—to the provision of facilities such as day-care centers designed to permit the fuller participation of those persons in some way handicapped in seeking and holding jobs. A continuation of these trends under conditions of technologically induced productivity increases suggests that a considerable share of these increases might be absorbed in the form of measures which promote a more socially and psychologically satisfying work experience.[18]

An important consequence of this type of change would be a continued expansion of the labor force as conventionally defined. This expansion would be accompanied by a gradual reduction in average hours worked per year, together with a more subtle blending of work and leisure activities.

Population and labor force projections

Through their effects on size and age distribution of the labor force, fertility patterns are likely to affect the future role of work in our society—and the range of alternatives available.

The population projections summarized in table 1 illustrate the cumulative effect of two alternative fertility levels. Series B represents the adoption of a three-child family norm; Series E represents the adoption of a two-child norm.[19] The accompanying labor force projections illustrate the effects of these alternative fertility levels at 20-year intervals upon the size and age distribution of the labor force.

By 1980, the lower (two-child) series yields a labor force 1.7 million larger than the higher (three-child) series, because under the postulated

patterns of child-spacing, the two-child series implies a smaller proportion of women with young children, which in turn implies a higher percentage of women in the labor force, other things being equal. By the year 2000, the effect of the higher labor force participation of women in the two-child series is overshadowed by the smaller number of young workers who have been born under this series. As a result, the labor force of 127 million is 9.8 million smaller than that which would occur under the three-child series. Beyond the year 2000, the cumulative effect of the difference between Series B and Series E fertility levels is dramatic. By 2020, the Series B labor force would be 45 million larger than the Series E projec-

Table 1. Illustrative projections of total population and total labor force, by age and sex, 1960 to 2040

	1960	1970	Series B (3-child norm)				Series E (2-child norm)			
	Actual	Actual	1980	2000	2020	2040	1980	2000	2020	2040
POPULATION [1]										
Numbers in thousands:										
Total, all ages	180,525	205,397	236,797	320,780	440,253	598,179	225,510	266,281	299,177	317,382
Male	89,281	100,752	115,941	158,051	218,103	297,002	110,178	130,253	146,284	154,716
Female	91,244	104,645	120,856	162,729	222,150	301,177	115,332	136,028	152,893	162,666
Percent distribution:										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 16 years	32.9	30.7	29.4	31.4	32.1	32.1	25.9	24.2	22.5	22.0
16 to 24 years	12.2	15.7	16.0	15.6	14.6	14.7	16.8	13.6	12.2	12.2
25 to 54 years	37.6	34.9	35.7	36.9	35.7	36.4	37.5	42.9	39.4	39.3
55 years and over	17.4	18.7	18.9	16.1	17.6	16.8	19.8	19.4	25.9	26.6
TOTAL LABOR FORCE [2]										
Number in thousands:										
Total, 16 and over	72,104	85,903	101,096	136,422	185,814	255,312	102,818	126,660	141,138	147,724
Male	48,933	54,343	63,574	84,249	114,183	156,367	63,574	77,388	85,576	89,182
Female	23,171	31,560	37,522	52,173	71,631	98,945	39,244	49,272	55,562	58,542
Percent distribution:										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 24 years	17.6	23.2	22.8	22.2	20.9	20.9	22.9	17.7	16.0	16.2
25 to 54 years	64.6	59.9	61.0	65.0	64.1	64.8	61.2	68.5	64.2	65.1
55 years and over	17.7	16.9	16.2	12.8	15.1	14.4	15.9	13.8	19.8	18.7
NOT IN LABOR FORCE										
Numbers in thousands:										
Total, all ages	108,421	119,494	135,701	184,358	254,439	342,867	122,692	139,621	158,039	169,658
Male	40,348	46,409	52,367	73,802	103,920	140,635	46,604	52,865	60,708	65,534
Female	68,073	73,085	83,334	110,556	150,519	202,232	76,088	86,756	97,331	104,124
Percent distribution:										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years	18.5	14.8	19.2	18.3	18.6	19.0	15.6	14.1	13.3	12.9
5 to 15 years	36.3	37.9	32.1	36.4	37.0	37.0	32.0	32.0	29.3	28.1
16 to 64 years	33.9	33.4	33.8	31.5	30.5	30.6	36.0	35.6	34.9	33.4
65 years and over	11.4	13.9	14.9	13.9	13.9	13.4	16.4	18.3	22.5	25.5
Dependency ratio [3]	1.50	1.39	1.34	1.35	1.37	1.34	1.19	1.10	1.12	1.15

[1] Data relate to total population, including Armed Forces abroad, as of July 1 of the specified year. Estimates for 1960 and 1970 are current estimates as of those dates. Projected data were prepared by the Bureau of the Census for the Commission on Population Growth and the American Future, and are consistent with the projections published in Current Population Reports, Series P–25, No. 448.

[2] Data include Armed Forces, and are annual averages for the specified years. Data for 1960 and 1970 are estimates based on then current population estimates. Projected data were prepared by the author for the Commission on Population Growth and the American Future, and are not official Bureau of Labor Statistics projections.

[3] The "dependency ratio" is the number of persons of all ages who are not in the labor force divided by the total labor force.

NOTE: The Series B projections of population represent the growth patterns that would result if the future fertility of American women were to follow a trend such that women now entering the child-bearing ages and all subsequent cohorts of women would have 3,100 children ever born per 1,000 women. The Series E projections represent the growth patterns that would result if these succeeding cohorts of women were to have 2,110 children ever born per 1,000 women, which is just enough to barely replace each generation, given current mortality levels. Both series assume the same trend in mortality, and both assume the same annual net migration to the United States of 400,000 persons per year.

The corresponding series of labor force projections were developed to illustrate the effects of different levels of fertility on the size and age-sex distribution of the labor force. These fertility differentials were assumed to affect only the economic activity rates of women of child-bearing ages. The projected rates of labor force participation for both sexes are extrapolations of actual trends observed during the postwar period; they assume no sudden or drastic change in the propensity of different age-sex groups to enter or leave the labor force.

The labels "B" to "E" used here are two of the five arbitrary designations the Bureau of the Census has employed to identify different series of population projections they have prepared in recent years. The five series "A" to "E" may be defined in terms of the number of children born per 1,000 women throughout their childbearing period: Series A=3,350; Series B=3,100; Series C=2,775; Series D=2,450; and Series E=2,110. Series A, which represents a reasonable upper limit for the birth cohorts of women who entered childbearing ages at the start of the post-World War II "baby boom," has been dropped as being above the range of reasonable current expectations for future fertility of American women. Therefore, Series B now represents the highest series considered to be attainable in the future. Series E, at the lower extreme, represents the fertility needed to barely replace the current generation. Because Series B approximates an average fertility of three children per woman, it has been referred to as the "3-child norm." Similarly, Series E, approximating a fertility rate of two children per woman, is termed the "2-child norm."

tion; by 2040, 107 million larger.

The contrast between the two series is even more striking when the amount of the average annual net increase in the labor force is considered. In the higher series, the labor force rises from an annual average of 1.5 million during the 1960–80 period to 3.5 million a year during the 2020–40 period. The corresponding increase in the lower series is from 1.5 million a year in the 1960–80 period to only 300,000 a year in the 2020–40 period. In other words, both the population and the labor force of the lower series approach a constant level by around the middle of the next century, but the higher series implies exponential growth.

The age distribution of these alternative projections reveals a number of significant differences, particularly after the year 2000. During the 1960–80 period, the projected labor force increase in both series is roughly the same: 35 percent of the increase will be young adults (age 16 to 24 years), while about 12 percent will be older workers (55 years old and over). During the next 20-year period, 20 percent of the projected increase in the high series consists of young workers, while older workers contribute about 5 percent of the increase. In the lower series, the number of younger workers actually declines, so that nearly all of the increase is accounted for by workers in the central working ages, 25 to 54.

The contrast between the two series is even more striking during the following period (2000 to 2020). In the higher series, older workers account for only a slightly larger proportion of the labor force increase than younger workers, 17 and 21 percent respectively. But in the lower series, less than 2 percent of the projected rise occurs among younger workers, while 72 percent occurs among workers 55 and over. By 2040, about 21 percent of the labor force under the high series would be under age 25, and 14 percent would be 55 and over; the corresponding percentages for the lower series are 16 and 19 percent, respectively.

In summary, the salient feature of the higher series of the labor force projections is the continued rise in the number of workers, sustained by the ever-increasing supply of new young entrants to the labor force. The outstanding characteristic of the lower series of projections, on the other hand, is the sharp fluctuation in the age distribution of the workers, tending, in the long run, toward an older, more slowly growing labor force. Thus, each of these projected series would give rise to a different pattern of stresses in accommodating the potential supply of workers to the demands of the economy.

Projections and scenarios

The relationships among our three scenarios and the two series of population and labor force projections can only be described in general terms; the tentative and conjectural nature of these generalizations must be stressed.

At first glance, a return to the higher growth pattern of Series B would appear to be consistent with our traditional self-image as an expanding society—a society which continues to equate growth with progress in all spheres of life. However, the longrun implications of such continuing growth portend the emergence of serious and historically unprecedented stresses which would tend to reduce the range of options open to the society and would adversely affect the climate in which choices must be made in the future. By the year 2000, a Series B population of about 320 million people, enjoying a national per capita productivity which has continued to rise at the conservative rate of, say, 2.2 percent per year (in real terms) would be producing—and consuming—nearly three times the volume of goods and services it presently utilizes. By the year 2040, such a population, then numbering close to 600 million, would, on the same assumption, produce and consume over 13 times our current output.[20] Not only would such a growth pattern generate unprecedented pressures on the supply of natural resources and trigger vast environmental side effects, but it would also produce a host of social strains and psychological frustrations, as the growing affluence of each individual inevitably impinges upon that of his fellows. In the long run, any society which is geared to an exponential pattern of demographic and economic growth is bound to encounter a series of progressively severe "shocks" as its demands surpass the available supply of all those elements—such as breatheable air, potable water, and usable space—which are not growing exponentially, and may in fact be rapidly diminishing.[21]

One possible outcome of our attempts to overcome the challenges posed by such enormous growth would be a forced adoption of certain features of our

"green" scenario. For example, the social and environmental costs associated with the increased production needed to sustain our growing population might induce such rapid adoption of new technologies that the normal growth in the labor force could no longer be fully absorbed. The resulting imbalance between the supply of potential workers and the demand for their services could then create a need for increased reliance upon mechanisms of support unrelated to work.

Alternatively, any failure to meet the demand of increased production and distribution by technological means, or an inability to solve the associated problems of pollution, waste disposal, and the like by such means might force increased reliance upon labor intensive efforts. Under these circumstances, our evolution towards the blue scenario would be associated with declining productivity and corresponding declines in the level of living of the population as a whole. In short, a return to the growthmanship of the higher series implies movement into an environment of heightened stress whose challenges are likely to impose drastic changes in our way of life, whether or not these challenges are successfully met by means of technological innovation.

The consequences of a continuation of our current trend toward reduced fertility are generally more hopeful, if only because the sheer volume of the population increases much less rapidly. If we again assume, for purposes of illustration, that real per capita productivity grows at 2.2 percent per year, we find, by the year 2000, a Series E (two-child norm) population of about 270 million producing and consuming about 2.4 times our current volume of goods and services. By the year 2040, this population, then approaching a constant number of about 320 million, would produce about seven times our current output.

Many of the same types of problems associated with the higher series would still emerge under the lower series, but the growth pattern of the lower series would afford the society considerably greater leeway in managing these problems before they assume crisis proportions. Moreover, the gradual aging of the population resulting from the Series E growth pattern is less likely to produce sudden crises; instead, the society is likely to experience a gradual shift from concern with the problems of youth toward concern with those services and facilities designed to meet the needs of the older population. Under these circumstances, the realization of our turquoise scenario would be greatly facilitated. The older age distribution of the Series E population and labor force would seem to imply a greater interest in the introduction of changes which preserve the traditional meaning of work while improving the conditions under which it is performed. The relatively greater concern of such a population with the adjustments of aging and retirement would encourage further experimentation with various combinations of work and leisure, while the smaller number of new young entrants to the labor force could more readily be absorbed into meaningful and satisfying career patterns.[22]

The major conclusion which emerges from these brief speculations is that a return to the Series B growth patterns may be expected to generate an atmosphere of much greater social and economic stress than would occur if the Series E pattern was realized. Both series of future growth give rise to serious problems, but the lower growth pattern would afford the society a greater degree of freedom from the pressing demands of undiminished population growth and would thereby facilitate both the emergence of a wider range of alternatives for our future societal development, and a more rational choice among these alternatives. □

FOOTNOTES

[1] See Seymour L. Wolfbein, *Work in American Society* (Glenview, Ill., Scott Foresman, Inc., 1971); Sebastian de Grazia, *Of Time, Work, and Leisure* (New York, Doubleday & Co., Inc., 1964); Walter S. Neff, *Work and Human Behavior* (New York, Atherton Press, 1968); Alan Fox, *A Sociology of Work in Industry* (London, Collier-Macmillan Ltd., 1971), chapter 1; and C. Gilbert Wrenn, "Human Values and Work in American Life," in Henry Borow, editor, *Man in a World at Work* (Boston, Houghton Mifflin Co., 1964), pp. 24–44.

[2] Compare, for example, Garth L. Mangum, "Guaranteeing Employment Opportunities," in Robert Theobald, editor, *Social Policies for America in the Seventies: Nine Divergent Views* (New York, Doubleday & Co., Inc., 1968), pp. 25–55, and the statement of the Ad Hoc Committee on the Triple Revolution, W. H. Ferry, Chairman, reprinted in John A. Delehanty, editor, *Manpower Problems and Policies: Full Employment and Opportunity for All* (Scranton, International Textbook Co., 1969), pp. 140–149.

[3] Charles A. Reich, *The Greening of America* (New York, Random House, 1970); Philip Nobile, editor, *The Con III Controversy* (New York, Pocket Books, Inc., 1971); and Henry Fairlie, "The Practice of Puffers," *Encounter,* August 1971, pp. 3–13.

[4] Ad Hoc Committee on the Triple Revolution, *op. cit.,* March 1964. The three "separate and mutually reinforcing revolutions" are the cybernation revolution, the weaponry revolution, and the human rights revolution. The document stresses the implications of the first of these.

[5] The "elitist" implications of this scenario are but dimly perceived by Reich, but they are clearly delineated by Donald N. Michaels, "Cybernation: The Silent Conquest," in *Automation: Implications for the Future,* Morris Philipson, editor (New York, Random House, 1962), pp. 78–128. See also the classic work of Jacques Ellul, *The Technological Society* (New York, Random House, 1964), translated from the French edition of 1954 by John Wilkinson.

[6] The estimates of life expectancy discussed above are from conventional life tables. Those relating to the average expected duration of working life reflect the proportions of the surviving population of males who were in the labor force at successive ages at the specified time. For a detailed explanation of the derivation of conventional tables of working life, see U.S. Department of Labor, Manpower Administration, *The Length of Working Life for Males, 1900–60,* Manpower Report Number 8, July 1963, and Howard N. Fullerton, "A table of working life for men, 1968," *Monthly Labor Review,* June 1971, pp. 49–55. If trends in average hours of work per week observed during the first six decades of the twentieth century are extrapolated, the average amount of time spent at work during the year would be about two-thirds its present level by the end of the century. On this subject see Stanley Lebergott, "Labor Force and Employment Trends," in Eleanor Bernert Sheldon and Wilbert E. Moore, editors, *Indicators of Social Change* (New York, Russell Sage Foundation, 1968), pp. 97–143, especially table 2, and Mary A. Holman, "A National Time-Budget for the Year 2000," *Sociology and Social Research,* October 1966, reprinted (in part) in Marion Clawson, "How Much Leisure Now and in the Future?" in *Leisure in America: Blessing or Curse?,* James C. Charlesworth, editor, Monograph 4 (Philadelphia, American Academy of Political and Social Science, April 1964), pp. 1–20. For recent analyses of trends in the direction of increased leisure and its utilization, see Geoffrey H. Moore and Janice N. Hedges, "Trends in labor and leisure," *Monthly Labor Review,* February 1971, pp. 3–11, and Janice N. Hedges, "A look at the 4-day workweek," *Monthly Labor Review,* October 1971, pp. 33–37.

[7] Ben B. Seligman, *Most Notorious Victory: Man in an Age of Automation* (New York, The Free Press, 1966), p. 368, as quoted in Walter S. Neff, op cit, p. 241. Also see Ben Seligman, "Automation and Labor," in Ellis L. Scott and Roger W. Bolz, *Automation Management: The Social Perspective* (Athens, Ga., The Center for the Study of Automation and Society, 1970), pp. 138–152, and Bruce Mazlish, "Obsolescence and 'Obsolescibles' in Planning for the Future," in Stanford Anderson, Editor, *Planning for Diversity and Choice* (Cambridge, Mass., M.I.T. Press, 1968), pp. 155–169.

[8] Robert J. Havighurst, "Youth in Exploration and Man Emergent," in *Man in a World at Work,* op. cit., pp. 215–236.

[9] *Ibid.* Compare Walter S. Neff, op. cit., chapter 15, pp. 236–251, and Harvey Swados, "Work as a Public Issue," *Saturday Review,* Dec. 12, 1959, pp. 13–55 and 45. Also see Paul Goodman, "Youth in the Organized Society," *Commentary,* 1960, pp. 95–107.

[10] Victor C. Ferkiss, *Technological Man: The Myth and the Reality* (New York, The New American Library, 1970). Ferkiss argues that the emergence of "technological man" would ensure the employment of technology in the service of social and humanitarian goals. Ellul, op. cit., is not so optimistic. On this issue, see Hasan Ozbekhan, "The Triumph of Technology: 'can' implies 'ought,'" in *Planning for Diversity and Choice,* op. cit., pp. 204–233. Ozbekhan argues that technology should not be more than a means to ends prescribed by social values; "can" does *not* imply "ought."

[11] Nicholas Rescher, "Value-Considerations in Public Policy Issues of the Year 2000" (paper presented at the Technological Forecasting Conference, 1969, sponsored by the Industrial Management Center, Inc.). For a fuller exposition of methods assessing trends in values, see Kurt Baier and Nicholas Rescher, editors, *Values and the Future* (New York, The Free Press, 1969).

[12] Harold L. Wilensky, "Varieties of Work Experience," in *Man in a World at Work,* op. cit., pp. 125–154.

[13] Leonard A. Lecht, *Manpower Needs for National Goals in the 1970's* (New York, Frederick A. Praeger, 1969). Fifteen of these goals were initially described in the Report of the President's Commission on National Goals, *Goals for Americans* (The American Assembly, 1960). A 16th goal, relating to space exploration, was later added. The outcome of such an exercise is, of course, heavily dependent upon its assumptions. Imprecise specification of goals and of attainment of a given goal were critical problems here. Lecht provides details on his procedure in appendix C.

[14] Irving H. Siegel and A. Harvey Belitsky, "The Changing Form and Status of Labor," *Journal of Economic Issues,* March 1970, pp. 78–94.

[15] Alvin Toffler, *Future Shock* (New York, Random House, Bantam edition, 1970), chapter 10.

[16] Ibid., p. 453.

[17] Bertram M. Gross, editor, *A Great Society?* (New York, Basic Books, Inc., 1966), p. 338. Compare Margaret Mead, "The Changing Cultural Patterns of Work and Leisure," U.S. Department of Labor, Manpower Administration, Seminar on Manpower Policy and Programs, January 1967.

[18] For a balanced treatment of the alternatives of a "segmentalist" versus a "holistic" approach to work and leisure, see Stanley Parker, *The Future of Work and Leisure* (Lon-

don, MacGibbon & Kee, Ltd., 1971, and New York; Praeger, 1971), chapter 10. For a persuasive argument in favor of a holistic approach, see Joffre Dumazedier, *Toward a Society of Leisure* (New York, The Free Press, 1967, translated from the French by Stewart E. McClure), chapter 4.

[19] An average annual per capita increase in total output per worker of 2.2 percent (in real terms) is consistent with an assumed rise in productivity per man-hour of 2.5 percent per year, and a decline in hours worked per worker of 0.3 percent per year. Both of these rates of change are approximately consistent with long-term trends in the United States. These simple calculations are, of course, purely illustrative, and do not take account of a host of factors which might affect both productivity and its measurements over the 70-year span of our projections.

[20] Such enormous growth is roughly comparable with the growth we have experienced during the past 70 years. Compare Herman Kahn and Anthony J. Wiener, *The Year 2000* (New York, Macmillan, 1967), chapter 3, pp. 167–184, and E. J. Mishan, *The Costs of Economic Growth* (New York, Praeger, 1967). Also see Professor Mishan's article, "On Making the Future Safe for Mankind," *The Public Interest*, Summer 1971, pp. 33–61.

[21] See Barry Commoner, "Economic growth and ecology—a biologist's view," and Walter W. Heller, "Economic growth and ecology—an economist's view," *Monthly Labor Review*, November 1971, pp. 3–13 and 14–31, respectively.

[22] See David Riesman, "Leisure and Work in Post-Industrial Society," in Jack Douglas, editor, *The Technological Threat* (Englewood Cliffs, N.J., Prentice-Hall, Inc., 1971), pp. 71–91.

On population growth

The growth of population has a great deal of momentum,
Neither spirals, interruptus, or safer still, absentum
Can do much about the kids who are already on the scene,
Who will still be in the labor force in twenty-seventeen.
So there isn't very much that the developed world can do
To help that poor old woman in the very crowded shoe.

—Kenneth E. Boulding, in "A Ballad of Ecological Awareness," M. Taghi Farvar and John P. Milton, editors, *The Careless Technology*, The Natural History Press, Garden City, N.Y., 1972.

Productivity and cost movements in 1971

Retrenchment in man-hours, rather than the growth in output, was largely responsible for the rapid rise in productivity

SHELBY W. HERMAN

PRODUCTIVITY IMPROVED significantly during 1971, as it usually does in a period of recovery, the 3.6-percent increase in the private economy surpassing the average rate of growth over the preceding two decades. But this improvement differed from the pattern noted in past recoveries, during which greater productivity usually resulted from large gains in total output accompanied by small increases in employment and man-hours. In 1971, the increase in output was modest, while man-hours decreased with the decline in employment and the average workweek.

Since hourly compensation gains were about the same as the previous year while productivity rose sharply, the increase in unit labor costs in 1971 slowed considerably. This slowdown was partially offset by the rise in nonlabor payments per unit of output. Prices in the private sector rose by over 4 percent, a rate of inflation lower than in the previous year. For the first time since 1962 a slowdown occurred in price increases as measured by the implicit price deflator.

This article reviews productivity, employment, and cost trends in 1971, comparing them with those in other years of economic recovery.

Quarterly movements

Last year's productivity in the private economy and nonfarm sector rose in every quarter, in contrast with the situation in 1970, when output per man-hour fell or was virtually unchanged in the first and fourth quarters. (See table 1.) In 1971, productivity grew most in the first and fourth quarters. Sizable gains at the beginning of the year were predictable as production was resumed after the 1970 automobile strike that adversely affected output in many industries. But the increase in the last quarter was indicative of an economic recovery.

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Compared with the previous year, there was a considerable improvement in the growth of output in 1971. It rose by less than 3 percent in both the private and nonfarm sectors, whereas in 1970 it had declined by 0.7 percent. Furthermore, with the exception of the third quarter, quarterly increases in output in 1971 equaled or exceeded the average for 1950–70. (See chart 1.) The low rate of increase in the third quarter reflected a decline in manufacturing output because of a sizable drop in steel production. Large inventories of steel that had been accumulated in anticipation of a labor dispute were being used in the third quarter. In contrast, the quarterly output in 1970 either had fallen or had gained very little (not more than 2 percent in the nonfarm sector).

The man-hour decline in 1971 was half that of the previous year. In the nonfarm sector, man-hours fell by 0.7 percent in 1971, compared with the 1970 decline of 1.4 percent. But the annual data conceal a large part of the employment and man-hour movements during 1971.[1] In 1970 man-hours in the nonfarm sector fell in each quarter, whereas in 1971 they increased in each quarter except the third, when they sharply declined in manufacturing.

Table 1. Changes in output, man-hours, and output per man-hour, 1970-71

[Seasonally adjusted annual rate]

Quarter	Output		Man-hours		Output per man-hour	
	1970	1971	1970	1971	1970	1971
	Total private economy					
1st	−3.0	8.5	−1.4	2.1	−1.6	6.2
2nd	0.8	3.6	−2.2	1.7	3.1	1.9
3rd	1.5	2.7	−4.3	−1.2	6.1	4.0
4th	−4.4	6.3	−4.5	3.0	0.2	3.2
	Nonfarm sector					
1st	−2.7	8.8	−1.2	2.1	−1.5	6.6
2nd	0.6	3.7	−3.6	1.0	4.3	2.7
3rd	2.0	1.8	−3.5	−0.5	5.6	2.3
4th	−5.6	7.2	−4.0	2.6	−1.6	4.5

Most of the man-hour decrease from 1970 to 1971 occurred in manufacturing, reflecting cuts in employment as the workweek remained the same over the year. Manufacturers appeared to be extremely cost-conscious in hiring. They either decreased staff due to reduced orders (as in the third quarter) or made adjustments to higher levels of production by increasing the workweek. The over-the-year man-hour decrease in the factories was less than in the previous year—3.7 percent, compared with about 5 percent in 1970.

Shortrun productivity movements

Productivity growth is influenced by both shortrun and secular forces. In the long run, technical innovations, the composition of the work force, managerial efficiency, and substitution of machinery for workers are important to productivity improvements. These forces continually affect productivity, but in the short term productivity is also affected by factors such as changes in the level of demand, utilization of existing productive resources to meet this demand, and producer's expectations that this change in business conditions will continue.

In an economic recovery, productivity gains reflect both the revival of demand and the better use of capital and labor. As production grows, utilization of the existing capital increases and becomes more efficient. In the meantime man-hours rise slowly, since many workers were retained during the contraction and the producers have enough labor to meet the needs of rising output. In addition, employers tend to be cautious about hiring more workers until they are certain that the expansion is in full swing.

Chart 1. Annual rates of change in output per man-hour, output, and man-hours, nonfarm sector, 1967–71

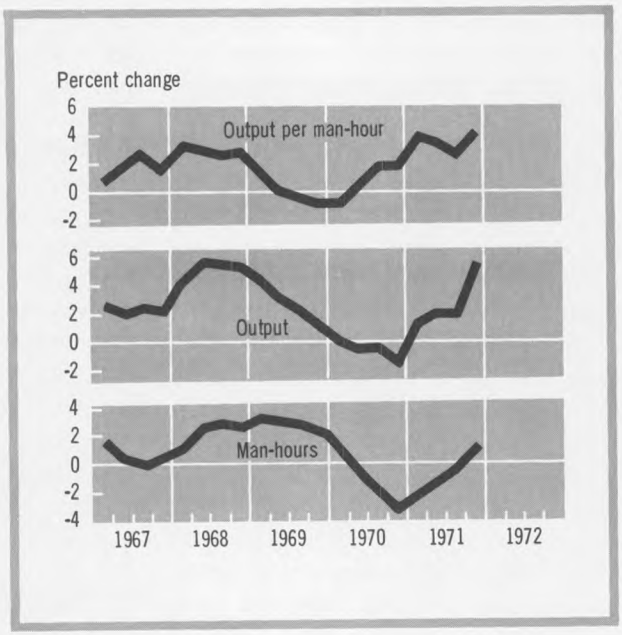


Table 2. Changes in output per man-hour, output, and man-hours in recovery periods, 1950-71

Year	Output per man-hour	Output	Man-hours
	Total private economy		
1950	8.1	10.2	2.0
1953	4.2	5.1	0.8
1955	4.4	8.5	3.9
1959	3.6	7.0	3.3
1962	4.7	6.8	2.0
1971	3.6	2.9	−0.7
	Nonfarm sector		
1950	6.3	10.6	4.0
1953	2.9	5.1	2.1
1955	4.4	8.8	4.2
1959	3.4	7.3	3.7
1962	4.6	7.1	2.5
1971	3.4	2.7	−0.7

Thus, in addition to a greater demand and efficient use of capital and labor, the producers' expectations play an important part in shortrun productivity movements. When business conditions change, the producers often feel that the changes are temporary and do not adjust employment to current output levels. Employment movements thus tend to lag behind those of output, affecting the rate of productivity growth. In a contraction, employers usually make cutbacks slowly and even retain relatively large work forces so that a falloff in productivity growth results. In a recovery, on the other hand, there is some delay in staff enlargement and productivity accelerates.[2]

Differences between recovery periods

The 1971 output experience differed from that in other recovery periods, although productivity growth rates were similar. (See table 2.) Last year, output rose by less than 3 percent in the private economy; during other recoveries, it gained at least 5 percent and often as high as 7 or 8 percent.

Manufacturing output in a recovery usually makes the strongest showing. In fact, for every percentage point of gain in private output there has usually been a gain of more than 1 percent in factory output.[3] One of the principal reasons for this large increase in manufacturing output has been an acceleration of

investment in plant and equipment. In 1959 and 1962, for instance, annual gains in producer's durable equipment (in 1958 dollars) were greater than 11 percent.

Manufacturing output in a recovery usually makes Federal Reserve Board index of industrial production[4] fell slightly in 1971. This decline reflected the poor showing of the steel industry in the third quarter and the absence of an investment boom which generally accompanies an economic recovery. Purchase of producer's durable equipment rose by only 3.9 percent in 1971, a rate not only much lower than those recorded in other recoveries but also lower than the 1950–71 annual average of 4.6 percent.

Man-hours also moved differently last year; they declined, whereas in most other expansions they had risen, even though not as fast as the output. Nor did the economic developments immediately prior to 1971 resemble those of other recoveries. The period of expansion after the upswing in 1962 was the longest in the last 25 years.

Since the period of expansion has been so long, employers continued to hire at the beginning of the slowdown because they expected demand to pick up shortly. While it is not unusual for movements of employment to lag behind those of output, the experience in the late 1960's, especially of 1969, was different. In 1969 the hiring rate was higher than in the previous year despite a slowdown in output growth; in 1970, when output declined, the bulk of employment cuts occurred mainly in manufacturing while hiring in other sectors continued. As a result there was a 2-year period (1968–70) with virtually no productivity growth. (See table 3.)

In 1971, producers were quite cautious in their hiring policies. They had maintained staffs larger than warranted by their output of the previous year,

Table 3. Changes in output, output per man-hour, and man-hours, selected periods, 1950-70

Period	Output	Man-hours	Output per man-hour
	Total private economy		
1950–70	3.7	0.7	3.0
1968–69	2.6	2.2	0.5
1969–70	−0.7	−1.6	0.9
1970–71	2.9	−0.7	3.6
	Nonfarm sector		
1950–70	3.9	1.2	2.6
1968–69	2.6	2.7	−0.1
1969–70	−0.7	−1.4	0.7
1970–71	2.7	−0.7	3.4

Table 4. Changes in output per man-hour, compensation per man-hour, unit labor costs, and prices, private economy, 1970-71

[Seasonally adjusted annual rate]

Quarter	Output per man-hour		Compensation per man-hour		Unit labor costs		Implicit price deflator	
	1970	1971	1970	1971	1970	1971	1970	1971
1st	−1.6	6.2	7.9	8.5	9.7	2.1	5.4	4.4
2nd	3.1	1.9	4.7	6.2	1.6	4.1	4.2	4.3
3rd	6.1	4.0	9.4	6.2	3.1	2.2	4.9	2.5
4th	0.2	3.2	6.1	4.2	6.0	1.0	6.2	1.2
Annual	0.9	3.6	7.2	6.9	6.3	3.2	4.9	4.3

and output gains in 1971 were not so large as to encourage hopes for a boom-type economy. Therefore, producers kept employment to a minimum, either by cutting staff as in manufacturing, where employment fell by about 4.0 percent between 1970 and 1971, or by lowering the hiring rate, as in trade and services. In trade, the increase in employment was 1.9 percent in 1970 and 1.7 percent in 1971, while in services the gain in employment was about 3.6 percent in 1970 and 2.5 percent in 1971. The resultant retrenchment in man-hours to a large degree contributed to the rapid rise in productivity in 1971.

Labor costs, prices, and profits

Because of the acceleration in productivity and the relative stability in hourly compensation, the increase in unit labor costs slowed considerably in 1971. In the private sector, they rose by 3.2 percent as compared with over 6 percent in 1970. (See table 4.) These increases were lower at the end of the year. In the fourth quarter they only rose by 1.0 percent in the private economy; not since early 1967 has a quarterly increase in unit labor costs been this low.

Hourly compensation gains were only slightly lower in 1971 than in 1970. In the private economy compensation per man-hour rose by 6.9 percent last year, as compared with 7.2 percent the previous year. A large part of this gain occurred in the first two quarters of 1971, when increases averaged over 7 percent in each quarter. In the second half of the year these gains decreased to about 5 percent in each quarter. (See chart 2.)

Price increases also grew smaller as the year progressed. In the first half of 1971, the implicit price deflator in the private economy rose by about 4 percent in each quarter, but slowed to about half that rate in the last two quarters. In fact, the fourth quarter increase was only 1.2 percent, reflecting

mainly increases in agricultural products, which were not covered under the economic stabilization program instituted in mid-August by President Nixon. In the nonfarm sector, the deflator actually declined in the fourth quarter, marking the first decrease in prices in a single quarter since 1961. To a large degree, the fourth quarter behavior of prices indicates deceleration in the growth of unit labor costs, which reflects both the high rate of productivity growth in that quarter and slowing down of wage gains during Phases I and II of the stabilization program.

For the year as a whole, prices rose 4.3 percent —a rate higher than the 2.0-percent average for the 1950–70 period in the private economy, but lower than the 1970 rate of 4.9 percent. Price increases accelerated each year since 1962, but 1971 marked the first slowdown in the rate of inflation in 9 years.

The implicit price deflator is the sum of the individual components of unit labor costs, profit margins, and other unit costs (depreciation, interest, indirect business taxes, and others). Last year both the labor and nonlabor (profits and other unit costs) price elements rose. The 6.2-percent increase in other unit costs was 3 percentage points lower than the increment registered in 1970. (See table 5.) The slowdown in these unit costs reflected to some extent the easing of credit conditions, which brought about lower interest rates in 1971 than in the previous year.

Profit margins, however, improved greatly over the year, rising more than 6 percent (in contrast with a sizable 9.4-percent drop in 1970). Profits per unit of output increased for the first time since 1966. The better profit picture, of course, represents the over-the-year improvement in demand and a lesser impact of labor costs on prices.

Chart 2. Annual rates of change in wages, productivity, and unit labor costs, private economy, 1967-71

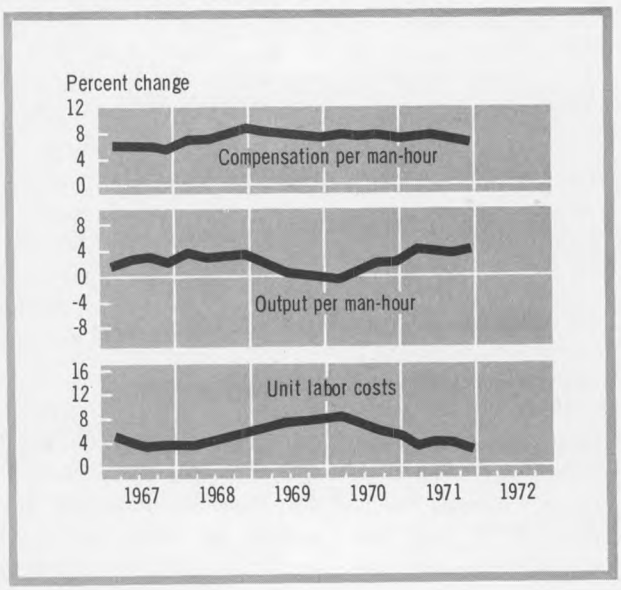


Table 5. Components of price changes in the implicit price deflator, private economy, 1965-71

Period	Price change (percent)	Percentage point distribution of price change		
		Unit labor cost	Unit profit	Other unit costs [1]
1965–66	2.5	1.7	0.2	0.6
1966–67	2.9	2.2	−0.7	1.4
1967–68	3.6	2.8	−0.1	0.9
1968–69	4.5	4.3	−1.2	1.4
1969–70	4.9	3.9	−1.2	2.2
1970–71	4.3	2.1	0.7	1.5

[1] Includes depreciation, interest, and indirect business taxes.

Price changes and real wages

Since the implicit price deflator represents the sum of the unit costs, increases in prices can be partitioned so that each component's impact on prices can be determined. This is done by multiplying the percentage change in unit costs by its relative importance in the deflator of the previous period.[5] Of the 4.3-percent increase in prices in 1971, 2.1 points were associated with unit labor costs, 1.5 points with other unit costs, and 0.7 points with unit profits.

The labor cost portion of price change in 1971 was considerably lower than in 1970, when labor costs comprised 3.9 of the 4.9 percent points of price rise. In fact, the component of price change associated with unit labor costs last year was the lowest for any year since 1966. In both 1966 and 1971, higher than average productivity gains offset hourly compensation increases and minimized the unit labor cost component of price change.

Other unit costs also constituted a smaller portion of price change in 1971 than in 1970. These costs accounted for 2.1 points of the increase in prices in 1970, as compared with 1.5 points last year. The other unit cost component of prices in 1970, however, was the largest for these costs in the 1950–70 period.

In 1971, increases in both prices and unit nonlabor payments (other unit costs plus unit profits) were greater than those of unit labor costs. If unit labor costs, prices, and nonlabor payments rise at the same rate, income shares remain relatively stable.

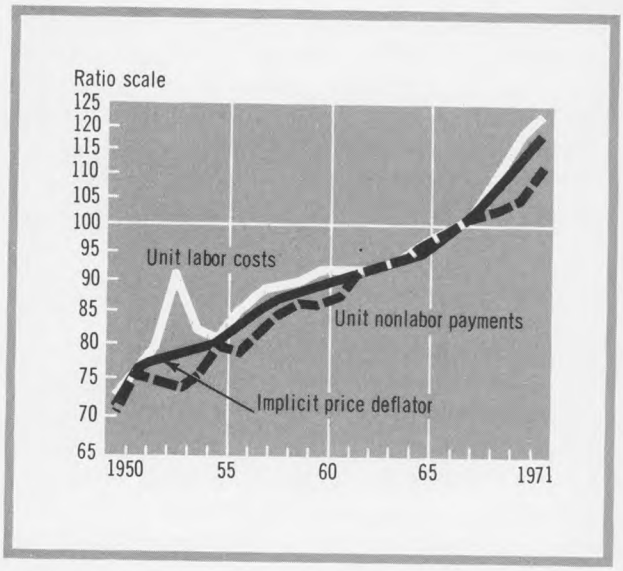
Table 6. Changes in unit labor costs, unit nonlabor payments, and prices, private economy, selected periods, 1950-71

Period	Unit labor costs	Unit nonlabor payments			Price
		Total	Other unit costs	Unit profits	
1950–70	1.9	2.0	3.7	−0.1	2.0
1965–66	2.8	2.0	2.5	1.3	2.5
1966–67	3.7	1.6	6.2	−4.5	2.9
1967–68	4.6	2.0	3.7	−0.6	3.6
1968–69	7.0	0.6	5.7	−8.0	4.5
1969–70	6.3	2.6	9.4	−9.4	4.9
1970–71	3.2	6.3	6.2	6.6	4.3

Last year, however, because of the slower rise in unit labor costs, the labor share declined from 64 percent the previous year to 63.4 percent. This contrasted with the experience of the previous 5 years, when the labor share increased each year because increases in unit labor costs exceeded those of prices and unit nonlabor payments. (See table 6.)

Hourly compensation is a cost to the producer, but it is also income to a worker. If wage gains are greater than the increase in prices, the worker has increased his purchasing power. In the past two decades, the annual increases of about 3 percent in real hourly compensation (compensation per man-hour adjusted for changes in the Consumer Price Index) have corresponded closely to those in productivity. (See chart 3.) In 1971, however, real hourly compensation rose by 2.6 percent—a rate smaller than the growth of productivity for 1971. Compared with the previous year, the 1971 gain was rather large since in 1970 real hourly compensation had risen by only about 1 percent. □

Chart 3. Annual indexes of implicit price deflator, unit labor costs, and unit nonlabor payments, private economy
[1967-100]



A new measure of productivity

The Bureau of Labor Statistics has developed a series on output per man-hour for the corporate nonfinancial sector. The new series shows that between 1948 and 1971, output per man-hour in that sector rose 3.0 percent, compared with 2.6 percent in the total private nonfarm segment of the economy. As a result, the corporate unit labor costs and prices (the implicit price deflator) did not rise as fast as those in the private nonfarm segment. These data were published April 25 in a BLS press release, "Productivity and Costs, First Quarter of 1972."

Corporate measures are especially important for the analysis of cost and price trends and income distribution. A forthcoming article in the *Review* will analyze these trends and compare them with those in the private nonfarm segment.

———FOOTNOTES———

[1] Since annual averages are, in effect, centered between June and July of the current year, changes in annual averages actually reflect movements in the last half of the previous year as well as the first part of the current year.

[2] For a more complete discussion of short term movements of productivity, output, and employment, see Ray C. Fair, *Short Run Demand for Workers and Hours* (Amsterdam, North Holland Publishing Co., 1969).

[3] In the relationship

$$M = a + b\,P,$$

M is the annual percent change in manufacturing output
P is the annual percent change in output in the private sector.
The results for the 1950–70 period were:

$$M = -3.52 + 2.00\,P$$
$$(24.93)$$
$$r^2 = .97$$

The number in parentheses is the t ratio which is significant at the .99 percent level of confidence.

[4] This index is computed on a different statistical and methodological basis than that of the GNP and can differ widely from the annual changes in the GNP measure for manufacturing. In most years, however, the FRB index is a good indicator of manufacturing output.

[5] For example, the point composition of unit labor costs in price change is obtained by multiplying the change in unit labor costs (3.2 percent) by the weight in the deflator in 1970 (64 percent).

Minority workers in construction referral unions

Data from EEOC survey show that minority group workers are underrepresented in high-skill, high-paid trades

HERBERT HAMMERMAN

THE REFERRAL work force is made up of workers sent to jobs by union referral from hiring halls or through other arrangements. This work force is relatively small compared with total organized labor in the United States—less than 15 percent—and markedly small in relationship to the Nation's total labor force—only 3 percent. However, it is an extremely important component of the work force in the construction industry, accounting for three-fifths of the organized segment. Conversely, the construction industry is the most important component of the referral work force, about three-fifths of its total.

Referral unions have been required to submit data on the color, sex, and ethnic makeup of their membership to the Equal Employment Opportunity Commission since 1967. In 1969, about 3,490 unions indicated they were referral unions. These unions had a total membership of 3 million, of whom about 2.5 million were in referral bargaining units. The referral membership was distributed as follows:

Industry group	*Number of workers*	*Percent of total*
Construction	1,500,000	60
Transportation and public utilities	400,000	15
Trade and services	400,000	15
Manufacturing and mining	250,000	10

Statistics breaking down referral union membership can provide clues to the role of unions in employment discrimination against minority workers where employment and job assignments are controlled by the referral union. That is, the referral worker is dependent upon the union for employment which, even under unionization, is frequently casual and of irregular duration. This is a very different situation from that obtaining for most other types of jobs in which employment is controlled entirely by the employer.

This article discusses data collected in the Equal Employment Opportunity Commission's survey of 1969 union membership, conducted late that year. Preliminary analysis of more recent data indicates a slight increase in the proportion of minority workers, particularly black workers, in referral unions that showed unusually low proportions in the 1969 data. However, the conclusion and findings in this article based upon the 1969 data remain valid for the more recent information.

Characteristics of referral unions

The Equal Employment Opportunity Commission defines referral unions to cover not only unions with hiring halls or exclusive referral systems but also those with nonexclusive customary arrangements with employers.[1] Specifically, a referral union is one which performs any of the following functions:

1. Operates a hiring hall or hiring office (on its own behalf or through a joint council or other referral agency); or
2. Has an arrangement under which an employer or employers are required to consider or hire persons referred by the union or its agent; or
3. Has at least 10 percent of its members employed by employers who customarily look to the union, or an agent of the union, for employees for hire on a casual day-to-day or temporary basis, for a specified period of time, or for the duration of a specified job.

Historically, the exclusive union work-referral system was an adjunct of the closed shop. When the Taft-Hartley Act made the closed shop illegal, the legality of the referral system was left in doubt. More than a decade later, the issue was resolved by the Landrum-Griffin Act, which amended Taft-Hartley

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to permit the union work-referral system where it does not discriminate against nonmembers.[2]

The typical referral union is a craft union, but a craft union need not be a referral union. It represents workers in one or more trades, such as electricians, carpenters, plumbers and pipefitters, merchant seamen, longshoremen, typographers, truckdrivers, waiters, and building service employees. Unlike the industrial local union, which may represent all production workers of a plant or a company, the craft union often has collective bargaining agreements with several employers or with associations of employers covering the workers in its particular trade. In many instances, employers are limited to a trade and deal with the union through associations.

A local union may act as a referral union for part of its membership and an industrial union for the rest. For example, a local of the International Brotherhood of Electrical Workers could refer electricians in the building trades in a metropolitan area, and at the same time perform as an industrial union representing workers of an electrical utility and those of manufacturers of electrical equipment. The large majority of the members of the local unions that have reported to the EEOC as referral unions are actually in referral bargaining units. Only one-sixth were not in referral units in 1969.[3]

Craft unions are sometimes erroneously conceived of as representing only skilled workers. Actually, they vary widely in the skill levels required of the membership. In the skilled crafts of the building trades, journeyman status often requires a high school diploma plus specialized schooling and experience in the trade, obtained through formal apprenticeship or other systematic training. However, in other trades, such as the laborers in the building trades, longshoring, or truckdriving, no special education is required or needed, and all training is obtained on the job.

The jobs of referral union members also vary widely. However, as a rule they share some or all of the following characteristics: the work is casual, intermittent, and of limited duration with any particular employer; the trade offers fluctuating work opportunities, due to seasonal, cyclical, or other causes; the job is performed at scattered and varied worksites. Without unionization, these conditions of employment lead, almost inevitably, to great day-to-day job insecurity.[4]

Union membership brings considerably steadier employment and much higher wages in these trades through job control and limiting entry into the trade. In achieving these benefits, many referral unions take over the traditional management prerogative of determining in large measure who will enter the trade and when and where he will work.

Thus, the member is not only protected by the union, but is also dependent upon it for his employment. More specifically, he may be dependent upon his relationship with his local union's business agent, and that agent's relationship with employer representatives, for his regular employment. The peculiar nature of the employment relationship in these industries, with its pervasive insecurity, probably explains much of the resistance of referral union members to facilitating entry into their trades. General resistance reinforces and is reinforced by discrimination against minorities where it exists.

Nor does membership alone in a referral union guarantee a worker an equal opportunity for job referrals. In 46 out of 82 union agreements studied by the Labor Department, eligible applicants for work are divided into priority groups, with preference given those applicants in the higher groups. Members are classified by length of employment under the agreement, residency in the local union's jurisdiction or in the area of the agreement, and other factors.[5]

Industry distribution

A total of 3,490 local unions having at least 100 members filed as referral unions with the EEOC in 1969. These locals' membership totaled 3 million, with over 2.5 million in referral bargaining units.

Without understating the significance of referral unions as gateways to employment, they must be viewed in the context of total union membership and the total labor force. Referral union membership was 13.5 percent of 1968 union membership (excluding Canada) of 18.9 million. Union membership was 23 percent of the labor force in 1968.[6] Hence, referral union membership amounted to 3 percent of the U.S. labor force.

As shown in table 1, which distributes union membership by industry groups, contract construction is the only industry where referral membership constituted a major proportion of total membership.

Table 1. Referral union membership compared with total membership by industry, 1969

[Numbers in thousands]

Industry group	Union membership		Referral as percent of total
	Total [1]	Referral [2]	
Total	20,210	2,551	13
Contract construction	2,541	1,495	59
Manufacturing and mining	9,560	248	3
Transportation	2,503	385	15
Trade and service	2,485	386	16
Government	2,155		0
Miscellaneous	966	37	4

[1] Total membership includes membership in Canada, because it is not excluded in industry statistics.

[2] Equal Employment Opportunity Commission, Local Union Report EEO–3.

SOURCE: **National and International Labor Unions in the United States, 1969** (BLS Bulletin 1665, 1970), p. 73, table 8.

Consequently, although referral local unions were affiliated with over 70 international unions, they did not make up a significant proportion of the membership of many internationals.

Three-fourths of all referral unions and three-fifths of their referral membership were affiliated with the 16 international unions in the building trades.[7] (See table 2.) Fifteen percent of the membership was in transportation industries, mainly trucking and longshore industries. Another 15 percent was in trade and services, mainly hotels and restaurants, retail trade, and building services. Only 10 percent was in manufacturing and mining, of which one-fourth was in printing, and the rest distributed among several other industries.

Minority membership

Industry comparisons. The 3,490 local unions in the survey reported a total minority membership of 17.4 percent made up as follows:

Group	*Percent*
Negro	9.2
Spanish-surnamed American	6.7
Oriental	0.9
American Indian	0.6

There were great variations in minority representation by industry. (See table 3.) Minorities constituted 13.2 percent of the membership of the building trades, 4 percentage points less than the total for all industries. This was due to lower proportions of both black (6.8 percent) and Spanish Americans[8] (5.1 percent).[9]

Minority membership had a much wider range by international union. For example, blacks were well over half of the membership of laundry workers but less than 2 percent of a number of skilled building trades unions.

Comparison with employment. Statistics on minority employment in 1969, obtained by the Equal Employment Opportunity Commission from over 40,000 employers and covering 29 million workers, permit comparison of the extent of minority membership in referral unions generally with minority employment in industry as a whole. The two surveys are comparable in that only larger organizations are included, local unions with at least 100 members and companies with at least 100 employees. Both exclude government operations of all kinds. However, the surveys are almost mutually exclusive in that very few of the employers of referral union members are included among those required to file Employer Information Report EEO–1.

The most notable observation is that all minorities, except blacks, had substantially greater representation in the referral unions than in industry employment as a whole. For Spanish Americans and American Indians, the union figures were double their proportions in industry. In the case of blacks, representation is about the same in union membership and in industry employment.

Comparison with industry groups (table 3) shows that union membership of blacks is significantly lower in construction unions than in nationwide employment, about the same in manufacturing, and higher in both transportation and trade and services. On the other hand, the referral membership of Spanish Americans was markedly higher than their employment totals in all industry groups. Although this

Table 2. Distribution of membership of referral unions by industry, 1969

Industry group	Local unions		Referral membership	
	Number	Percent	Number in thousands	Percent
Total	3,490	100.0	2,551	100.0
Contract construction	2,597	74.4	1,495	58.6
Manufacturing and mining	263	7.6	248	9.7
Transportation	273	7.8	385	15.1
Trade and service	297	8.5	386	15.1
Miscellaneous	60	1.7	37	1.5

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

paper does not include an area analysis, we should mention that the concentration of Hispanic membership is in areas of high Spanish American participation in the labor force. For example, 40 percent of all Spanish Americans in construction unions and 70 percent of all Spanish Americans in other referral unions were located in the Los Angeles, New York, and San Francisco metropolitan areas.

Comparisons by trade

The 16 international unions in the building trades represent wide differences in levels of skill, extent of specialization, wage rates, acceptance of minority groups, and the extent of industrial union involvement.[10] Blacks have relatively high membership in many unions representing bricklayers, cement masons, and plasterers. For convenience of analysis, the trowel trades are combined with two other unions that have high minority membership, the laborers and the roofers. A second grouping consists of six internationals in the highly skilled and specialized and relatively newer mechanical trades. The third grouping, which we will call for want of a better name miscellaneous construction trades, includes the remaining six internationals. (See tables 4 and 5.)

Instead of the security of year-round employment, income guarantees, formal seniority protection, and often high employee benefits, building trades unions place major stress on hourly rates of pay. All union wage rates in the building trades—though not necessarily annual wages—are relatively high. The average rate for laborers, the lowest skilled occupation in the industry, was $4.33 in 1969. The rates for all other trades ranged from $5.36 for roofers and glaziers to $6.22 for plumbers. Mechanical trades were generally the highest paid.

Table 3. Percent of minority membership in referral unions, by industry, compared with their employment in industry, 1969

Industry group	Percent of total membership				
	All minorities	Negroes	Spanish Americans	Orientals	American Indians
Total	17.4	9.2	6.7	0.9	0.6
Contract construction	13.2	6.8	5.1	0.5	0.8
Manufacturing and mining	25.5	9.6	14.8	0.7	0.4
Transportation	17.6	10.3	6.2	0.8	0.3
Trade and service	29.0	17.4	8.4	2.9	0.3
Miscellaneous	8.5	3.0	4.7	0.1	0.7
	Percent of total employment				
All industry	13.6	9.5	3.2	0.6	0.3

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3 and Employer Report EEO–1.

Table 4. Distribution of minority membership in building trades union groupings, 1969

International union group [1]	Membership in group as a percent of total	Distribution of minorities by union group				
		Total	Negroes	Spanish Americans	Oriental	American Indian
Total	100.0	100.0	100.0	100.0	100.0	100.0
Mechanical trades	35.0	16.0	8.1	21.2	48.3	28.8
Laborers, roofers, and trowel trades	23.0	58.5	74.8	45.4	20.3	36.2
Miscellaneous building trades	42.0	25.5	18.1	33.4	31.4	35.3

[1] See table 5 for unions included in each group.

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

As shown in table 5, the mechanical trades had the lowest minority membership (6.2 percent), and the miscellaneous construction trades were only slightly higher (8.0 percent). Black membership was strikingly low in these groups, with only 1.6 percent of total membership of the former group and 2.9 percent of the latter. Spanish Americans had better aggregate representation than blacks in each of these two groups, 3.2 percent and 4.0 percent, respectively.

On the other hand, minorities accounted for one-third of the membership of the laborers, roofers, and trowel trades: 21.6 percent were Negroes and 10.0 percent Spanish Americans. Three out of four blacks in the building trades were in this group, despite the fact that it had less than one-fourth of total building trades membership.

When minority representation in international unions within each of the three groups is considered, Negro ratios show much less variation than those for Spanish Americans. (See table 5.) Except for the Boilermakers with a 5.5-percent black membership, the proportion of blacks in the mechanical trades ranged from 0.6 percent in the Sheet Metal Workers to 1.9 percent for the Electrical Workers. Similarly, in the miscellaneous construction trades (omitting the Asbestos Workers with a ratio of only 0.2 percent), black membership ranged from 2.7 percent for the Operating Engineers to 4.2 percent for the Painters. In the laborers, roofers, and trowel trades, black membership ranged from 9.5 percent for the

Bricklayers to 24.1 percent for the Laborers. Statistics for Spanish Americans reveal more variation within groups, but generally similar patterns.

Comparison with industry craftsmen. Employment of minorities as skilled craftsmen in industry as a whole may be compared with minority membership in the skilled trades in construction unions. Black craftsmen had 5.0 percent of the skilled jobs in industry in 1969, compared with black membership of 1.6 percent in the mechanical trades and 2.9 percent in the miscellaneous construction trades. Only 5 of the 16 building trades unions had black membership exceeding the average for skilled craftsmen in American industry as a whole. Most were far below that level.

If black membership in the 12 unions making up the mechanical and miscellaneous construction trades were at the 5.0-percent level, Negro mechanical trade membership would have tripled. Negro membership in the miscellaneous construction trades would have risen nearly three-fourths. The building trades would have had over 30,000 additional black members. As a result, the black participation rate in the building trades would have increased to 8.9 percent, close to the 9.5-percent level for all industry.

Minority distribution by locals. Aggregate statistics mask the distribution of minorities, the effects of size of unit, and the concentration of minorities. Although blacks constituted 6.8 percent and Spanish Americans 5.1 percent of total building trades membership, 5 out of 6 of all local unions in the building trades had less than 5.0 percent of each minority. (See table 6.) Two-fifths of the locals had no blacks at all and almost half had no Spanish Americans. Some of the absence or low proportions of minorities in locals undoubtedly would be accounted for by their low proportions or absence in the population and work force of some areas in the country.

Absence of minorities was most striking in the mechanical trades. Fifty-eight percent of the locals reported no blacks and an equal proportion reported no Hispanic members. Only 1 out of 7 locals had a black membership of 1 percent or more, and less than 1 out of 4 locals had Spanish-American membership above that token level.

While the pattern of minority exclusion is less extreme in the miscellaneous construction trades, three-fifths of the locals had either no black or less than 1 percent and two-thirds had no Spanish Americans or less than 1 percent.

In neither of these groups do the data reveal any pattern of segregated locals. Rather, they show a consistent absence of minorities, particularly blacks. The Hispanic patterns were more mixed with virtual absence of Spanish Americans from the great majority of locals, but a high enough concentration in areas of high Hispanic presence in the labor force to

Table 5. Minorities as percent of total referral membership in building trades unions, 1969

International union	Percent of total membership in international				
	All minorities	Negroes	Spanish Americans	Orientals	American Indians
Mechanical trades	6.2	1.6	3.2	0.7	0.7
Boilermakers	11.5	5.5	4.3	0.7	1.0
Electrical workers	7.1	1.9	3.9	0.9	0.4
Elevator constructors	3.5	1.1	2.0	0.1	0.3
Iron workers	8.2	1.7	3.8	0.8	1.9
Plumbers and pipefitters	3.2	0.8	1.4	0.5	0.5
Sheet metal workers	6.1	0.6	4.5	0.8	0.2
Laborers, roofers, and trowel trades	33.3	21.6	10.0	0.4	1.3
Bricklayers	13.9	9.5	2.8	1.0	0.6
Laborers	36.4	24.1	10.7	0.3	1.3
Plasterers and cement masons	33.7	15.3	15.8	1.1	1.5
Roofers	20.2	13.3	4.7	0.2	2.0
Miscellaneous construction trades	8.0	2.9	4.0	0.4	0.7
Asbestos workers	1.6	0.2	1.0	(1)	0.4
Carpenters	8.4	2.9	4.9	0.2	0.4
Lathers	12.5	3.3	7.7	0.9	0.6
Marble polishers	10.8	3.2	7.4	(1)	0.2
Operating engineers	5.5	2.7	1.4	0.3	1.1
Painters and decorators	14.0	4.2	8.0	1.4	0.6

1 Less than .05 percent.

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

Table 6. Percent distribution of local unions in the building trades by minority membership, 1969

Percent minority membership in local union	All building trades	Mechanical trades	Laborers, roofers, and trowel trades	Miscellaneous construction trades
Negro membership, total	100.0	100.0	100.0	100.0
None	40.0	57.6	16.2	37.4
Less than 1.0	21.3	28.4	8.1	22.8
1.0 to 1.9	10.5	7.4	9.5	14.5
2.0 to 2.9	5.3	2.4	6.3	7.6
3.0 to 4.9	5.6	2.3	9.5	6.6
5.0 to 9.9	5.6	0.9	11.8	6.5
10.0 and over	11.7	1.0	38.6	4.6
Spanish-surnamed American membership, total	100.0	100.0	100.0	100.0
None	48.7	57.9	37.7	46.4
Less than 1.0	18.2	18.7	15.5	19.5
1.0 to 1.9	8.1	6.7	8.3	9.4
2.0 to 2.9	4.8	4.2	6.5	3.5
3.0 to 4.9	5.0	4.3	6.1	5.1
5.0 to 9.9	6.3	4.0	9.7	6.4
10.0 and over	8.9	4.2	16.2	8.7

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

raise their total percent above that for blacks.

A vastly different picture is presented in the data for the laborers, roofers, and trowel trades. Relatively few locals, only 1 out of 6, had no blacks, and a sizable proportion had a significant representation. One out of nine locals had a majority black membership. Spanish Americans were distributed to a smaller degree than blacks in this group, but still to a notably greater extent than in the other two groups.

Table 7 indicates a generally higher proportion of minorities as the size of the local union increased or, more precisely, a lower proportion of locals showing either no minorities or very few of them.

In this analysis, a percentage cutoff—less than 1 percent of each minority group—was used instead of a numerical one, since the probability of having a minority member increases with the size of the local. Four sizes of locals were studied: less than 250 members; 250–499; 500–999; and 1,000 and over.

There was a virtual absence of blacks from mechanical trades locals, regardless of size. In the miscellaneous construction trades, the proportions of locals with fewer than 1 percent black membership were smaller than in the mechanical trades in each category, and dropped sharply at the 500–999 member level. The same pattern of increasing proportions of blacks in larger locals appeared in data for laborers, roofers, and trowel trades, with even the smallest size group showing only one-third of the locals with less than 1 percent.

Table 7. Percent of local unions in the building trades with low[1] minority membership, by size of local, 1969

Size of local union	All building trades	Mechanical trades	Laborers, roofers, trowel trades	Miscellaneous construction trades
LOCALS WITH LOW[1] NEGRO MEMBERSHIP				
All locals	61.3	86.0	24.3	60.2
Less than 250 members	69.8	91.0	34.2	71.6
250–499 members	64.3	87.6	22.8	66.1
500–999 members	50.2	84.0	16.5	41.0
1,000 members or more	40.4	65.8	5.3	39.1
LOCALS WITH LOW[1] SPANISH-SURNAMED MEMBERSHIP				
All locals	66.9	76.6	53.2	65.9
Less than 250 members	74.6	84.9	60.9	73.1
250–499 members	68.4	68.3	54.4	66.9
500–999 members	54.9	65.1	44.5	51.7
1,000 members or more	54.6	59.5	35.1	61.7

[1] "Low" is defined as less than 1-percent minority membership.

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

Those locals which had a few or no Spanish Americans also declined proportionately with increasing size of local, except for the largest locals in the miscellaneous construction trades. However, the percentages without Hispanic members remained high in all groups, due to the absence of significant Spanish-American labor force participation in many areas of the United States.

It follows that a very few local unions accounted for most of the minorities among those internationals which tended to exclude minorities. Only 27 locals out of 1,007 in the mechanical trades, less than 3 percent of the total, had over three-fourths of all black members. Excluding these 27 locals, average black membership drops from 1.6 percent to 0.5 percent.

Equally revealing is the effect of a small number of locals on the Hispanic aggregates. Only 32 locals with an average Spanish-American membership of 16 percent accounted for 73 percent of their total in the mechanical trades. Excluding these 32 locals, average Hispanic participation drops from 3.2 percent to 1.0 percent. Similar patterns are seen in unions in the miscellaneous group. Black membership in 610 Carpenters locals declines from 2.9 percent to 1.7 percent when seven locals accounting for one-half of all black workers are left out. Spanish membership drops from 4.9 percent to 2.1 percent excluding nine locals accounting for two-thirds of the Spanish Americans.

Even in the trowel trades, similar effects can be observed. Excluding nine locals with two-thirds of all blacks, black membership in 119 Bricklayers locals declines from 9.5 percent to 4.0 percent. In the Plasterers and Cement Masons Union, the Hispanic total is sharply affected by a relatively few locals. Leaving out 12 locals accounting for three-fourths of all Spanish Americans, the latter's average drops from 15.8 percent to 5.3 percent.

Changes in minority membership

Changes since 1967. Four-fifths of the building trades locals that reported to the Equal Employment Opportunity Commission in 1969 also reported in 1967. These locals had three-fourths of the 1969 membership. In the 2-year period, total membership of this matched set of local unions increased 12 percent while minority membership rose 16.5 percent

(See table 8.)[11] The effect of these shifts was a slightly higher proportion of minorities, from 13.2 percent to 13.7 percent. (Preliminary analysis of data collected since 1969 indicate a continued slight upward movement in the proportion of minority membership.) The proportion of black membership did not rise between 1967 and 1969, however, increasing in line with the overall increase in membership.

In both the mechanical and miscellaneous construction trades, total membership increased one-ninth, while minorities increased one-fourth. However, minorities had been so small a proportion of both in 1967, their share advanced less than one percentage point. By 1969, minorities accounted for only 4.7 percent in the mechanical trades and 7.1 percent in the miscellaneous construction trades.

While increasing by more than one-half in number, blacks in the mechanical trades accounted for no more than 1.0 percent of the total in 1969. In the miscellaneous trades, they increased by 30 percent, raising their representation to 2.9 percent. The increase in Spanish-American membership was somewhat less than that of blacks in both groups of unions, but their participation in 1969 still was higher than blacks, 2.4 percent to 3.4 percent.

In the laborers, roofers, and trowel trades grouping, minority membership did not keep pace with increases in majority membership between 1967–69. This was due to a much smaller increase in black membership in the Laborers. This group, however, had by far the largest minority representation in the building trades, more than one-third of its membership both years.

Apprenticeship changes. The labor movement and other organizations have stepped up efforts to enroll minorities in apprenticeship programs. Statistics obtained from the Equal Employment Opportunity Commission's Apprenticeship Information Report (EEO–2) indicate, for example, that in 1969, plumbing and pipefitting joint apprenticeship committees had enrolled a total of 597 blacks and 334 Spanish Americans, representing 3.1 percent and 1.7 percent respectively of total apprentices in those trades. Preliminary tabulations reveal that almost 9 of 10 of these apprentices were in the construction industry, and that blacks represented 2.7 percent and

Table 8. Change in minority membership in building trades, matched local unions, 1967-69

Trade and minority group	Number of locals	Number of members		Change, 1967–69		Percent of total membership	
		1967	1969	Number	Percent	1967	1969
ALL BUILDING TRADES							
Total	2,119	990,882	1,109,340	118,458	12.0	100.0	100.0
All minorities		131,187	152,844	21,657	16.5	13.2	13.7
Negroes		75,371	84,320	8,949	11.9	7.6	7.6
Spanish-surnamed Americans		44,677	54,780	10.103	22.6	4.5	4.9
Orientals		3,888	4,564	676	17.4	0.4	0.4
American Indians		7,251	9,180	1,929	26.6	0.7	0.8
MECHANICAL TRADES							
Total	845	357,090	396,012	38,922	10.8	100.0	100.0
All minorities		14,904	18,691	3,787	25.9	4.1	4.7
Negroes		2,610	4,033	1,423	54.5	0.7	1.0
Spanish-surnamed Americans		7,925	9,411	1,486	18.8	2.2	2.4
Orientals		1,482	2,469	987	66.6	0.4	0.6
American Indians		2,887	2,778	−109	−3.8	0.8	0.7
LABORERS, ROOFERS, TROWEL TRADES							
Total	552	265,894	304,576	38,682	14.5	100.0	100.0
All minorities		93,025	105,083	12,058	13.0	35.0	34.5
Negroes		63,669	68,441	4,772	7.5	23.9	22.5
Spanish-surnamed Americans		25,993	31,540	5,547	21.3	9.8	10.3
Orientals		1,172	1,098	−74	−6.3	0.5	0.4
American Indians		2,191	4,004	1,813	82.7	0.8	1.3
MISCELLANEOUS CONSTRUCTION TRADES							
Total	722	367,898	408,742	40,844	11.1	100.0	100.0
All minorities		23,260	29,072	5,812	25.0	6.3	7.1
Negroes		9,094	11,846	2,752	30.3	2.5	2.9
Spanish-surnamed Americans		10,759	13,829	3,070	28.5	2.9	3.4
Orientals		1,234	997	−237	−19.2	0.3	0.2
American Indians		2,173	2,400	227	10.4	0.6	0.6

SOURCE: Equal Employment Opportunity Commission, Local Union Report EEO–3.

Spanish Americans 1.6 percent of all apprentices in construction.

The 2.7 percent, though low in relation to black participation in the labor force, was considerably higher than the 0.8-percent black membership in plumbers and pipefitters referral unions. Similar change is not apparent in the statistics for Spanish Americans. Their 1.6-percent share of apprenticeships compares with a participation rate of 1.4 percent of local union membership.

A comparison between the apprenticeship statistics and referral membership data should be informative even though an industry-by-industry comparison would be more desirable. (See table 9.) After deducting statistics for laborers, a nonapprenticeable trade, it appears that black, but not Spanish American, participation in apprenticeship was considerable higher than their membership rate in the referral unions.

The data by year of apprenticeship provides further cause for optimism, because they indicate an accelerating trend toward enrolling blacks, who even in the mechanical trades represented 5.4 percent of first-year apprenticeships. These data should be watched in later surveys to see if the rate of increase is maintained and if the lower figures for second- and later-year apprentices do not reflect a dropout rate unfavorable to minorities.

This subject should not be dropped without noting that apprenticeship is virtually the only avenue of entrance for blacks into many of the skilled trades. Many whites, however, have entered the trades through other routes, and undoubtedly continue to do so. Consequently, the percent of black participation in apprenticeship may not be clearly reflected in referral union membership percentages for some time.

Table 9. Percent of minority membership in building trades unions and in apprenticeship programs of allied trades,[1] 1969

Trade and minority group	Membership in referral unions	Percent of apprentices			
		Total	First year	Second year	Third year
All trades:					
Negro	2.9	5.3	7.8	6.0	2.5
Spanish American	3.9	3.1	3.2	3.2	2.2
Mechanical trades:					
Negro	1.6	3.3	5.4	3.8	1.5
Spanish American	3.2	2.3	3.0	2.5	1.8
Roofers and trowel trades:[2]					
Negro	12.1	17.2	18.1	18.9	13.8
Spanish American	7.4	5.1	6.8	4.0	3.4
Miscellaneous trades:					
Negro	2.9	6.7	9.1	6.9	3.6
Spanish American	4.0	4.4	5.4	4.3	3.3

[1] Apprenticeship statistics not limited to construction industry; include all programs reported for the particular trades.

[2] Excludes laborers.

SOURCE: Equal Employment Opportunity Commission, Apprenticeship Information Report EEO-2, and Local Union Report EEO-3.

Minority applicants

Each referral union was asked to give its best estimate of the number of applicants for membership, total and by minority group, during the previous year. Since unions are not required to maintain such records, the margin of error in these data is greater than in the membership statistics which must be accurate. Also, the data give no indication of the proportions of applicants who were qualified to perform the work applied for.

These figures do give some indication of the extent to which minorities are interested in union membership. With few exceptions, minorities represented a higher percentage of applicants in 1969 than of members:

	All unions	*Building trades*	*Nonbuilding trades*
Negroes:			
Applicants	16.2	16.1	16.2
Members	9.2	6.8	12.4
Spanish Americans:			
Applicants	10.4	8.6	12.6
Members	6.7	5.1	9.0

The applicant ratios of Orientals and American Indians, while very low, were also higher than their membership proportions.

Efforts for change

Referral unions reflect a wide variety of occupations and skill levels, such as may be found within a large plant in industry. One difference is that varying degrees of skill as well as varying occupational specialties are often represented by different international unions and employers.

On the whole, patterns of minority employment are similar to those in industry generally. They reveal an inverse relationship between skill level and minority participation. However, because of the additional elements of job control and craft union traditions,

variations are more extreme and exceptions more prevalent.

This point is illustrated by two types of minority segregation observed among longshoremen and truckdrivers. The International Longshoremen's Association (AFL–CIO) has large numbers of black members, but they have been organized traditionally in southern ports into segregated "sister" locals. Thus, 9 of 36 ILA locals reporting in 1969 had total or almost total black membership. The issue of segregated locals is in the courts and probably will be resolved through merger of sister locals with some protection of minority rights in the mergers.[12]

By contrast, the contract trucking industry has had a historical pattern of segregated work assignments. Few blacks have been employed as over-the-road drivers, with most of them employed in lower-paying jobs as local or city drivers.[13] Such segregated assignments were declared illegal by the courts in 1970.[14]

Within the past few years, civil rights groups and the Federal Government have intensified efforts to get more minority workers into the building trades. Some building trades unions have been remiss in this respect. Some traditionally have had significant minority membership. Others show wide variations in minority membership. Many others, however, continue to have very low minority participation.

The problem has been compounded by a unique labor market situation. Local unions attempting to enroll more minorities in apprenticeship during the 1960's found a dearth of interested qualified candidates, probably due to inadequate vocational preparation and guidance, insufficient communication with the minority community, and minority skepticism as to the good faith of the unions.[15] Consequently, new avenues of communication were attempted, such as the Apprenticeship Information Centers opened by the U.S. Department of Labor.

Special efforts also were made to train minorities for appenticeship. The most persistent effort has been the Apprenticeship Outreach Program which developed out of experiences of the Workers' Defense League in preparing minority youth to take formal apprenticeship tests in New York City.[16] After acceptance by the AFL–CIO and building trade unions, the program was financed by the U.S. Department of Labor. Programs in a number of cities are operated by the Workers' Defense League, the Urban League, and various central labor bodies. The effectiveness of this program is not easy to evaluate because of inadequate statistics. The chief shortcomings of the published data are that they lump all recruits without identifying particular minorities, and they make no realistic attempt to count the number who have dropped out of the program.

Since 1969, the U.S. Department of Labor has attempted, under Executive Order 11246, through its Philadelphia Plan to require contractors to adopt affirmative action pledges to meet fixed percentage goals of minority employment, by trade, within stated time periods on government contracts. The goals are based upon statistics on labor force, minority availability, occupational growth rates, and so on. Since the Executive Order does not extend to unions, the plan places the burden upon contractors to obtain minority workers. Through the end of 1971, the plan had been imposed in 6 cities and voluntary plans were in operation in an additional 38.

THE ACTIVITY surrounding the building trades unions and the construction industry should be placed in proper perspective. Unionized construction workers are but one-eighth of all organized workers, and one-fiftieth of the total labor force. The availability of jobs for minorities is limited to turnover, growth, and the extent to which unions and the industry can be induced to expand the labor force.

Since skilled craftsmen constitute a high proportion of building trades membership and absence of minorities is greatest at that level, the proportion of minority craftsmen in industry might be considered an appropriate interim basis for comparison for the construction industry. It could not serve as a longrun criterion, because minorities traditionally have been underrepresented at the high skill levels in all industry.

As previously noted, if black membership in the 12 internationals of the mechanical trades and the miscellaneous construction trades had reached the industrywide craftsmen level of 5 percent in 1969, it would have been 30,000 greater than it was. Forty-nine out of 50 locals in the mechanical trades, and 8 out of 9 in the miscellaneous construction trades, would have had more black members.

Such modest goals would seem to be attainable,

with continued emphasis on training, wholehearted cooperation by international and local union leaders, persistent affirmative action programs, and litigation under the Equal Employment Opportunity Act of 1972. □

———*FOOTNOTES*———

[1] This definition is used in Local Union Report EEO-3, which must be filed with the Commission annually by all local unions with 100 members or more that are subject to Title VII of the Civil Rights Act of 1964. Filing is required by section 1602.22, Chapter XIV, Title 29, Code of Federal Regulations, under the authority set forth in section 709(c) of Title VII. While all covered locals must file, only those defined as referral unions must break down their membership by minority group and sex. The broad definition of referral union was designed to obtain data about those unions where they exist in fact, whether or not the referral arrangements are set forth in formal contracts. The final definition was worked out in a series of meetings and discussions in 1967 with representatives of the AFL–CIO and its Building and Construction Trades Department. The author participated in those discussions.

[2] For a concise account of the legal history of referral unions, see U.S. Department of Labor, *Exclusive Union Work Referral Systems in the Building Trades* (Washington, 1970), chapter II, "Status under Federal Labor Law."

[3] Although only those members of referral unions who are represented in referral bargaining units are included in these statistics, they will be designated throughout as referral union members.

[4] Elliot Liebow gives a graphic picture of this kind of job insecurity in his description of a nonunion construction industry shape-up on the streets of Washington, D.C., in *Talley's Corner* (Boston, Little Brown Co., 1967), chapter II, "Men and Jobs."

[5] *Exclusive Union Work Referral Systems,* pp. 57–61.

[6] *Directory of National and International Labor Unions in the United States, 1969* (BLS Bulletin 1665, 1970), p. 69, table 1A.

[7] Table 5 contains an informal listing of the 16 building trades unions.

[8] "Spanish-surnamed Americans" is a grouping used by the EEOC to include Mexican Americans ("Chicanos"), Puerto Ricans, Cubans, and other United States workers of Hispanic heritage. Chicanos and Puerto Ricans make up the bulk of the group. For brevity, the group will be called Spanish Americans or Hispanic Americans in this article.

[9] Because of the very small and locally concentrated Oriental and American Indian memberships, most of the discussion that follows deals with Negro and Spanish-American statistics.

[10] On the premise that almost all of the members of the 16 international unions in industries other than construction are nonreferral in nature, we have assumed that their entire referral memberships are in construction. Referral membership accounts for only two-fifths of their total membership as reported to the Bureau of Labor Statistics. The remaining three-fifths are mostly in industries other than construction, and some are in Canadian locals not reported to the EEOC regardless of industry. Still others, though engaged in construction, are nonreferral in nature or, if referral, fall below the 100-member cutoff for reporting.

[11] Of 2,597 building trades locals reporting in 1969, 478 representing 386,000 members had not reported 2 years earlier. The following is a comparison of Negro and Hispanic membership participation rates of these locals with those reporting in both years:

	All building trades	*Mechanical trades*	*Trowel trades, roofers, laborers*	*Miscellaneous trades*
Negroes:				
Both years ...	7.6	1.0	22.5	2.9
1969 only	4.6	3.7	15.7	2.9
Spanish Americans:				
Both years ...	4.9	2.4	10.3	3.4
1969 only	6.3	6.1	7.7	5.2

This illustrates the hazards of comparing unmatched aggregate data. The effects of such a comparison would have been to show a sharp decrease in Negro membership in the building trades as a whole when no such decrease is evident from a comparison of matched locals.

[12] See *U.S.* v. *International Longshoremen's Association,* 319 F. Supp. 737 (Md., 1970); and *U.S.* v. *International Longshoremen's Association* (Tex., 1971), (4 FEP Cases 6, Bureau of National Affairs, 1971).

[13] Reverend Richard D. Leone, "The Underutilization of Negroes as Truckdrivers by For-Hire Motor Carriers," *Labor Law Journal,* October 1971, pp. 631–646.

[14] See *Jones* v. *Lee Way Motor Frieght, Inc.,* 431 F. 2d. 245 (10th Cir., 1970).

[15] F. Ray Marshall and Vernon M. Briggs, Jr., *The Negro and Apprenticeship* (Baltimore, Johns Hopkins University Press, 1967), pp. 27–45.

[16] Ibid., pp. 72–81.

Prefabricated construction: Developments abroad

Foreign countries find industrialized construction accelerates building and reduces costs but creates problems as well

E. JAY HOWENSTINE

IN HIGHLY industrialized countries, significant changes have occurred in the mix of worker skills needed in the construction industry. The introduction of new machines at the building site and the transfer of labor functions to prefabrication factories have resulted in declines in the usage of certain crafts, enhancement in the use of others, and the creation of jobs calling for new skills. Although there is general agreement on this point there is difference of opinion on the extent and rapidity of future changes.

In 1971 in Geneva, Switzerland, representatives of government and of employers' and workers' organizations from 29 industrial and developing nations examined the economic and social aspects of prefabrication in the construction industry.[1] The occasion was the eighth session of the Building, Civil Engineering, and Public Works Committee of the International Labor Organization.

This article summarizes the highlights of the committee discussions and conclusions.[2] It also draws on the comprehensive report on national prefabrication practices, which the ILO prepared as a basis for the Committee discussions, and other recent reports.[3]

Prefabrication's progress

At Geneva, the ILO Committee accepted prefabrication as an integral and established feature of the building industry, particularly since it had been a major way many countries coped with critical postwar labor shortages. The Committee emphasized, however, that the application of industrialized techniques should be adapted to the conditions in each country.

The Committee also took a broad view of the construction process, maintaining that prefabrication was only one part of a continuous development and application of industrialized building systems. This development has had a profound effect upon the occupational, industrial, and organizational structure of the industry and has required thorough reexamination and adaptation of practices and policies. An important indication of the implications of the industrialization process for the building industry is provided by G. Cederwall of Sweden, who argues that industrialization is more a problem of organization than of technique and consists of the following: rationalization; mechanization; intensive use of prefabricated elements; repetition; continuity; and systematic feedback of experience.[4]

Wide differences of opinion exist on the degree to which the building industry in various countries has been industrialized. This difference is due partly to the dearth of good building statistics, and partly to the absence of internationally agreed definitions as to just what industrialized building and prefabrication are. Table 1 attempts to bring together the most recent official statistics supplemented, as appropriate and available, with studies and estimates that are at least reasonably authoritative.

The data in table 1 (and later in table 2) do not purport to be either an adequate or a satisfactory statistical presentation. Because of various and often ambiguous definitions, different systems of measurement, and incomplete or nonexistent time series, the data must be used with circumspection. There is little or no strict statistical comparability between countries in these matters. This is in fact one of the beguiling features of the state of the art. Nevertheless, applying due discretion, certain broad trends and generalizations do emerge from this confusing and often conflicting welter of data.

Clearly the widest application of industrialized building systems is in Eastern Europe where in 1970 they constituted these percentages of total annual residential construction: Bulgaria (33); Czechoslo-

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Table 1. Percent of total new residental building constructed by industrialized or related systems, 1963, 1967, 1970

Country[1]	Building system	1963	1967	1970
Austria	Prefabrication			11
Belgium [2]	Prefabricated dwelling	2	2	
Bulgaria	Medium size panel	3	18	20
	Assembled reinforced concrete frame	1	0.5	1
Czechoslovakia [3]	Medium size panel		14	13
	Assembled frame	53 (1962)	5	2
	Room size panel		44	54
Denmark [4]	Large panel	21 (1962)		
	Prefabrication		33 (1966)	35
Finland [5]	Total industrialized		9 (1966)	
	Semi-prefabricated		12 (1966)	
	Prefabricated wooden 1 and 2 family houses		3	
France [6]	Prefabricated panel	7		
	Industrialized systems			21
Germany, Federal Republic of [7]	Large size building elements		6	5
German Democratic Republic	Industrialized construction	76	96	90
Hungary	Lightweight concrete large block	20	23	19
	Room size panel	1	17	50
Italy	Prefabrication		0.5	0.4 (1969)
Japan [8]	Prefabrication			8
Netherlands [9]	Industrialized housing			30 (1968)
	With aid of prefabricated methods	10	17	
Norway [10]	Prefabrication	4		28 (1968)
Poland [11]	Panel	11		
	Industrial housing as a percent of urban housing	28		
	Industrial housing as a percent of public and cooperative housing.			78 (1969)
Romania [12]	Large panel as percent of state-financed construction	13		
Sweden [13]	Lighweight concrete block		2	2 (1968)
	Element construction	3 (1962)		
	Prefabricated wooden 1 and 2 family houses		15	
Switzerland [14]	Prefabrication		8 (1966)	
U.S.S.R.[15]	Industrialized system	35 (1962)		57
United Kingdom	Industrialized		30	38
Yugoslavia	Non-traditional construction	4	4	3

[1] Unless otherwise indicated, data are taken from Economic Commission for Europe (ECE), **Annual Bulletin of Housing and Building Statistics for Europe, 1970** (New York, United Nations, 1971), table 6.

[2] International Federation of Building and Public Works (IFBPW), **Social Aspects bf Prefabrication in the Construction Industry** (Paris, 1967), p. 2; and Kredietbank, **Bulletin Hebdomadaire,** February 28, 1969, cited in Nelly Schmitz and Michel Cucuroir, "Vers L'industrialisation du batiment en Belgique," **Cahiers economiques de Bruxelles,** First Quarter 1971, pp. 16–17.

[3] United Nations, **Industrialization of Building** (New York, 1967), E/C 6/70, Add. 1, p. 112.

[4] **Industrialization of Building,** p. 112; IFBPW, **Social Aspects of Prefabrication,** p. 1; and Ministry of Housing, Denmark, **Current Trends and Policies in the Field of Housing, Building, and Planning, 1970–71** (Copenhagen, 1971), p. 20.

[5] ECE, **The Future Design, Production and Use of Industrially Made Building Components** (New York, UN, 1969), ST/ECE/HOU/36, Vol. II, p. 164, hereafter cited as Paris Proceedings; and author's estimate: K.N.E. Tiusanen, **Production of Prefabricated Wooden Houses** (New York, UN, 1971), E.71.II.B.13, p. 8.

[6] ECE, **Annual Bulletin of Housing, 1969** (New York, UN, 1970), p. 46; and ECE, **Progressive Methods of Design, Organization and Management in Building** (New York, UN, 1971), ST/ECE/HBP/42, Vol. II, p. 10, hereafter cited as Moscow Proceedings.

[7] Moscow Proceedings, Vol. II, p. 64.

[8] United States Department of State Airgram, March 5, 1971.

[9] J. Fassin, **Industrialisatie Bouwnijverheid in Nederland** (Centre Scientifique et Technique de la Construction, undated), cited in Schmitz and Ducuroir, **op. cit.,** pp. 16–17; and IFBPW, **Social Aspects of Prefabrication,** p. 1.

[10] IFBPW, **Social Aspects of Prefabrication,** p. 1; and Ministry of Municipal and Labour Affairs, Norway, **Current Trends and Policies in the Field of Housing, Building and Planning** (Oslo, 1969), p. 10.

[11] See Edward Kuminek's article in A.A. Nevitt (ed.), **The Economic Problems o Housing** (London, The MacMillan Co., 1967), p. 232; ECE, **Proceedings of the Seminar on Changes in the Structure of the Building Industry Necessary to Improve Its Efficiency and to Increase Its Output** (New York, UN, 1965), ST/ECE/HOU/13, Vol. II, p. 536, hereafter cited as Prague Proceedings; and **La Politique du logement, la construction et l'amenagement du territoire en Pologne** (Warsaw, Housing Institute, 1970), p. 5.

[12] **Industrialization of Building,** p. 85.

[13] See Moscow Proceedings, Vol. II, p. 10; Prague Proceedings, Vol. III, pp. 632–634 and author's estimate: K.N.E. Tiusanen, p. 8.

[14] IFBPW, **Social Aspects of Prefabrication,** p. 1.

[15] **Industrialization of Building** (1967), p. 112; and ECE, Moscow Proceedings Vol. II, p. 23.

vakia (69); German Democratic Republic (90); Hungary (69); and USSR (57). In Western Europe, the highest percentages in 1970 were: Denmark (35); France (21); Netherlands (30 in 1968); Norway (28); and United Kingdom (38). Sweden has also reached an advanced stage in the application of industrialized building although its percent standing is low, statistically speaking. These percentages, so far as can be determined, apply only to the residential building sector, but it is reasonable to assume that equal, if not higher percentages, apply also to nonresidential building. For example, the Federal Republic of Germany's (hereafter West Germany) industrialized systems account for only 5 percent of new housing production but for 12 percent of other building.[5]

Impact on occupations

An in-depth United Kingdom study in 1966 showed that three crafts—rubble-walling, decorative plastering, and circular glazing—had almost completely disappeared from new building sites. However, not more than 10 percent of the construction labor force had been directly affected by industrialized systems. The proportion of carpenters and joiners had increased, masons had declined, and plumbers had remained stable. Relatively limited net displacements of traditional building operatives in new construction as a result of prefabrication have also been noted in two major U.S. studies.[6]

On the other hand, in Eastern Europe, the displacement of traditional building craftsmen has proceeded farther and more rapidly. The impact in the U.S.S.R. has been described as follows:

> As a result of the large-scale use of completely prefabricated standard dwellings, the most favourable conditions have been created for organising building by the flow-line method. The construction site becomes the assembly shop of the housebuilding combine. The two operate together as a single continuous production line. Specialised vehicles transport components to the assembly site, working in co-ordinated rhythm with production and assembly. Building production takes on the characteristics of industry to the greatest possible extent.[7]

Projecting into the future when construction industrialization is more fully worked out, Per Bredsdorff, a leading European authority, envisages skills quite different from those in conventional building. The majority of the onsite labor force would position, join, and otherwise assemble components; skills would be divided into two major categories of structural and nonstructural assembly. This skilled group would be aided by specialists in three principal types of operations: foundation work; operation of mechanical material-handling equipment; and finishing operations.[8]

A second major trend is that while the relative importance of certain traditional manual craft skills is declining that of other more machine-oriented skills is increasing. Everywhere machinery has increased markedly in size; specialized machines are replacing universal machines and there is increased complexity of repairs but greater simplicity in operation. In West Germany, for example, the rate of investment in building machinery (tower cranes, hoists, concrete mixers, and so forth) practically doubled from 1960 to 1965, and continued upward at a slower pace after that. The Swedish construction industry has one crane for every 36 workers. This greater machine power per worker has drastically altered the work content of many trades; for example as a result of new techniques of producing, heating, and compressing concrete, the manual labor of concrete workers has greatly decreased and their residual tasks have become more skilled.

Reflecting the increasingly technological character of the construction process, the rate of increase in supervisory and professional staff in the Belgian construction industry has been three times that of the construction labor force as a whole. In Poland it is projected that the proportion of engineers and technicians will increase from 9.5 percent of the construction labor force in 1960 to 14.5 percent by 1980. The introduction of computer techniques in many phases of the building process is another factor increasing demands for technical personnel.

The committee's slant. At the Geneva meetings, employer representatives stressed another notable trend in occupations below the level of skilled operatives. Prefabrication substantially increases requirements for specialist workers; for example, in electrical work, sanitation, heating, ventilation, and air condi-

tioning, while eliminating the "general laborer." Although specialist occupations, as they have developed in West Germany, Finland, France, Italy, and the United Kingdom, involve more specialization, they require less command of traditional craft skills.

Many government members dwelt on the increasingly flexible labor requirements of the building process; to the Belgians and French, "polyvalent skills." In the United Kingdom, there is considerable flexibility on the worksite with craftsmen frequently undertaking work outside their craft. In the Netherlands, a new occupational classification was adopted in 1958 to cover the "polyvalent worker" in the three main conventional construction categories.

As a consequence of prefabrication, an altogether new occupation, the assembler, has emerged in a number of Western European countries, including Denmark, Italy, the United Kingdom, and in Eastern Europe generally. Accordingly, the revised edition of the International Standard Classification of Occupations published by the International Labor Office in 1968 introduced a new category under "other construction workers," referring to workers "specialized in placing and fixing in position assembled prefabricated building sections."

Finally, while prefabrication was leading to significant shifts in traditional craft skills in new construction, this did not apply to maintenance and repair workers who on the average constituted about one-third of the construction labor force. In the light of these considerations, the ILO Committee concluded that while industrialization was changing the skill composition of the construction labor force, it was doubtful that it would lead to a reduction in the overall skill level in the industry.

Although the quality of skills of the construction labor force might not be substantially lowered in the long-run by industrialization, it is clear that the number of onsite workers required to complete a given volume of construction is being substantially lowered. (See table 2.) Most available studies suggest that the transfer of functions from the site to the factory ultimately will involve a reduction of at least half of onsite labor requirements, and in the case of advanced box-type prefabrication the USSR reports a reduction of around 80 percent. Depending on the rate and degree of industrialization in new construction, the conventional construction labor force in European countries has been changing considerably.

Industrial and organizational changes

The biggest change in industrial structure consists of the transfer of functions from the worksite to the factory. This has ranged from roughly half in the case of large panel systems to four-fifths in the case of box-type systems. Prefabrication has taken two general forms: the closed system, which develops its own modules and designs with components that are not interchangeable with those of other systems; and the open system, which uses interchangeable components. Furthermore, standardization has proceeded along two main avenues: the "model" and "component" approaches. The first approach consists in the design, production and erection of the whole structure. The component approach standardizes the design and production of components, but leaves to the architect, engineer, and ultimate user, some freedom of choice in designing the end product.[9]

Prefabrication firms are of two major types: factories and trade shops.[10] Factories tend to have several main characteristics: relatively high capital-intensive techniques; large-scale production; repetitive work processes in which each man tends to be tied to a particular machine; a limited number of workers drawn from the new construction and maintenance and repair sectors of the industry; and little or no specific training requirements for factory operatives. On the other hand, trade shops tend to have opposite characteristics: low capital-intensive techniques; medium or small-scale production; a wide range of construction output; employment mainly or exclusively of craftsmen; and long apprenticeship training requirements.

Two conflicting trends are noted in both free market and planned economies. One trend is toward the greater specialization required to apply industrial techniques to all types of materials—concrete, wood, metals, glass and plastics—and still meet ever more demanding requirements for performance and beauty. In the other trend, various systems have been adopted to coordinate, amalgamate, and integrate the dispersed functions of client, designer, builder, and building materials manufacturers. One of the principal general problems of the construction industry today is precisely how to bring about the coordination of the various members of the construction team that is essential to achieve the efficiency demanded of an industry of its size and importance.

In the centrally planned economies, the principal means of achieving unity of operations appears to be the setting up of "combines," which produce components and assemble and finish the structure. This amalgamation of functions guarantees continuity in production from the manufacture of components right up to the moment the building is handed to the occupant.

In market economies, somewhat similar trends to vertical integration have characterized the development of closed prefabrication systems. Under open systems however, a certain amount of coordination has been achieved without economic integration, even though decentralization of various construction functions tends to prevail.

Prefabrication is increasingly accompanied by significantly higher capital investment per worker, both onsite and offsite. This development requires a

Table 2. Estimated percentage reductions in onsite man-hours and total building costs in industrialized building systems compared with conventional building

Country	Onsite completion time	Onsite man-hours	Total onsite and offsite man-hours	Total building cost
Bulgaria [1]	50		35	
Czechoslovakia [2]	75	50	30	15
Denmark [3]		47–75	25	15
Finland [4]	2–3 months earlier	33–50		5–10
France [5]				3–10
Germany, Federal Republic of (City of Hamburg) [6]		50–55		5 (up to 9 stories) 12 (above 9 stories) 10 (Triebel)
Netherlands [7]			No reduction	
Norway [8]				No reduction
Poland [9]		53		10–17
Romania [10]	33		30	
Sweden [11]				No saving
U.S.S.R.: [12]				
Large panel	50	50	35–40	14–15; 8–10; 15–20
Box type		75–85	15 below panel system	Same as panel
United Kingdom: [13]				
Large panel	(58 compared to small site) (35 compared to large site) No savings compared with rationalized conventional site			Cheaper above 3 stories Same 3 to 6 stories More costly 1 to 3 stories

[1] Data from Economic Commission for Europe, **Proceedings of the Seminar on Changes in the Structure of the Building Industry Necessary to Improve its Efficiency and to Increase its Output** (New York, United Nations, 1964), Vol. II; hereafter cited as Prague Proceedings, p. 277.

[2] Economic Commission for Europe, **The Future Design, Production and Use of Industrially Made Building Components** (New York, United Nations, 1969), Vol. I, pp. 139–141; hereafter cited as Paris Proceedings.

[3] Svend Hogsbro, **The Building Team** (New York, United Nations, 1967), Working Paper No. 4, p. 2; **Current Trends and Policies in the Field of Housing, Building and Planning, 1970–71** (Copenhagen, Ministry of Housing, Denmark, 1971), mimeographed, p. 20; P.E. Malmstrom and Johs. F. Munch-Petersen, **Philosophy of Design and Adaptation to Production in Industrialized Housing** (New York, United Nations, 1967), p. 3; Economic Commission for Europe, **Progressive Methods of Design, Organization and Management in Building** (New York, United Nations, 1971), Vol. II, p. 40, hereafter cited as Moscow Proceedings.

[4] Paris Proceedings, Vol. II, p. 164; and Prague Proceedings, Vol. II, p. 368.

[5] Prague Proceedings, Vol. II, p. 378; and Moscow Proceedings, Vol. II, p. 13.

[6] Prague Proceedings, Vol. II, p. 357; information received by HUD Mission to Germany, October 1967; and Letter from W. Triebel, Director, Institut fur Bauforschung, Hannover, Germany, Feb. 6, 1968.

[7] U.S. Department of Housing and Urban Development, **Industrialized Building** (Washington, D.C., Office of International Affairs, 1968), p. 75.

[8] International Federation of Building and Public Works, **The Social Aspects of Prefabrication in the Construction Industry** (Paris, United Nations, 1967), p. 1.

[9] Edward Kuminek, "Changes in the Output of the Building Industry as a Factor in the Development of Home-Building," in A.A. Nevitt, **The Economic Problems of Housing** (London, MacMillan, 1967), p. 233; J. Sanecki, **Ceny budynkow mieszkalnych o roznej technologii wykonania, Biuletyn Instytutu Budownictwa Mieszkaniowego** (Warsaw, 1966), pp. 7–8.

[10] United Nations, **Industrialization of Building** (New York, 1967), E/C.6/70/add.1 Annex I, p. 87, and **Industrialization of Building** (New York, United Nations, 1965), E/C/6/36/add.5, Annex I, Part E, p. 8.

[11] Paris Proceedings, Vol. II, p. 139–140.

[12] Prague Proceedings, Vol. I, p. 239; D.S. Meyerson, et al., **Housing and Civil Construction in the USSR** (Moscow, State Committee on Civil Construction and Architecture, Gosstroy, 1970), p. 30; **Industrialization of Building** (New York, United Nations, 1965), E/C/6/36/add.6, Annex I, Part F, p. 5; Prague Proceedings, Vol. II, p. 660, and **Industrialization of Building** (New York, United Nations, 1967), E/C/6/70/Add.1, Annex I, p. 118; Moscow Proceedings, Vol. I, p. 34, and Vol. II, p. 25; D. G. Tonsky, O. A. Chistyakov, L. I. Brongold, and Y. M. Rodin. **Industrialization of Housing Construction in the USSR** (Moscow, State Committee on Civil Construction and Architecture, Gosstroy, 1970), p. 26; D.S. Meyerson et al., op. cit., p. 13; Moscow Proceedings, Vol. II, p. 22; D. Bishop, **The Economies of Industrialized Building** (London, Ministry of Technology, 1966), Design Series 54, p. 201.

[13] Paris Proceedings, Vol. II, p. 168.

higher percentage from national savings for the construction and related industries and has reinforced the trend toward larger economic units. It also has had far reaching implications for the traditional building materials industries in the establishment of new component industries with an increasing emphasis on lightweight prefabricated elements using metals, glass and plastics.

Prefabricated building also has speeded up introduction of critical path and flow-line methods in many European countries.[11] In this organizational process, construction is divided into a series of operations, each of which is undertaken by a separate team. Insofar as possible, the time periods for each team's operations are equal; that is, the pause at each work station (or spot on the construction site) is made as nearly equal as possible. In the simplest case, therefore, after the first team has completed its job at the first work station, the second team begins at the first work station, and the first team moves on to begin work at the second work station. When the second team has completed its job at the first work station, the third team starts there, and so on. In this way, optimum allocation and use of production resources can be assured.

The flow-line method of organizing the building site has had an important effect on the character of the production teams. The rate of output in this method on a given site or series of sites is dependent on the crew not the individual. While crew performance in turn may depend on factors outside its control, such as delays in deliveries of materials or comparatively slow rates of other crews, it is, nevertheless, determined largely by workers' efforts and routine rather than, for example, in a factory by the speed of a conveyor belt or the speed of machinery operations.

The team character of the industrialized building operation has also had significant implications for wage payment systems. It has led in European experience to a combination of piece-rate and time-rate systems, that is, the payment of hourly rates geared to particular jobs until standard performance is reached and after that a team piece-rate which is a bonus proportional to performance above the standard level.

Productivity and building costs

Substitution of prefabrication for conventional building and of machine for manual power have had a significant impact on productivity and building costs. Allowing for the somewhat tenuous character of statistical measures of productivity in the building industry and of the rationale behind it, it is, nevertheless, worth noting that the annual rate of productivity improvement in Sweden has been 5 percent over a 15-year period,[12] in Denmark, 4.75 percent during 1958–61, to 5.25 percent during 1961–64, and 6.25 percent from 1964–67.[13] In the Soviet Ukraine it has been 12 percent over the 1964–68 period.[14] While it is by no means possible to attribute this productivity increase solely to prefabrication, it has certainly been a factor.

The effect on productivity is especially evident in the reduction of onsite man-hours. The average reduction in countries for which data are available is in the 50 percent range, with it rising to around 80 percent in the case of box-type prefabrication in the U.S.S.R. (table 2). Estimates of the effect on total onsite man-hours are less unanimous. In four East European countries there was a reduction between 30 and 40 percent, and a reduction of 25 percent was achieved in Denmark. In the Netherlands, however, there appears to be no net reduction and this is also true of Norway and Sweden.

Translation of man-hour savings into final net building cost reductions is difficult. Among three East European countries large panel prefabricated systems enjoy a clear cost advantage over conventional construction, ranging from 10 to 20 percent. On the other hand, among West European countries the results are mottled. In Denmark, Finland, France, West Germany, and the United Kingdom—industrialized systems have demonstrated cost advantages ranging from 5 to 15 percent, although some have been limited to certain circumstances, such as highrise construction. In Norway, Sweden, and perhaps the Netherlands, however, no cost savings have been found (table 2).

A secondary aspect of the cost issue is completion time. It follows from the substantial savings in onsite hours that onsite completion time has been markedly reduced. In Eastern Europe, the reduction ranges between 33 and 75 percent. In the United Kingdom, it ranges between 35 and 58 percent (table 2). Such reductions cut capital costs during the construction period and shorten the waiting time for the realization of income from the building.

While the long-term prospect is that industrialized building eventually will demonstrate clear cost superiority over conventional building, a judgment now would appear premature based on existing evidence. The great success of industrialized building in the

U.S.S.R. and other East European countries is qualified by neglect of capital costs in their accounting system[15] and their relatively greater concentration of resources in the industrialized sector. On the other hand, they may well be on the verge of further large reductions in cost as their technology and management systems become more sophisticated.

The success and disappointment in industrialized systems in West Europe must take into account that they have not yet been developed on a scale or continuity to provide an adequate test of cost reduction potential. Substantial economies can only be achieved under a long-term comprehensive industrialized building program, which, in a free market economy, may require some form of government guarantee or underwriting to be realized. Even assuming that full development of prefabrication results in great increases in efficiency, it would be a mistake to suppose that rationalization of conventional building methods will not be continuing. A notable effect of the introduction of prefabrication in Europe is the spur provided to greater efficiency in traditional building.

Working conditions

At the Geneva sessions, there was general agreement in the Committee that the transfer of functions from the worksite to the factory had led to many improvements in working conditions, such as more regular working hours, better sanitation and welfare facilities, improved safety provisions, and greater protection against bad weather.

On the other hand, special safety problems had arisen in connection with the transport, handling, and assembly of prefabricated components. Although the actual number of accidents had declined (as in Denmark), the seriousness of accidents was greater because of the increased size and weight of components. The United States worker representative also warned of the dangers of flammable materials used in prefabrication and stressed the importance not only of laying down high standards in building codes, but also of having an effective inspection system. To cope with the risks associated with larger and heavier components, the Committee recommended specific changes in regulations and legislation relating to industrialized construction. It also urged that the forthcoming ILO Code of Practice of Safety and Health in Building should contain a special section dealing with the problems posed by prefabrication.

With regard to wage systems, the Committee recommended that workers' organizations be supplied the fullest relevant technical and, where possible, economic information regarding the work which is to be carried out. Economic information is particularly important for joint labor-management determination of piece rate or incentive wage systems. In a number of European countries, the piece rate system or a combination of piece and time rates is applied to some operations. The Worker representatives at the conference took the position that under no circumstances should a transfer of operations from the site to the factory lead to a reduction of wages.

Training

In a wide ranging discussion, the ILO Committee recognizing that traditional apprenticeship programs were incapable of coping with all the demands of modern technology, concluded that opportunities for continuing education and training throughout the working life were required for a dynamic construction industry.[16] They also felt, moreover, training facilities should be accessible during working hours without loss of income.

A major postwar innovation has been the establishment of programs to impart the new skills required by industrialized building. The U.S.S.R. has developed a new course for assemblers, consisting of 152 hours of theoretical instruction and 150 hours of practical training. To train workers for prefabricated concrete systems, France has organized a 2 months' training course. In the British system, so-called "modules" of specialized training have been designed to supplement initial broad-based training. When technological change creates new requirements, new "modules" are inserted, and existing ones changed or deleted without affecting the central training system. Peering into the future, Danish contractors go much further and suggest that training programs should be designed to prepare building workers for three major processes: factory production of prefabricated elements; assembly of components on the building site; and finishing operations.

Prefabrication also has placed increasing emphasis on multiskill training. Beginning in 1962 in the U.S.S.R., syllabuses were established to train workers for two trades, for example, training masons and concrete workers in elementary carpentry skills, consisting of 2½ months of supplementary training with 54 hours devoted to theory. A polyvalent training system has been adopted in Belgium to provide

young workers with training that will serve them throughout their working life. In Denmark, two national agreements were worked out in 1964 under which employers must give young workers an opportunity to become familiar with all aspects of the production process. In Sweden, courses have been organized to enable construction workers to obtain qualifications in related trades.

A third important development has been higher training facilities for rising skill requirements in existing occupations. Prefabrication demands improved and expanded training of professional personnel, including architects, engineers, designers, and technicians as well as managers. In this regard, notable steps have been taken by West Germany, Italy, and the U.S.S.R. In Germany, 56 training sites have been set up by the Construction Industry Association, where trainees are provided with conditions for mastering new working methods and familiarizing themselves with technical innovations. Courses to upgrade junior technical personnel and foremen are included. In the Netherlands, special training courses have been formed for foremen.

Instruction for heavy equipment operators has been stepped up sharply in many countries, including Western Germany and Switzerland. Belgium, France, and the Netherlands have attached great importance to accelerated training programs for adult workers to help cope with construction labor shortages. In Norway, 6-week training courses have been set up to train unemployed persons in concrete form work, concreting, and operation of mechanical shovels.

The ILO Committee expressed belief that construction workers might need to be retrained several times during their working lives to keep up with the pace of technology. Developers of industrialized building systems have also placed great emphasis on methods of developing team spirit among construction crews' supervisory staff, and professional and managerial personnel.

Training requirements for workers in prefabrication factories tend to be at a lesser skill level than those on a construction site. In Finland, France, Italy, and the United Kingdom, managers have expressed preference for young persons without previous experience in the industry. Young workers are not accustomed to high hourly earnings and do not have attitudes of superiority and resistance to change which often characterize experienced building trades craftsmen when transferred from onsite work to the factory. Training tends to be on the job and of short duration—a month or less—and similar to that of manufacturing in general. For these reasons, many European countries have been able to increase their construction output by supplementing the regular construction labor force with new manpower.

Technological unemployment

Worker delegates at the ILO meetings expressed anxiety concerning technological unemployment caused by prefabrication. They maintained that during economic crises, particularly in developing countries, rapid industrialization in building had had serious consequences for many construction workers. There was strong feeling that prefabrication had been used to degrade the quality and dignity of labor through the dilution of skills and by increasing the number of unskilled and semiskilled workers.

Taking an opposite view, employer spokesmen maintained that in the absence of a slump industrialized techniques made it possible to more effectively stabilize year-round operations, particularly when combined with long-term construction planning. Moreover, they argued most construction trades would continue to be needed in the expanding construction sector devoted to maintenance, repairs, and renovation.

In addition, United Kingdom experience indicated that considerable numbers of skilled workers were needed as prefabrication factory foremen. Also trade shops, which constituted a mid-way point between the traditional building site and the prefabrication factory, required a high level of craft expertise.

Several government representatives suggested that a reduction in onsite man-hour requirements was from one point of view a good thing. They pointed to the serious shortage of construction resources that prevailed in most of Europe during the 1960's, and that projections of future demand indicated a continued substantial expansion in construction manpower would be required to reduce the industry backlog and rising demands for housing, infrastructure, and other construction. Recruitment of young persons into the industry was an increasingly difficult problem in many countries.

Moreover, a relative reduction in skilled man-

power requirements would lighten the burdens of most northern European countries which have found it necessary to supplement domestic workers with large numbers of foreign workers. In West Germany, foreign workers constituted 28 percent of the construction labor force in 1971.[17] In the middle 1960's, it was higher in Switzerland, reaching over 31 percent of the construction labor force in 1964 [18] and leading to severe national restrictive measures on foreign workers in the last part of the decade.

Some delegates also emphasized that the comparatively slow rate of technological change in construction made it possible to anticipate changing requirements. For example, through vocational guidance, young workers could be discouraged from entering trades undergoing technological displacement. Prefabrication had not revolutionized the industry as some persons predicted and others feared, precisely because of difficulties encountered in competing with rationalized conventional systems.

The Committee concluded, however, that there was a danger technological change would lead to reduced employment opportunities. While most countries' manpower requirements to meet rapidly expanding construction demands would remain high, it might be difficult in some cases to avoid technological unemployment resulting from changes in skill requirements, particularly in view of rapidly accelerating technological change. In such cases, the Committee urged that appropriate measures be taken to ensure that the costs of unemployment and hardship resulting from technological development be borne not only by the construction sector but by the community as a whole.

A number of measures were recommended to prevent technological unemployment. The most important of these was the adoption of a vigorous full employment program. In a full employment economy redundant workers could be retrained and employed in expanding industrial sectors, in the modernization and improvement of existing construction, and in sectors engaged in similar production or maintenance.

Another basic policy agreement was in establishing flexible, long-term, rolling programs of housing and public construction. Governments had to provide necessary funds for such programs, and in addition help stimulate long-term planning and stabilization of private building programs geared to the requirements of a high growth economy.

To ease hardships of technological unemployment, the Committee concluded that workers should be entitled to income maintenance schemes, as well as supplementary assistance to cover expenditures required in accepting new employment, such as allowances for removal, travel, tools, clothing and dependents. Moreover, arrangements should be made for special compensation in the case of older workers who lose their jobs and cannot acquire new skills or secure new employment.

Prefabrication in developing countries

Sharp differences of view were expressed in the Committee on the role prefabrication should play in developing countries.[19] One view was that prefabrication could help these countries meet mass requirements for better housing. It also might have a special role to play in providing housing for workers required for industrial development in areas far from population centers.

The other view was that since capital in developing countries was in short supply and labor in surplus, labor-intensive rather than capital-intensive technology should be applied in construction. Otherwise, technological unemployment would unnecessarily be added to already existing mass unemployment and underemployment.

The Committee concluded that it would be premature to introduce industrialized construction on a large-scale in developing countries. However, it would be desirable, where practical, to apply prefabricated methods to help meet certain types of urgent construction needs, such as developing industrial facilities in remote areas or constructing high-rise buildings in dense urban areas.

The Committee agreed that officials responsible for the selection of techniques to be employed should be aware of the advantages accruing to the economy and to workers from the choice of either labor-intensive techniques or highly-mechanized ones. Immediate efforts should be made to develop combinations of conventional and industrialized construction systems suited to local conditions and based on locally produced materials. In line with the principles enunciated in the World Employment Program adopted by the International Labor Organization in 1969, the final objective of developing countries should be to

advance towards the use of industrialized construction techniques, dependent on relative advantages to the national economy and to construction.

Consumer needs

Prefabrication's two principal appeals to the modern consumer are lower prices; and better quality—better in comparison with equivalent structures produced by conventional methods. Thus far, the main drawback has been its lack of individuality.

The Committee report noted that promises of significant technical breakthroughs remained fairly bright, but thus far performance has fallen considerably short of expectations. With few exceptions, prefabrication has been able to thrive only through some form of assistance, guarantee, or underwriting by a public body. For example, in Eastern Europe, industrialized building schemes have been incorporated in long-term economic plans, while in Western Europe (Denmark, France, Sweden and the United Kingdom, for example) the support of public authorities has played a leading role in their development. Given a choice, consumers have not as yet opted for prefabricated housing. Many prefabricated structures have cost more and been of lower quality than structures built by rationalized conventional methods. Moreover, in some market economies, the small advantages prefabrication systems have achieved in price and quality have by and large been more than offset by a lack of individuality and lower resale value. Consideration of consumers' tastes, therefore, brings the analysis back to the basic conflict between the demand for flexibility in design and the need for standardization in mass production. An intensification of research on user requirements, particularly from the social point of view, is greatly needed in prefabrication, both in free market and planned economies, in order for prefabrication to really come into its own. □

———*FOOTNOTES*———

[1] E. J. Howenstine was chairman of the U.S. delegation which included Frank Hauser, U.S. Department of Labor (government delegate); William E. Dunn, Executive Director, Associated General Contractors of America, Inc. and Fred W. Mast, former president of the AGC (employer delegates); and Joseph T. Power, president of Plasterers' and Cement Masons International Association, AFL–CIO, and Richard E. Livingston, secretary, Brotherhood of Carpenters and Joiners of America, AFL–CIO (worker delegates). Roger C. Schrader, labor attache, U.S. Mission, Geneva, acted as adviser. Mr. Howenstine was elected chairman of the Subcommittee on Prefabrication of the conference.

[2] International Labor Organization, *Note on the Proceeding of the Eighth Session* "Report of the Subcommittee on Social Aspects of Prefabrication in the Construction Industry" (Geneva, 1971).

[3] ILO, *Social Aspects of Prefabrication in the Construction Industry* (Geneva, 1968), Report II. For a more comprehensive survey, see Philip F. Patman and Associates, *Industrialized Building: A Comparative Analysis of European Experience* (Washington, D.C., U.S. Department of Housing and Urban Development, 1968).

[4] Economic Commission for Europe, *Progressive Methods of Design, Organization and Management in Building* (New York, 1971), ST/ECE/HBP/42 (Vol. I), pp. 39–41; hereafter cited as Moscow Proceedings.

[5] Moscow Proceedings (Vol. II), p. 64.

[6] R. B. Guy and Associates, *The State of the Art of Prefabrication in the Construction Industry* (Columbus, Ohio, Battelle Memorial Institute, 1967); U.S. Department of Labor, *Occupational Outlook Handbook* (Washington, D.C., 1966), pp. 370–420.

[7] ECE, *Proceedings of the Seminar on Changes in the Structure of the Building Industry Necessary to Improve its Efficiency and to Increase its Output* (New York, 1965), ST/ECE/HOU/13, Vol. III, p. 649; hereafter cited as Prague Proceedings. See also A. Allen Bates, "Low-Cost Housing in the Soviet Union," and Leon M. Herman, "Urbanization and New Housing Construction in the USSR," in Joint Economic Committee, *Industrialized Housing* (Washington, D.C., 1969), pp. 1–21; and 22–40.

[8] Moscow Proceedings (Vol. II), p. 40.

[9] ECE, *The Future Design, Production and Use of Industrially Made Building Components* (New York, 1969), ST/ECE/HOU/36, Vol. I, pp. 80–89; hereafter cited as Paris Proceedings.

[10] R. E. Jeannes, *Building Operatives Work* (London, Her Majesty's Stationery Office, 1966), Vol. I, p. 85.

[11] See the discussions on mechanization and automation and flow-line methods in Moscow Proceedings (Vol. II), pp. 52–141.

[12] Paris Proceedings (Vol. II), p. 139.

[13] Moscow Proceedings (Vol. II), p. 42.

[14] Moscow Proceedings (Vol. II), p. 129.

[15] Charles C. Zollman, *Study of Concrete Construction in the Soviet Union for Residential and Commercial Building* (Washington, D.C., 1965), pp. 26–27; National Bureau of Standards, *Report of the U.S. Delegation to the Soviet Union* (Washington, D.C., U.S. Department of Commerce, 1970), p. 95.

[16] Moscow Proceedings (Vol. II, Annex I), pp. 1–22.

[17] Moscow Proceedings (Vol. II), p. 64.

[18] *La Vie Economique* (Berne, Switzerland), October 1964, off print, p. 3.

[19] A fine analysis of the problems of labor-intensive versus capital-intensive technology in developing countries is in chapter III of ILO, *General Report* (Geneva, 1971), Report I (Supplement).

How other nations deal with emergency disputes

Possible lessons for the United States seen in European and Canadian approaches to handling 'intolerable' strikes in both private and public sectors

BENJAMIN AARON

THERE IS no convincing evidence that collective bargaining has broken down so consistently and completely that it should be replaced by an entirely different regulatory system. It is probably true that most strikes in the transportation industries are, or soon tend to become, "emergencies," because their effects on the public are direct, immediate, and harmful. Yet to deal with that problem by absolutely forbidding all such strikes in the private sector, as in the public, would be a singularly unimaginative solution, even assuming that it might work, which is doubtful. I believe efforts to improve the present situation should concentrate on the collective bargaining systems in those industries tending to generate "emergencies," rather than on statutory substitutes for the strike.

The most useful methods of resolving deadlocks —mediation, factfinding, and voluntary arbitration —are already well known. Until we have first tried and failed to improve the collective bargaining system, we need not, at least in the private sector, reach the question whether a system of collective bargaining can exist when the right to strike is denied absolutely. The experience of several European countries and of both Federal and provincial governments in Canada is instructive in this connection.

The European experience

Sweden. Collective bargaining in the private sector in Sweden is under the virtual control of two large organizations: the Swedish Employers' Confederation and the Swedish Confederation of Trade Unions. Although the Government has traditionally limited its intervention in major disputes to the threat of enacting ad hoc legislation, the collective bargaining partners have mutually assumed a responsibility of preventing the need for any governmental interference. In 1938, they executed the justly famous "Basic Agreement," a remarkable document which sets forth the parties' views of their interrelated rights and responsibilities. The following excerpt conveys something of the flavor of their joint declaration:

> Although the organizations are . . . consciously aiming at a peaceful solution of labor market problems, disagreement . . . cannot always be avoided. The economic losses resulting from a contest in such a situation are in themselves regrettable, but they cannot be regarded as sufficiently important to justify a replacement of the present freedom of collective bargaining by compulsory state control of the differences of interest in the labor market. Nor from other points of view can the State be justified—apart from the sphere of social welfare legislation proper—in forcing upon Swedish employers and workers a regulation of working conditions, either in general or in specific instances. So long as organizations in the labor market are prepared also to take note of the general public interest involved in their activities, the measures reasonably called for in the interest of industrial peace should most naturally and appropriately rest with the organizations themselves.[1]

To implement this agreement, the parties established the Labor Market Board consisting of three representatives each of the management and labor federations, whose responsibilities include preventing disputes from disturbing essential public services, "insofar as possible," by taking up jointly "for prompt consideration any situation in a dispute

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where protection of any public interest is called for by either of the two organizations or by a public authority or by any other similar body representing the public interest in question." [2] The agreement also binds each party immediately to implement any decision reached by a majority of the Labor Market Board in a public interest dispute. This system has worked remarkably well in the private sector, and the Swedish Government has never found it necessary to intervene directly in labor disputes.

Swedish legislation governing the right of "public officials" to organize, bargain collectively, and engage in concerted activities, including strikes, dates from 1965.[3] Under present law, the peace obligation imposed by the 1928 Act Concerning Collective Agreements applies to collective agreements between public officials and public administration agencies. Disputes over the interpretation and application of such agreements may be submitted to the Labor Court for final determination. Even a threat to stop work or a notice of intention to stop work during the life of the agreement has been held to violate the peace obligation and to render the offending organization liable in damages.[4]

Prior to 1965, strikes by Swedish public officials were held to be violations of the Penal Code and punishable by fine, dismissal, or imprisonment. But the public officials found different ways to exert pressure, such as boycotts of vacancies, mass resignations, and the like.

Although the right to strike has now been granted to public officials during bargaining for collective agreements, it may not be used to exert pressure in matters about which no agreement can be concluded. An equally limited right to lock out is accorded the public administration agencies. Under the terms of the 1965 basic agreement on negotiating procedures between the state and the main organizations of state officials, offensive action must be postponed if either party, claiming that a dispute "is calculated unduly to disturb important social functions," refers the matter to a bipartite Public Service Council. If the Council concurs in the view that offensive action would unduly disturb important social functions, it "request[s] those concerned to avoid, limit, or end the dispute." [5]

Germany. In West Germany the solid consensus that civil servants (*Beamte*), unlike other employees in the public service, do not have the right to strike began to erode in 1970. Although a 1922 decision to that effect by the Federal Constitutional Court is still the controlling precedent, two of three legal opinions on the point commissioned by three unions argued in favor of a limited right to strike for civil servants,[6] not unlike that provided for government employees in the Hawaii and Pennsylvania statutes.

France. The French constitution of 1946 declared that "the right to strike may be exercised within the ambit defined by statutory law." Servants of the state were not exempted from this guarantee. Until 1963, the only employees expressly forbidden by statute to strike were the police, the judiciary, and certain employees of penitentiaries. The government was permitted to adopt reasonable administrative regulations governing strikes by its own employees, however, and public servants "possessed of a part of the public authority and whose presence is indispensable to the life of the nation" were forbidden to strike. Violators of this rule were subject to be "requisitioned" (a procedure analogous to being drafted into military service) for the duration of the strike. Public employees lacking the authority described, but whose interruption of service might endanger public prop-

Collective bargaining in the Seventies

The articles by Benjamin Aaron and Kingsley Laffer were excerpted from papers presented November 18, 1971, at a conference on "Collective Bargaining: Survival in the '70's?" at the Wharton School of Finance and Commerce, University of Pennsylvania. The conference, chaired by Professor Herbert R. Northrup, marked the 50th anniversary of the Industrial Research Unit and the 25th anniversary of the Labor Relations Council at the Wharton School. The proceedings have been published by the Industrial Research Unit as Report No. 5 in the "Labor Relations and Public Policy Series" and are copyrighted by the trustees of the University of Pennsylvania. *Collective Bargaining: Survival in the '70's,* Conference Proceedings, edited by Richard L. Rowan, 482 pages, $7.95, is available from the Industrial Research Unit, 4025 Chestnut Street, Philadelphia, Pa. 19104.

erty or safety or the continuance of activities essential to the life of the nation, were explicitly made subject to requisition in the event of a strike.[7]

In 1963, a statute specifically regulating the right of public employees to strike was enacted. It covers persons directly employed by the National Government, employees of nationalized industries operating under statute, and those working for certain other enterprises performing a public function. The two major restrictions on the right to strike are a minimum 5-day notice requirement by one or more of the "most representative" union organizations, and a flat prohibition of so-called "revolving strikes." The required notice "is not primarily to permit further negotiation or mediation—it is too short for that—but to permit preparations for safeguarding health and property and the necessary minimum of service to essential users, or to permit users to prepare." [8]

The Canadian experience

Of the various countries mentioned in this essay, Canada offers perhaps the most interesting and useful comparison, because its Federal system and industrial organization are most nearly like our own. Ontario is the most representative of Canada's 10 provinces, being also the most populous and the most heterogeneous. According to Professor Harry W. Arthurs, Ontario is neither the most conservative nor the most innovative of the provinces; but, more important, "Ontario and Federal legislation encompass examples of each of the five main models of public employee collective bargaining systems found in Canada":[9] private sector, public-private, formal public, informal public, and professional. Each merits a brief reference.

Private sector model. In Ontario, municipal employers have been bargaining collectively with their employees for a quarter of a century or more. They have all the rights of employees in the private sector, including the right to strike. Under the terms of the Labor Relations Act, however, conciliation procedures provided by the Act must be exhausted before any strike is permitted. The Ontario Government has found it necessary to intervene only once; in 1965 it enacted ad hoc legislation to require compulsory arbitration to forestall a threatened strike by hydroelectric employees.

Public-private model. In 1967, Canada adopted the Public Service Staff Relations Act, which established for Federal employees a complete system of collective bargaining, paralleling in all essential respects, including the right to strike, the system prevailing in the private sector. A novel provision of the statute relates to the resolution of negotiation impasses; following certification, the bargaining agent must indicate which of two alternatives it will choose in the event such an impasse is reached: arbitration or conciliation. The former necessarily results in a final and binding award, but the latter, if unsuccessful, does not preclude a subsequent strike. If the union chooses the latter alternative, certain "designated" employees within the bargaining unit are forbidden to strike if their jobs "consist in whole or in part of duties, the performance of which at any particular time or after any specified period of time is or will be necessary in the interest of the safety or security of the public." The employer must establish the list of "designated" employees within 20 days after notice to bargain has been served by either party. Disputes over the propriety of any particular designation are submitted to the tripartite Public Service Staff Relations Board. Somewhat surprisingly, there has been relatively little disagreement over designations, probably, as Arthurs observes, because government agencies have not used the device promiscuously in order to undermine the statutory right to strike.[10]

If arbitration is chosen by the union as the means of resolving bargaining impasses, the dispute is submitted to the Arbitration Tribunal created by the statute, which also sets rather broad guidelines which the Tribunal is to follow in reaching its decision. The Tribunal is staffed by men of high competence, leading Arthurs to remark that arbitration "is not likely to be feared by either side as involving risks of irresponsible or ill-informed third-party decisionmaking."

How has the system worked so far? Arthurs reports:

> As of March 3, 1970, all 114 bargaining units had elected between arbitration and conciliation-strike. Only 14 units, containing approximately 37,000 employees, have turned their back on arbitration, and all but some 10,000 of these employees are the militant postal workers [who struck for 17 days in July 1965]. The balance of almost 160,000 employees in 100 bargaining units have voluntarily relinquished the right to

> strike—surely evidence of their desire to avoid disruption of public services, if at all possible.[11]

Formal public service model. The municipal police forces of Ontario are governed by the Police Act. Police employment disputes are settled by compulsory arbitration, and no stoppage of work is permitted. Arthurs characterizes the police employer-employee relationships as "authoritarian and paramilitary rather than bilateral and democratic" but notes that "these distinctive characteristics of police personnel policies are rapidly being brought into question." He thinks the present system for the resolution of disputes and the effective adjudication of controversies has achieved "a reasonable measure of fair dealing" between the police and their employers. He notes that P. C. Brown, the president of the International Conference of Police Associations (ICPA), with which most American police organizations are affiliated, is a Canadian. In a recent speech, Brown said in part:

> Strange as it may seem, the Canadian police officers have had and will have a greater effect on American forces. . . .
>
> Under our newly rejuvenated ICPA, we hope to provide the guidance and assistance that will provide for adoption of model legislation, similar to the Police Act of Ontario, for all Canadian and American police officers.[12]

Informal public sector model. Public service employees of Ontario have the right to organize and to obtain adjudication of grievances through a formal procedure initially established by the Public Service Act of 1962. As is typical of Canadian labor legislation generally, the statute neither expressly prohibits nor expressly permits strikes; but the terminal step in interests disputes is final and binding arbitration by a tripartite board appointed by the provincial cabinet. Both the Government and the Civil Service Association of Ontario, Inc., which represents the main body of public service employees in Ontario and which enjoys a special status under the statute vis-à-vis other employee organizations, have expressed satisfaction with this arrangement. At the same time, the Association, which is becoming increasingly militant, has insisted that there must be no direct prohibition of the right to strike. The ambiguity of its position is noted by Arthurs:

> This statement [that there should be no direct prohibition of the right to strike] seems to suggest that the employees consider that if legislation is silent in regard to this matter, they now have the right to strike as an ultimate recourse. If this is indeed true, the provisions making compulsory arbitration final and binding might be rendered meaningless.

Professional model. "Collective bargaining in Ontario's school system," writes Arthurs, "presents a paradox:"

> Although educational policy and administration are undergoing profound, perhaps revolutionary changes, although education has ranked highest on the list of municipal and provincial spending priorities, Ontario teachers participate in collective bargaining through institutions which resemble medieval guilds.

Under the Ontario Labor Relations Act, teachers are expressly denied the right to organize, bargain, or strike; nevertheless, they have developed a workable collective bargaining system by virtue of the Teaching Profession Act, which gives great powers to the Ontario Teachers Federation. For example, the statute requires that every teacher in Ontario must belong to the Federation and also provides for compulsory checkoff of dues. The real power within the Federation rests with its principal affiliates—the Federation of Women Teacher Associations of Ontario, the Ontario Public School Men Teachers Federation, and the Ontario Secondary School Teachers Federation—which "bargain" with local school boards. Because no formal procedures for bargaining are included in the statute, the process, according to Arthurs, is "a melange of practice, precedent, convenience, and informal agreement."

The use of formal procedures to resolve impasses is virtually unknown in this context, and the teachers have in the past resolutely rejected third-party intervention. The ice was broken in 1969, when the Metropolitan Toronto School Board and the Toronto Secondary School Teachers agreed upon the appointment of a mediator, with mutually satisfactory results. Lacking both the legal right and, apparently, the inclination to strike, the Ontario teachers use their power in disputes by applying various sanctions. What might be called an intermediate sanction —variously described as "pinklisting" or "graylisting"—consists of officially warning present and prospective teachers that if they should accept a teaching position within the area involved in the dispute, they might lose association privileges and protection. The ultimate sanction—the blacklist—is specifically provided for in a regulation made under the Teach-

ing Profession Act, which declares that "a member shall . . . refuse to accept employment with a board of trustees whose relations with the Federation are unsatisfactory." Both forms of sanctions have proved effective, especially in tight labor markets for teachers.

In addition to blacklisting, the teachers sometimes resort to mass resignations. Teacher contracts permit either party to give written notice of termination on either August 31 or December 31 of any year. A mass resignation of teachers just before the fall or spring terms of school would, of course, close the schools and constitute a strike; but, so far, the Federation has opposed such tactics except at the expiration of a contract term.

A trend toward liberalization

The methods and experiences of foreign countries in dealing with labor relations problems roughly similar to those in the United States are of limited utility in developing and improving our own collective bargaining systems. The laws and practices in Sweden, West Germany, and France are interesting and suggestive, however, because they demonstrate a movement toward the liberalization of relationships between governments and their employees which seems to represent a pronounced trend within the western democracies.

Quite clearly, the notion of government sovereignty in the area of labor relations in those countries is dead, as is the principle exemplified by President Franklin D. Roosevelt's statement in 1937 that a strike of public employees "manifests nothing less than an attempt . . . to prevent or obstruct the operations of government until their demands are satisfied . . . [and is] unthinkable and intolerable." [13] Moreover, it is now accepted that there is no way to prevent illegal strikes. As the Swedish scholar Stig Jägerskiöld [14] observes in reference to wildcat strikes and "sickouts" by government employees in Sweden, "if these methods are used by many officials, and by those whose services are of great and immediate importance, even a public employer will probably have to give way. Very often the result will depend on the political situation."

The Canadian experience, as reflected by the five models in Ontario, is of special relevance, not only because of the closer similarity between Canada and the United States, but also because at least some of the Canadian experiments could be tried in this country. Of all the nations here considered, the United States lags furthest behind in the development of collective bargaining systems for government employees. Like Canada's, only more so, our Federal system permits a wide degree of State experimentation in this area, which is the only major sector of industrial relations not yet preempted by Federal laws. The Canadians have dared to experiment far more than we, and they have shown themselves to be experience can be of great value to us, if only we are more flexible and more imaginative than we. Their prepared to study them carefully and to learn from them.

Government employment, particularly at State and local levels, has been growing steadily in the United States, and there are no indications that this secular trend will be reversed. The development of collective bargaining procedures for government employees is likewise moving forward, but much more sporadically. Meanwhile, the number of illegal strikes by government workers has sharply increased. Whether it is possible to devise a collective bargaining system that denies the right of employees to strike but provides acceptable alternatives is almost certainly going to be decided in the government employment sector, not the private sector. What this means is that, contrary to the common assumption, public employment may provide the model for private employment, rather than the reverse. The crucial question is

The rationale of the strike

The principle of collective bargaining, now deeply imbedded in our national labor policy, presupposes private collective agreements reached without government intervention. And the strike, in George W. Taylor's useful phrase, provides the "motive power for agreement." Thus, it makes sense to allow the bargaining partners, within certain limitations, freely to engage in their competitive struggle, so long as the weapons of strike and lockout are employed against each other for the purpose of reaching an agreement. Incidental inconvenience or even damage to neutral third parties is tolerated because the worth of the system is deemed substantially to outweigh these costs.

—BENJAMIN AARON.

whether the nation will become so impatient and disillusioned with collective bargaining deficiencies in the private sector that it will abandon the present national labor policy before new methods of collective bargaining in public employment, which offer greater protection to third-party interests, can emerge as possible models for the private sector.

Collective bargaining likely to grow

In this country, unlike the others cited for purposes of comparison, we still find widespread opposition by State and local government entities to any form of genuine collective bargaining with representatives of their employees. At the same time, the rising costs of government, the growing taxpayer rebellion, and the continued demands for greater government efficiency and accountability will put increased pressure on government employees to protect their own interests and will give impetus to the trend toward more rapid organization and greater militancy. It seems unlikely that public managements can hold out much longer against collective bargaining by government employees; the question is whether they will have the willingness and the imagination to propose credible alternatives to the strike.

In this regard, the public-private model represented by the Federal Public Service Staff Relations Act in Canada suggests some interesting possibilities. If adopted here, would it result in a rash of strikes by government employees? The Canadian experience to date suggests not, but everything depends upon the nature of the day-to-day administration of the public service. One would suppose that no system for resolving impasses over interests disputes would work in this country unless it also provided for the negotiation of collective bargaining agreements and for final and binding third-party adjudication of grievances.

Most strikes by government employees in the United States have occurred thus far in situations in which a genuine collective bargaining relationship did not exist. Once such a relationship is established, much of the pressure for strikes is dissipated. On this point, Jägerskiöld's observations on 4 years of Swedish experience are instructive:

> [O]n the one side strikes have in fact proved to be a weapon of more doubtful importance in the public administration than was originally believed. The associations of the public employees have probably exaggerated their possibilities. As a rule, an association must have at its disposal very large sums of money in order to carry the strike to victory. For the most part, funds of that size are not available.

Of course, the availability of the strike weapon does create risks for the government employer. In Sweden, says Jägerskiöld, "Probably the original idea on the employer's side was that the introduction of full bargaining rights would achieve a diminution of friction so that serious conflicts would seldom arise. In this respect, events proved otherwise."

The trouble with allowing the right to strike only in "nonessential" government services is that the definition of essentiality is extremely difficult and rests primarily on philosophical rather than factual considerations.[15] At the extremes, there is not much controversy: police protection is generally considered essential, whereas numerous clerical functions in government agencies are conceded not to be essential. But the problem becomes more difficult as we move from the two poles toward the center. What about social workers and school teachers; what about clerks who prepare and mail welfare and social security checks?

The essential-nonessential dichotomy also raises the problem of contagion. Legal strikes by employees on one side of the line are apt to encourage illegal strikes by employees on the other side, especially if the latter group does not accept the basis for the distinction between it and the other.

In the absence of some mutually acceptable procedure that provides an alternative for the strike, therefore, it seems best to avoid a policy stating categorically that any group of public employees may or may not strike, and at the same time to make any strike subject to injunction by the regular courts if, but only if, the public authorities can demonstrate by credible evidence in open court that the strike would cause more harm to the public if allowed to continue than would be caused to the striking employees if it were halted. Procedural safeguards similar to those provided in the Norris-La Guardia Act [16] should be observed, but the courts should not be denied jurisdiction to enjoin strikes by government employees for proper cause shown.

If collective bargaining works well enough to produce alternatives to the strike mutually satisfactory to the parties, it will survive. If the alternatives, such

as compulsory arbitration, are imposed by legislation, however, the result will be much more doubtful; for if the law is perceived by the employees to be oppressive or unfair, they will continue to strike or to resort to other illegal forms of job action.

As in the private sector, there is no final solution to the problem of strikes in government employment. Whether the institution of collective bargaining can survive in the private sector and become firmly established in government employment will depend upon the continued vigor of "the spirit of moderation" of which Judge Learned Hand spoke. For the spirit of moderation, of mutual accommodation and forebearance, is the very essence of collective bargaining, without which it, no more than our other cherished institutions, can long endure. □

———*FOOTNOTES*———

[1] From the amended version (1947), as translated by W. N. Lansburgh, reprinted in F. Schmidt, *The Law of Labour Relations in Sweden* (Cambridge, Mass., 1962), p. 264.

[2] Ibid., 267.

[3] English translations of this legislation and of related collective bargaining agreements are included in Stig Jägerskiöld, *Collective Bargaining Rights of State Officials in Sweden* (Ann Arbor, 1971), pp. 82–143.

[4] Ibid., 58.

[5] Ibid., 112, 116.

[6] See W. Däubler, *Der Streik im öffentlichen Dienst* (Tübingen, 1970), prepared at the request of the Union for Public Services, Transport and Communications (CTV), arguing that the right of civil servants to strike is sanctioned by the European Convention on Human Rights and the European Social Charter, but conceding that even civil servant strikes are illegal under some circumstances, depending primarily on the essentiality of services; and T. Ramm, *Das Koalitions-und Streikrecht der Beamten* (Cologne, 1970), prepared at the request of the German Trade Union Federation (DGB), arguing that civil servants are subject to no more stringent strike restrictions than those imposed on public employees generally, and suggesting alternatives such as arbitration for strikes by persons performing services the interruption of which would infringe upon the rights of others or transgress the constitutional order or moral code. Both sources are cited and discussed in W. H. McPherson, *Public Employee Relations in West Germany* (Ann Arbor, 1971), pp. 165–65.

[7] Meyers, *The State and Government Employee Unions in France* (Ann Arbor, 1971), p. 18.

[8] Ibid., 21, citing H. Sinay, *La Grève* (Paris, 1966).

[9] H. W. Arthurs, *Collective Bargaining by Public Employees in Canada: Five Models* (Ann Arbor, 1971), p. 10.

[10] "As of March 31, 1970, some 37,725 employees were included in units which had opted for the strike; of these only 2,700 were designated employees—about 7.5 percent." None of the 27,500 postal workers who did opt for the strike was a designated employee. This means that 25 percent of the remaining 10,000 employees were designated; but in only one instance among the 14 units involved was there a dispute over this matter. Ibid., 34.

[11] Ibid., 39.

[12] Quoted in ibid., 102.

[13] Quoted in Stieber, "Collective Bargaining in the Public Sector," *Challenges to Collective Bargaining*, L. Ulman, editor (Englewood Cliffs, N.J., 1967), pp. 65 and 81.

[14] Jägerskiöld, op. cit.

[15] See Hildebrand, "Collective Bargaining in the Public Sector," in J. T. Dunlop and N. W. Chamberlain, editors, *Frontiers of Collective Bargaining* (New York, 1967), pp. 139–140.

[16] 29 U.S.C. § 107. Before issuing an injunction, the court must find that unlawful acts have been threatened and will be continued unless restrained; that substantial and irreparable injury to plaintiff's property will follow; that as to each item of relief granted greater injury will be inflicted upon plaintiff by a denial of relief than will be inflicted upon defendants if relief is granted; that plaintiff has no adequate remedy at law; and that public officers charged with protecting plaintiff's property are unable or unwilling to furnish adequate protection.

TWO ALTERNATIVES TO TRADITIONAL STRIKES BY PUBLIC EMPLOYEES

It is reasonably clear that banning strikes in public employment does not work. Like their counterparts in the private sector, public employees have used strikes as a weapon for transforming employer intransigence into union recognition, better bargains, and legislation for protecting union activities. Even the most Draconian anti-strike statutes have failed to prevent walkouts when bargaining deadlocks develop.

Nor does compulsory arbitration appear to be a satisfactory alternative to conventional strikes. It has serious drawbacks, not the least of which are its unacceptability to large segments of public management and unions and the likely instability of its results.

Therefore, I suggest we explore the possibility of adopting statutes providing for the nonstoppage strike and the graduated strike, two alternatives which have never been considered in the public sector but which fit the needs of *all* the parties—management, labor, and the public—more adequately than either present practices or previous proposals. The two forms of strike should be part of a comprehensive public labor relations scheme which provides protection of employees against reprisal for collective activity, procedures for ascertaining appropriate bargaining units, elections to determine employee preferences, recognition and mandatory bargaining, sanctions against improper union activity, mediation procedures for bargaining disputes, and factfinding with recommendations in the case of bargaining deadlock.

In a nonstoppage strike, operations would continue as usual, but both the employees and the employer would pay to a special fund an amount equal to a specified percentage of total cash wages. I suggest that, initially, 10 percent would suffice. Thus, while both parties would be under pressure to settle, there would be no disruption of service. To ensure that contributions to the special fund are beyond recapture by the parties, a tripartite Public Purposes Committee (in which respected community figures outnumber union and government members) would apply the money to publicly desirable, preferably short-term projects that are not in the public budget—creation of scholarships or construction of recreation facilities, for example. Because the Committee's action would not discharge any of the government's obligations, both parties would derive little direct benefit from such expenditures.

In a graduated strike, employees would stop working during portions of their usual workweek and would suffer comparable reduction of wages. Here, there would be pressure not only on employees and employer but also on the community; however, the decrease in public services would not be as sudden or complete as in the conventional strike.

The nonstoppage or graduated strike would offer significant advantages to employees. Their earnings would be reduced, but most employees would still be able to meet mortgage and other installment obligations. The employer would continue to pay for fringe benefits like life insurance policies, which may lapse or require payments by employees during a lengthy conventional strike. And, of course, jobs would be secure. The absence of even temporary replacements would eliminate a traditionally potent source of violence, which everyone has a stake in averting. One other consideration: strikes are seldom popular. The nonstoppage strike, or even the graduated strike, would be clearly preferable from a public relations standpoint.

Unions would have to keep the "struck" employer under strike-like pressure—and their own members in line. Workers should not be permitted to slow down or "call in sick," a favored device in strike-ban jurisdictions. The statutes should provide for speedy hearings on such charges, and employer discipline should be limited to those cases where impartial hearing officers rule in favor of management.

Obviously, there is a need for experimentation in the public employment sector. We should test the nonstoppage strike, the graduated strike, and any other promising means of regulating public labor-management relations as we grope in this old field mined with so many new problems.

—MERTON C. BERNSTEIN,
adapted from "Alternatives to the Strike in Public Labor Relations," *Harvard Law Review*, December 1971.

Compulsory arbitration: The Australian experience

Sharp increase in working days lost because of industrial disputes shows that an arbitration system is no bar to strikes, even though it covers almost 90 percent of workers

KINGSLEY LAFFER

THE AUSTRALIAN COMPULSORY arbitration system determines minimum wages and conditions for almost 90 percent of Australian workers. Yet industrial peace has proved to be elusive in recent years, following a long decline in the number of working days lost because of strikes.

In 1970, for example, working days lost as a result of strikes totaled 2,393,700, compared with 1,079,500 in 1968. Last year, time lost increased substantially, to 3,068,600 working days.

Clearly, compulsory arbitration has not abolished strikes in Australia, but there is evidence the system has exercised some measure of control over the level of wages, for actual wages were fairly close to the minimum wages set by arbitration. (Bargained supplements known as "over-award" payments accounted for an estimated 8.7 percent of the total wage and salary bill in 1965.)[1]

In 1966, I sought to explain this as follows: "This control is obtained mainly by the persuasiveness of arbitration standards over the whole area of employer-trade union bargaining. The employer in negotiation keeps these standards continually in mind and contrives not to depart too far from them. The trade union knows that it can seldom achieve more than modest gains in relation to arbitration standards."[2]

Even distribution of income

The effect of these controls was mainly on the structure of industry differentials, but they almost certainly affected the general level of wages as well. If we take 1967 as the last fairly "normal" year before the major upsurge in industrial disputes began, we find that average hourly earnings of full-time, male nonmanagerial employees in private industry groups range from $1.36 in retail trade to $1.36 in mining and quarrying, with a mean deviation of .09 cents or 6 percent, around an average of $1.50.[3] This remarkably even income distribution by industry arises in large measure from the principles followed by arbitration bodies in determining wages[4] and which have operated to assist weaker groups and to check stronger groups.[5] The weakened influence of arbitration since then is illustrated by the development of a range of $1.60—$2.32, with a mean deviation of .14 cents or .76 percent, around an average of $1.84, by October 1970.

The effect of arbitration on the general level of wages is less clearcut. This is because determinations such as those in "Total Wage"[6] cases based on the capacity of the economy to pay, which in effect lead to increases through virtually the whole wage and salary structure, are influenced, sometimes explicitly, by the current level of over-award payments. This clouds the direction of causality. It seems likely, however, that by imposing checks on the differentials secured by strong groups of workers, arbitration has modified the impact the leadership of these groups has had on wage levels generally and has thus kept wage levels lower than they might otherwise have been. Arbitration has thus probably had some anti-inflationary effect. Australia's three main trading partners are Japan, the United Kingdom, and the United States. Consumer retail prices since 1963 had risen 24 percent in Japan by December 1967, 16

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percent in the United Kingdom, and 10 percent in the United States, compared with 14 percent in Australia.[7] As Australia had extremely low unemployment over this period, ranging between 1 and 2 percent of the labor force,[8] this record is quite good, even by comparison with the United States, with its lower rate of price increase.

Experience since 1968, when Australian prices have risen increasingly sharply, also gives some support to the view that arbitration exercises a restraining influence. Between 1957–58 and 1967–68, the consumer price index rose by 25.6 percent.[9] In 1968–69, however, the rate of price increase was 2.9 percent, in 1970, 3.7 percent, and in 1971, 5.4 percent.[10] Between 1967 and March 1971, however, prices rose in Japan by 24.4 percent, in the United Kingdom by 23.9 percent, and in the United States by 19.5 percent, compared with Australia, 13.2 percent.[11] Yet Australia had a mining boom, strong capital inflow, an increasingly favorable balance of payments and very full employment, compared with the balance of payments uncertainties and unemployment problems of the United Kingdom and the United States. Japan, we know, like Australia, has had an undervalued currency. Australia has not had particularly adept government policies, and it is highly probable that her lower rate of price increase, notwithstanding her extremely buoyant economy, is in some measure due to institutional restraints still arising from the arbitration system.

Tempering decisions to changes

Arbitrators, however, have had to temper their decisions to the prevailing economic and industrial relations winds. Thus, in the Total Wage case in 1970 the Commonwealth Arbitration system awarded a 6 percent wage and salary increase which in effect sought to give employees a share in the prosperity arising from the mineral boom.[12] However, the abolition of cost of living adjustments, which looks so well in economic models, has probably undermined the ordinary worker's security, and accentuated his alienation, thus intensifying resort to direct action with its sometimes inflationary effects.

Without doubt there has in recent years been a drastic decline in the degree of acceptance of the authority of arbitration bodies as an alternative to the strike, as well as a setter of wage standards.

In the past, the cost of strikes to managements and unions had induced them to participate in collective bargaining and to accept arbitration. However, the State itself took drastic action on occasion, and trade union leaders came to feel that the State would intervene if strike activity became excessive and that they could not win such a conflict. Thus, as Knowles says, "The resistant, militant elements in the Unions, although they have always given life and enthusiasm to the movement, have proved less and less able to dominate it." [13] Perhaps history will repeat itself, but it seems unlikely.

Arbitration laws updated

A large part of the historical development that occurred in the United Kingdom and in Australia was associated with the progressive expansion and growth of conciliation and other procedures to assist accommodation between managements and employees. Thus, in Australia the Commonwealth and the various States have frequently amended their arbitration legislation to improve their accommodation and arbitration machinery. Both in the United Kingdom and in Australia the decline in man-days lost through industrial disputes was paradoxically associated with a large increase in the number of employees participating in these disputes, the explanation being a big decline in the duration of disputes. The tactical 1 day stoppage replaced the strategic long strike.[14] There is reason to believe, however, that in Australia this long orientation towards improvements in the conciliation and arbitration machinery is coming to an end and that the emphasis will now be on the development of a new type of system.

Events have demonstrated the ambiguity of the term "conciliation." While conciliation can certainly act as "a lubricant, perhaps as a catalyst," it can readily "become a tactic of labor, management, or the Government to force peace at an untoward price." [15] In recent years, trade union demands for more conciliation and for "meaningful negotiation," though sometimes justified, have increasingly been in effect demands for capitulation. As Dianne Yerbury and J. E. Isaac point out, "The union's approach on over-award payments is often not to negotiate at all, but to demand, with immediate threat of the strike." [16] More claims lead to more conciliation, which results in more inflation.

The development of a one-sidedness in conciliation has necessarily been associated with a decline in respect for the standards of arbitration. Arbitration has traditionally determined wage differentials on principles of "comparative justice," according to which the relative wages paid depended on the degree of skill, responsibility, training, and the like, and in so doing has tended to assist weaker groups of workers and impose checks on the strong. In a test case in 1966, the *General Motors* case, the union sought to obtain special loadings based on the prosperity of the company. The claim was, however, rejected: "First and foremost it seems to us to be completely incompatible with the doctrine of comparative wage justice (or equal pay for equal work) and with the universal practice in the tribunals of this country of uniform marginal rates throughout an industry, which rests on the doctrine mentioned." [17] In this connection it is interesting to compare this decision with that in the *Oil Refineries* case (1970): "Although the Commission refused to accept union submissions to the effect that the industry's capacity to pay should be taken into account in determining the unions' claims, it awarded increases in wage rates and certain other concessions to the employees concerned, taking account in this regard of the offers and counteroffers which had been made by the parties." In this case, they felt that they could not realistically arbitrate in terms of their traditional principles but "must regard the arbitration as a prolongation or extension of the negotiations." [18]

Management benefits too

The arbitration system, at the same time as it has assisted the trade unions by recognition and by determination of minimum standards, has also assisted management in the preservation of some of its important prerogatives. Arbitration bodies have, for example, largely preserved to management its right to dismiss, deploy, and promote labor and have generally refused to impose seniority criteria.[19] In 1970, 28.67 percent of all industrial disputes involving 12.02 percent of man-days lost were concerned with managerial policies. It is certain that unions will continue to press in this area, and a broader approach by arbitration tribunals seems essential if they are to recover their authority. While managements may not welcome any extensive intrusion of arbitration into this area, they will probably be forced to accept it. They may decide, of course, when it comes to the point, that they would rather handle many of these matters for themselves, that is, through direct negotiation. Constitutional difficulties, which confine Commonwealth arbitration to interstate disputes, may in any case sometimes make this essential.

Many causal factors in industrial disputes are, however, to be found more deeply embedded in organizations. Personnel departments may be inadequate and insufficient attention may have been given to the development of suitable sociotechnical systems.[20] It is very difficult to envisage the arbitration system moving successfully into such fields, and even more difficult to imagine management accepting it. Yet it seems likely that there are strong links between the widespread protest movement in society and the upsurge in industrial disputes. Values are changing, especially among the young, and these changes are pressing on the adequacies of both governments and organizations. Firms with advanced industrial relations managements are aware of this and are carefully appraising their policies. But these are in a minority in Australia and they are understandably moving very slowly and cautiously. Solutions, when they are found, are much more likely to come from managements, and perhaps also unions in some cases, than from arbitration. Thus, the Commission on Industrial Relations in the United Kingdom studies the industrial relations systems of plants and makes recommendations on a wide variety of matters including the role of shop stewards, plant negotiating machinery, the functions of personnel management, and the like, and arbitration could undertake similar approaches in Australia. It is likely, however, that if such approaches went at all deeply into personnel management, they would be strongly resisted by employers.

Perhaps the essence of the matter is that Australian arbitration has been basically a paternalist system. It has sought to do good to management, the unions, and the community, and has to a considerable extent succeeded in this. But just as paternalist managers in organizations tend to fail in the end through inability to understand and cope with the real issues in conflict with employees, so a paternalist arbitration system is now finding itself unable to come to grips with the deeper issues underlying industrial disputes. More sophisticated managements

and unions seem increasingly likely to want to find their own solutions to the problems confronting them. This almost certainly means that the recent growth in direct negotiation will continue and that emphasis will continue to shift to personnel and industrial relations management at the plant level. The future of arbitration appears to depend a great deal on its ability to develop the orientation and expertise necessary for it to make a meaningful contribution in this area. □

——FOOTNOTES——

[1] K. J. Hancock, "Earnings-Drift in Australia," *Journal of Industrial Relations,* July 1966, p. 136, reprinted in J. E. Isaac and G. W. Ford, editors, *Australian Labour Economics, Readings* (Sun Books, Melbourne, 1967).

[2] Kingsley Laffer, "Whither Arbritration?—Problems of Income Policies in Australia and Overseas," *Journal of Industrial Relations,* November 1968, p. 215.

[3] Based on figures in Commonwealth Bureau of Census and Statistics (CBCS), *Survey of Weekly Earnings and Hours,* October 1971.

[4] For accounts of these, see papers by Kingsley Laffer and J. E. Isaac, in editor, Richard Preston, *Contemporary Australia* (Duke University Commonwealth-Studies Center, 1969).

[5] Harold Lydall in *The Structure of Earnings* largely rejects such institutional factors as compulsory arbitration (pp. 245–247) as determinants of the distribution of employment incomes, attributing this mainly to the degree of inequality in education and the proportion of male workers in agriculture. In arguing the supremacy of market forces he considers mainly differentials for skill, and one is disposed, with some qualification for cultural factors, to agree with him here. But bargaining power depends on many factors besides demand for and supply of skill, and differences of bargaining power are not minor imperfections, as he seems to assume, but a very significant aspect of the industrial relations scene. It is the inequalities in bargaining power in this sense that Australian compulsory arbitration has to a considerable extent controlled, by assisting the weak and by providing a focal point for employer resistance to the strong.

It is also interesting to note that Lydall states the proportion of foreign-born workers as increasing the dispersion of U.S. incomes at certain periods (pp. 220–225). Australia, however, with its large postwar immigration program, has now a high proportion of foreign-born workers, and yet has one of the least unequal distributions of income in the world (p. 156). It is one of the major achievements of arbitration to have assisted this by minimizing the exploitation of immigrants by employers. This has at the same time helped to secure official and very general trade union support for and acceptance of the immigration program.

[6] Keith Sloane, "The National Wage Case, 1967," *Journal of Industrial Relations,* November 1967. The Commonwealth arbitration system formerly made separate determinations of a "basic wage," the minimum wage of an unskilled adult male, and the level of "margins," or differentials for skill, etc. These are now decided together in "Total Wage" cases.

[7] CBCS, *Monthly Review of Business Statistics.*

[8] CBCS, *Labour Report,* R. V. Horn, *Labour Economics, Australia* (Cheshire, Melbourne, 1969), chapter 7.

[9] Based on figures from CBCS, *Monthly Review of Business Statistics.*

[10] Ibid.

[11] Ibid.

[12] Department of Labour and National Service, *Industrial Information Bulletin,* January 1971, pp. 18–36.

[13] K.G.J.C. Knowles, *Strikes* (Blackwell, 1954), p. 61.

[14] Ibid.

[15] Herbert R. Northrup, *Compulsory Arbitration and Government Intervention in Labor Disputes* (Labor Policy Association, 1966), pp. 161–162.

[16] Dianne Yerbury and J. E. Isaac, "Recent Trends in Collective Bargaining in Australia," *International Labor Review,* May 1971, p. 451.

[17] Australian Industrial Law Review, Sept. 17, 1966.

[18] Australian Industrial Law Review, Oct. 17, 1970.

[19] F. T. DeVyver, "The Weakening of Managerial Rights," *Business Horizons,* Vol. 2, No. 1, 1959, pp. 38–48. See also the article by Philip Bentley and Barry Hughes, "Australian Cyclical Strike Patterns," *Journal of Industrial Relations,* December 1971, for some current discussion.

[20] F. E. Emery and E. L. Trist, "Socio-technical Systems," in F. E. Emery, editor, *Systems Thinking* (Penguin Modern Management, Readings, 1969), pp. 281–296.

Employment of high school graduates and dropouts

Special Labor Force Report shows that in October 1971, recent high school graduates and dropouts made up 2 of 10 of the unemployed and 1 in 10 of the employed out-of-school youth

HOWARD HAYGHE

THE NUMBER and proportion of youths remaining in school long enough to graduate from high school continued to grow sharply during the past decade. In October 1971, of the 12.7 million youths (16 to 24 years old) in the labor force who were no longer in school, nearly 8 out of 10 were high school graduates. More than 1 million had graduated from college. Ten years earlier, of the 9.2 million out-of-school youth in the labor force, only about 6 out of 10 had completed high school.

This article analyzes the employment status of youth who are not enrolled in school, by years of school completed, with particular attention to college graduates, recent high school graduates, and persons who dropped out of school before graduating from high school.[1]

Labor force status and years of school completed

Of all 16- to 24-year-old workers who were not in school in October 1971, approximately one-fifth were school dropouts. Less than one-tenth were college graduates. At this age, the proportion of college graduates in the out-of-school labor force is small, because many who will eventually have a college degree are still in school. About 20 percent of all 16- to 24-year-olds will eventually earn a college degree, approximately the same percentage as the current proportion for workers 25 to 34 years old.[2]

Young people who were school dropouts had greater difficulty in the job market than those with a high school education or more. About one-third of the unemployed 16- to 24-year-olds were school dropouts, but only a fifth of the employed. (See chart 1.) Those who had completed at least 1 year of college made up a smaller proportion of the unemployed than of the employed.

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College graduates

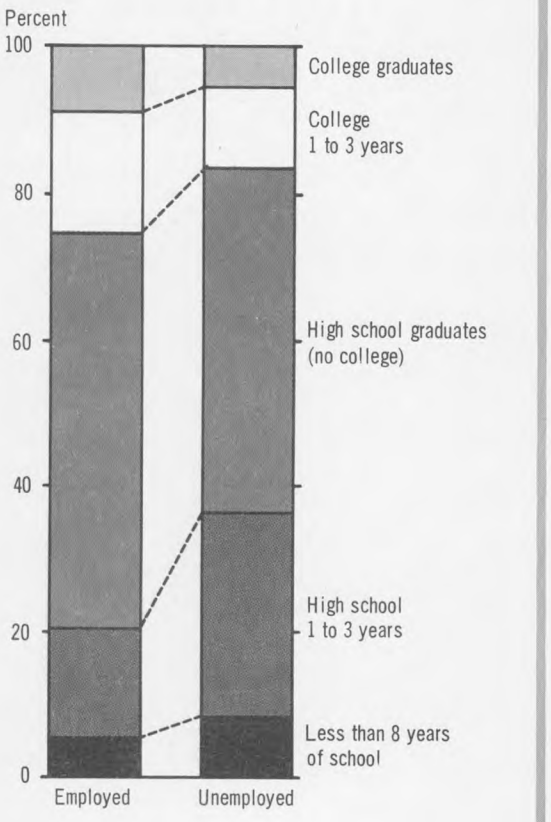
Between October 1967 and October 1971, the number of male college graduates under 25 in the out-of-school population doubled, to 550,000. (See table 1.) While some of the increase resulted from a rise each year in the number who graduated from college, some reflected a decrease in the numbers called into the Armed Forces and the return to civilian status of graduates who had been in military service.

Among male college graduates no longer in school, the proportion in the labor force in October 1971, at 92 percent, was sharply below their 99-percent labor force participation rate in 1967 and 1968. Most of this decrease occurred between 1970 and 1971, and may reflect the increase in unemployment among all professional workers. Some young men, discouraged by recent economic developments, may have held back from entering the labor market to take stock of and, if need be, reorient their career goals in light of recent developments. Also, some of the men not in the labor force were recently discharged Vietnam Era veterans, who may also be appraising the situation in order to plan their future.

The labor force participation rate has consistently been much higher for young women college graduates no longer in school (84 percent in October 1971) than for women with less schooling. Regardless of marital status, women with college degrees are more likely to work than other women, and can usually earn more.

Recent college graduates have had some difficulty in finding jobs because of the slowdown in economic activity. Unemployment among college graduates

Chart 1. Education of employed and unemployed youths (16-24 years) in the out-of-school labor force, October 1971



under 25 and no longer in school increased in the past 2 years, rising from 4.4 percent in 1969 to 6.6 percent in 1971. The increase reflected cutbacks in defense and space industries, a slackening of demand for teachers, owing to the leveling off of school enrollment in regular day schools, and the general slowing down of the economy. However, despite the increase in unemployment in the past few years among young college graduates, their unemployment rate remained lower than the rates for those who had less schooling.

1971 high school graduates

About 2.9 million youths were graduated from high school in 1971. Of these, 1.5 million (53 percent) were enrolled in college in October 1971, mostly on a full-time basis. (See table 2.) Since studies occupied most of their time, the ones enrolled in college were less likely to be in the labor force than their former high school classmates who were not in college. Only 40 percent of the men and 34 percent of the women enrolled in college were in the labor force, compared with 90 and 70 percent of those who did not continue their education.

The proportion of college students who work has risen sharply in the past decade, as tuition and living costs have risen. About 575,000 of the 1971 high school graduates enrolled in college (37 percent) were in the labor force, compared with 200,000 (23 percent) of the corresponding group in 1961. The increase in the number in the labor force reflects not only the rise in the labor force rate but also the doubling, over the decade, in the number of high school graduates enrolling in college.

Unemployment rates were the same (14 percent) for men enrolled in college and their high school classmates who were not. For women, the rate of those who were in college was half that of women who were not enrolled—10 and 20 percent, respectively.

The proportion of Negro[3] recent high school graduates enrolled in college has risen sharply in the past decade, about 48 percent compared with 33 percent a decade ago. The proportion for Negroes is still below that for whites (54 percent), but the gap has narrowed substantially over the years, reflecting improved educational opportunities and increase in real family income.

1971 school dropouts

The number of youths who drop out of school has remained relatively stable in the past few years, in contrast to increases in the number who graduate. During the year ending in October 1971, approximately 650,000 men and women 16 to 24 years old left school before graduating from high school. (See table 3.) As usual, about 9 out of 10 had been enrolled at the high school level, while the remainder had no more than an elementary school education.

For several reasons, school dropouts are less likely to be in the labor force than high school graduates who do not go on to college. Among out-of-school youths, a greater proportion of dropouts than of high

Table 1. Labor force status of persons 16 to 24 years old not enrolled in school, by educational attainment, sex, and race, October 1971

[Numbers in thousands]

Educational attainment, sex, and race	Civilian noninstitutional population	Civilian labor force					Not in labor force
		Number	As percent of population	Employed	Unemployed		
					Number	As percent of civilian labor force	
BOTH SEXES							
Total, not enrolled in school	17,276	12,698	73.5	11,308	1,390	10.9	4,578
School dropouts:							
Completed less than 4 years of high school	4,643	2,805	60.4	2,299	506	18.0	1,838
Completed 8 years of school or less	1,294	738	57.0	626	112	15.2	556
Completed 1 to 3 years of high school	3,349	2,067	61.7	1,673	394	19.1	1,282
High school graduates:							
Graduated from high school	12,633	9,893	78.3	9,009	884	8.9	2,740
Completed 4 years of high school only	8,970	6,826	76.1	6,171	655	9.6	2,144
Completed 1 year of college or more	3,663	3,067	83.7	2,838	229	7.5	596
Completed 1 to 3 years of college	2,394	1,957	81.7	1,801	156	8.0	437
Completed 4 years of college or more	1,269	1,110	87.5	1,037	73	6.6	159
MEN							
Total, not enrolled in school	7,265	6,680	91.9	5,969	711	10.6	585
School dropouts:							
Completed less than 4 years of high school	2,137	1,860	87.0	1,555	305	16.4	277
Completed 8 years of school or less	632	511	80.9	446	65	12.7	121
Completed 1 to 3 years of high school	1,505	1,349	89.6	1,109	240	17.8	156
High school graduates:							
Graduated from high school	5,128	4,820	94.0	4,414	406	8.4	308
Completed 4 years of high school only	3,533	3,336	94.4	3,029	307	9.2	197
Completed 1 year of college or more	1,595	1,484	93.0	1,385	99	6.7	111
Completed 1 to 3 years of college	1,040	976	93.8	908	68	7.0	64
Completed 4 years of college or more	555	508	91.5	477	31	6.1	47
WOMEN							
Total, not enrolled in school	10,011	6,018	60.1	5,339	679	11.3	3,993
School dropouts:							
Completed less than 4 years of high school	2,506	945	37.7	744	201	21.3	1,561
Completed 8 years of school or less	663	227	34.2	180	47	20.7	435
Completed 1 to 3 years of high school	1,843	718	39.0	564	154	21.4	1,126
High school graduates:							
Graduated from high school	7,505	5,073	67.6	4,595	478	9.4	2,432
Completed 4 years of high school only	5,437	3,490	64.2	3,142	348	10.0	1,947
Completed 1 year of college or more	2,068	1,583	76.5	1,453	130	8.2	485
Completed 1 to 3 years of college	1,354	981	72.5	893	88	9.0	373
Completed 4 years of college or more	714	602	84.3	560	42	7.0	112
WHITE							
Total, not enrolled in school	14,908	11,027	74.0	9,951	1,076	9.8	3,881
School dropouts:							
Completed less than 4 years of high school	3,670	2,187	59.6	1,829	358	16.4	1,483
Completed 8 years of school or less	998	558	55.9	475	83	14.9	440
Completed 1 to 3 years of high school	2,672	1,629	61.0	1,354	275	16.9	1,043
High school graduates:							
Graduated from high school	11,238	8,840	78.7	8,122	718	8.1	2,398
Completed 4 years of high school only	7,838	5,982	76.3	5,462	520	8.7	1,856
Completed 1 year of college or more	3,400	2,858	84.1	2,660	198	6.9	542
Completed 1 to 3 years of college	2,208	1,812	82.1	1,682	130	7.2	396
Completed 4 years of college or more	1,192	1,046	87.8	978	68	6.5	146
NEGRO AND OTHER RACES							
Total, not enrolled in school	2,368	1,671	70.6	1,357	314	18.8	697
School dropouts:							
Completed less than 4 years of high school	973	618	63.5	470	148	23.9	355
Completed 8 years of school or less	296	180	60.8	151	29	16.1	116
Completed 1 to 3 years of high school	677	438	64.7	319	119	27.2	239
High school graduates:							
Graduated from high school	1,395	1,053	75.5	887	166	15.8	342
Completed 4 years of high school only	1,132	844	74.6	709	135	16.0	288
Completed 1 year of college or more	263	209	79.5	178	31	14.8	54
Completed 1 to 3 years of college	186	145	78.0	119	26	17.9	41
Completed 4 years of college or more	77	64	83.1	59	5	(1)	13

[1] Percent not shown where base is less than 75,000.

Table 2. College enrollment and labor force status of 1971 high school graduates,[1] October 1971
[Numbers in thousands]

Characteristic	Civilian noninstitutional population		Civilian labor force					Not in labor force
			Number	As percent of population	Employed	Unemployed		
	Number	Percent				Number	As percent of civilian labor force	
Both sexes, total	2,872	100.0	1,624	56.5	1,374	250	15.4	1,248
White	2,596	90.4	1,480	57.0	1,277	203	13.7	1,116
Negro and other races	276	9.6	144	52.2	97	47	32.6	132
Enrolled in college	1,535	53.4	572	37.3	503	69	12.1	963
Full time	1,445	50.3	500	34.6	437	63	12.6	945
Part time	90	3.1	72	80.0	66	6	(2)	18
Not enrolled in college	1,336	46.5	1,051	78.7	870	181	17.2	285
Men, total	1,369	100.0	841	61.4	725	116	13.8	528
Enrolled in college	788	57.6	318	40.4	275	43	13.5	470
Not enrolled in college	581	42.4	523	90.0	450	73	14.0	58
Women, total	1,503	100.0	783	52.1	649	134	17.1	720
Enrolled in college	747	49.7	254	34.0	228	26	10.2	493
Not enrolled in college	755	50.3	528	69.9	420	108	20.5	227
Single	612	40.8	454	74.2	355	99	21.8	158
Married and other marital status[3]	143	9.5	74	51.7	65	9	(2)	69

[1] 16 to 24 years old.
[2] Percent not shown where base is less than 75,000.
[3] Includes widowed, divorced, and separated women.

school graduates are 16 and 17 years old, and labor force rates are lowest for the youngest age group. Also, some of the factors which cause youths to leave school—marriage, illness, or personal or family problems—tend to keep them from seeking work. The labor force rate for men who had dropped out during the year (81 percent in October 1971) was only moderately below that for high school graduates not in school. The rate for girl dropouts (43 percent) was sharply lower than for girl graduates, partly because a larger proportion of the female dropouts were married—about 40 percent compared with 19 percent of the graduates. The labor force rate of the girl dropouts who were married was about 27 percent, half the rate for the unmarried.

Unemployment

Unemployment rates among young men and women no longer in school vary widely based on amount of schooling, sex, and color. Of the dropouts who had left school during the year and were in the labor force, 26 percent were unemployed in October 1971, a rate about 9 percentage points higher than that of 1971 high school graduates not in college. Both rates were virtually unchanged from a year earlier.

One of the reasons for the high unemployment rate for the recent dropouts is their youth. About 40 percent of the year's dropouts in the labor force are 16 or 17 years old, compared with relatively few of the graduates, and unemployment rates are usually highest for the youngest, least experienced, and least educated. Many employers, even if they do not prefer high school graduates, may prefer to hire 18- and 19-year-olds rather than younger persons. Furthermore, many occupations and/or establishments are closed to 16- and 17-year-olds by law because of the nature of the jobs. And, as stated above, the same factors that lead some youths to leave school—problems with authorities, broken homes, and the influence of low parental, educational, and occupational expectation—make the adjustment to the job market difficult.

One of the reasons for the high unemployment rates of boys and girls who have just left school is that most of them are new entrants to the labor force. Of the out-of-school workers age 16 to 24, dropouts and 1971 high school graduates not in college accounted for 2 out of 10 of the unemployed, compared with 1 out of 10 of the employed.

Among dropouts, unemployment rates were the same for boys as for girls in October 1971. Among high school graduates, the rates have been consistently higher for girls than for boys in the past few

Table 3. Employment status of 1971 high school graduates not enrolled in college and dropouts,[1] October 1971
[Numbers in thousands]

Characteristic	Civilian noninstitutional population		Civilian labor force					Not in labor force	
			Number	As percent of population	Employed	Unemployed			
	Number	Percent				Number	As percent of civilian labor force	Total	In special schools
1971 graduates not enrolled in college, total	1,336	100.0	1,051	78.7	870	181	17.2	285	99
Men	581	43.5	523	90.0	450	73	14.0	58	18
Women	755	56.5	528	69.9	420	108	20.5	227	81
Single	612	45.8	454	74.2	355	99	21.8	158	(2)
Married and other marital status[3]	143	10.7	74	51.7	65	9	(4)	69	(2)
White	1,190	89.1	944	79.3	801	143	15.1	246	92
Negro and other races	146	10.9	107	73.3	69	38	35.5	39	7
1970–71 school dropouts, total[5]	655	100.0	415	63.4	305	110	26.5	240	22
Men	353	53.9	286	81.0	210	76	26.6	67	13
Women	302	46.1	129	42.7	95	34	26.4	173	9
Single	181	27.6	96	53.0	74	22	22.9	85	8
Married and other marital status[2]	121	18.5	33	27.3	21	12	(4)	88	----------
White	540	82.4	353	65.4	266	87	24.6	187	15
Negro and other races	115	17.6	62	53.9	39	23	(4)	53	7

[1] 16 to 24 years old.
[2] Not available.
[3] Includes widowed, divorced, and separated women.
[4] Percent not shown where base is less than 75,000.
[5] Persons who dropped out of school between October 1970 and October 1971. In addition, 65,000 persons 14 and 15 years old dropped out of school.

years. Negro high school graduates have an unemployment rate about twice as great as that of white graduates, and also higher than that of white dropouts in the year in which they leave school. These differences may reflect discriminatory hiring practices, and, for Negroes, possible differences in the quality of schooling available. □

——FOOTNOTES——

[1] This article is based on supplementary questions in the October 1971 Current Population Survey, conducted and tabulated for the Bureau of Labor Statistics by the Bureau of the Census. Data presented in this article relate to persons 16 to 24 years of age in the civilian noninstitutional population in the calendar week ending October 16, 1971. All members of the Armed Forces and inmates of institutions are excluded. Estimates of the number of graduates shown here may differ from figures of the Office of Education because of these exclusions, the age limitations, and other minor differences in measurement.

Since the estimates are based on a sample, they may differ from the figures that would have been obtained from a complete census. Sampling variability may be relatively large in cases where the numbers are small. Small estimates, or small differences between estimates, should be interpreted with caution.

The most recent report in this series was published in the *Monthly Labor Review*, May 1971, pp. 33–38, and reprinted with additional tabular data and explanatory notes as Special Labor Force Report 131.

[2] See William V. Deutermann, "Educational attainment of workers, March 1971," *Monthly Labor Review*, November 1971, pp. 30–35.

[3] Data for all persons other than white are used in this report to represent data for Negroes, since the latter constitute about 92 percent of all persons other than white in the United States.

Research Summaries

WAGES IN PETROLEUM REFINING

HOMER W. JACK

WAGE LEVELS of production and related workers in petroleum refineries rose 33 percent from December 1965 to April 1971, according to BLS occupational wage surveys, exceeding increases in the Consumer Price Index which advanced 26 percent during the same period.

Negotiated general wage increases were instrumental in boosting straight-time earnings of petroleum refinery workers from an average of $3.45 an hour in December 1965 [1] to $4.59 an hour in April 1971. In 1971, over nine-tenths of the 69,800 plant workers surveyed were covered by collective bargaining agreements, many of which will be renegotiated in late 1972.

Slightly more than one-third of the industry's work force is employed in the Texas–Louisiana Gulf Coast region, where wages averaged $4.63 an hour in April 1971. (See table 1.) Average hourly earnings in other sections of the country ranged from a high of $4.77 in the East Coast region to a low of $3.74 in Western Pennsylvania–West Virginia. However, wage levels rose most rapidly in the lowest paying region—44 percent since the 1965 survey. In the other regions, average wages increased from 29 to 35 percent between the two survey periods.

Occupations selected to represent various wage levels for plant workers in the industry (table 2) accounted for seven-tenths of the work force in April 1971. Average hourly earnings among these jobs ranged from less than $4 for janitors ($3.66), laborers ($3.69), and watchmen ($3.83) to $5.17 for stillmen. Assistant stillmen, the largest group, averaged $4.79.

Earnings in the nine skilled maintenance jobs studied separately averaged from $4.83 an hour to maintenance mechanics and pipefitters to $4.96 for general mechanics. General mechanics, skilled in two or more trades, were usually employed in refineries having maintenance craft consolidation plans, which eliminate rigid lines of craft duties to allow individuals to perform tasks related to more than one trade. Approximately one-fourth of the 109 establishments visited had such a plan—twice the proportion recorded in 1965.

All plant workers were employed in establishments providing paid holidays, paid vacations, and at least part of the cost of retirement pension plans, and various health insurance benefits in April 1971. Refineries usually provided 9 paid holidays annually, and 2 weeks of vacation pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, and 5 weeks after 20 years.

Other benefits typically found in the industry included thrift or savings plans for which the employer made contributions beyond administrative costs; severance pay provisions for employees permanently

Table 1. Average hourly earnings[1] of production workers in petroleum refineries, United States and regions,[2] April 1971

Location	Number of workers	Average hourly earnings
United States	69,831	$4.59
East Coast	10,602	4.77
Western Pennsylvania–West Virginia	2,131	3.74
Midwest I	11,568	4.70
Midwest II	6,428	4.37
Texas–Louisiana–Gulf Coast	24,187	4.63
Texas Inland–North Louisiana–Arkansas	3,330	4.21
Rocky Mountain	1,770	4.55
West Coast	9,815	4.65

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

[2] Alaska and Hawaii are excluded from the survey. Midwest I includes Illinois, Indiana, Kentucky, Michigan, Ohio, and Tennessee; Midwest II, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, and Wisconsin. Complete definitions of all regions used in this survey will appear in the final report.

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Table 2. Average hourly earnings[1] of production workers in selected occupations in petroleum refineries, United States, April 1971

Item	Number of workers	Average hourly earnings
Maintenance:		
Boilermakers	1,235	$4.88
Carpenters	759	4.84
Electricians	1,232	4.85
Helpers, trades	1,509	4.06
Instrument repairmen	1,519	4.93
Machinists	1,746	4.87
Mechanics, general[2]	2,015	4.96
Mechanics	1,005	4.83
Pipefitters	3,063	4.83
Welders, hand	1,383	4.85
Processing:		
Compounders	310	4.70
Laborers	4,070	3.69
Loaders, tank cars or trucks	993	4.24
Package fillers, machine	429	4.03
Pumpmen	2,195	4.78
Pumpmen's helpers	654	4.58
Stillmen (chief operators)	5,561	5.17
Stillmen, assistant (assistant operators)	9,489	4.79
Stillmen's helpers (operators' helpers)	3,802	4.40
Treaters, oils	647	4.64
Treaters' helpers, oils	244	4.57
Inspecting and testing:		
Routine tester, laboratory	2,906	4.62
Recording and control:		
Stock clerks	727	4.48
Material movement:		
Truckdrivers	1,032	4.15
Truckers, power, forklift	282	4.08
Truckers, power, other than forklift	94	4.38
Custodial:		
Guards	582	4.06
Janitors	644	3.66
Watchmen	77	3.83

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

[2] Workers skilled in two trades or more.

separated from work because of technological change or plant closing; and paid leave for death of family members and for jury duty.

The survey included establishments employing 100 workers or more and engaged primarily in producing gasoline, lubricants, and other products from crude petroleum and its fractionation products. Earnings data developed by the study exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Summary tabulations detailing national and regional data are available from the Bureau or any of its regional offices listed on the inside front cover. A comprehensive report on the survey will be issued later this year. □

FOOTNOTES

[1] For an account of the earlier survey, including a complete definition of regions, see "Wages in Industrial Chemicals and Petroleum Refining," *Monthly Labor Review*, September 1966, pp. 994–999.

NEW DATA ON JOB OUTLOOK

MANY JOBS that do not require a college degree can be learned on the job, and some of these are anticipated to be among the fastest-growing in the 1970's, according to the new 1972–73 edition of the *Occupational Outlook Handbook*.

Secretary of Labor J. D. Hodgson pointed out recently that "Eight out of 10 jobs to be filled during the 1970's will be open to people who have not completed 4 years of college. But more job training will be required of young people in the 1970's as industrial processes, technology, and business procedures increase in capacity." Young people with vocationally oriented education beyond high school will be in the best position to compete for openings in such rapidly growing fields as business machine servicemen, construction machinery operator, stewardess, hospital attendant, receptionist, electronic computer operator, and cashier.

According to the *Handbook*—the Government's encyclopedia of employment information designed to help young people choose careers—jobs in professional and managerial occupations will increasingly require a college degree. But, even within this group, workers with only a year or two of specialized training beyond high school will find many excellent opportunities as aides and technicians. Such subprofessional jobs as social service aide, food processing technician, surveyor, forestry aid, library technician, and occupational therapy assistant are growing rapidly. Many of these jobs offer opportunities for further professional development.

Other fast-growing professional, technical, and managerial jobs include vocational counselor, marketing research worker, public relations specialist, oceanographer, urban planner, programer, systems analyst, and nearly all of the health field specialties.

The *Occupational Outlook Handbook* is revised and updated every 2 years and is supplemented by the *Occupational Outlook Quarterly*. Both publications may be purchased from any of the regional offices listed on the inside front cover or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The price is $6.25 for the *Handbook* and $3 for a 2-year subscription to the *Quarterly*. □

PROFILE OF THE HEALTH CARE INDUSTRY

THE NATION spent $67.2 billion for health and medical care in fiscal year 1970, including payments for health care services under government programs, private health insurance payments, voluntary health giving, and direct payments by individuals. Personal health care expenditures—those for the direct benefit of the individual—grew to $58 billion, well over five times the amount 20 years earlier. Almost half of the $47.5-billion increase for personal health care from 1950 to 1970 can be attributed to price increases. Hospital daily service charges grew faster than prices of any other component of medical care, rising 71.3 percent from 1966 to 1970. These findings are included in a recent chartbook published by the U.S. House of Representatives, Committee on Ways and Means.

Financing medical care has been largely a private responsibility. But since the inception of Medicare and Medicaid programs in 1966, there has been a shift to more public financing. In fiscal 1970, government (all levels) paid 35 percent of the total personal health care bill; private insurance, 24 percent; direct payments, 39 percent. Public funds were more typically spent on hospital care and nursing home care; purchase of professional services and out-of-hospital drugs had higher priority for the private dollar.

Over one-quarter of health care expenditures were for persons age 65 and over, whose medical bills averaged more than three times those of all the rest of the population. Most of the medical expenditures of the aged were government-financed.

Basic Facts on the Health Industry, Committee on Ways and Means, 92d Congress, 1st session, June 28, 1971, is available for 60 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

EARNINGS DISPARITIES

THE REAL EARNINGS gap between the poorest fifth and the richest fifth of the population nearly doubled in the 22-year period ending in 1969, according to a report prepared for the Joint Economic Committee of Congress by Lester Thurow and Robert Lucas, economists, Massachusetts Institute of Technology. In 1947, the average income of the poorest 20 percent of all families was $10,565 lower than that of the richest 20 percent; by 1969, the difference had risen to $19,071 (in 1969 dollars).

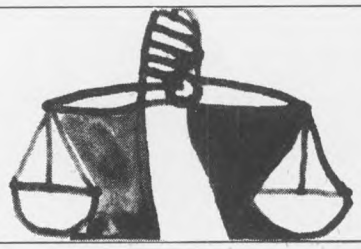
From 1947 to 1969, the median family income in constant dollars grew from $4,972 to $9,433. Income of all groups—male, female, black, white, rich, poor—rose at the same rate, so that the relative distribution of income remained about the same. But as average incomes rose, the real income gap measured in constant dollars widened.

Historically, attempts by government to alter the distribution of income involved massive investment in education and training to communicate marketable skills. But the postwar experience indicates that increased education has not produced the expected changes in distribution of earnings, the report states. For example, from 1950 to 1970, among white men, the lowest fifth increased their share of total years of schooling, while the share of the top fifth fell, yet the lowest fifth's cut of total earnings fell from 3.2 to 2.6 percent, and the share going to the highest fifth grew from 44.8 to 45.3 percent. In the case of black male workers, whose median income rose to 66 percent of white male workers, geographic mobility rather than increased education accounted for most of the increase.

The authors conclude that the problem is not solely one of increasing the supply of qualified people, but also of increasing the demand for these workers. To compress the structure of earnings, the authors advocate, among other things, fiscal and monetary policies designed to create labor shortages; public wage scales deliberately set to force private employers to match them; manpower programs which pay for actual increases in earnings rather than for training; and imposition of a limited quota system. Although the report concentrates on techniques for altering market-determined earnings, the authors also advocate tax and transfer policies to change the distribution of income and wealth.

The American Distribution of Income: A Structural Problem, Joint Economic Committee, 92d Congress, 2d session is available for 25 cents from the Superintendent of Documents, Washington, D.C. 20402. □

Significant Decisions in Labor Cases



Pension funds under LMRDA

A SEEMING STATUTORY ambiguity lured a union into seeking exemption for its pension fund trustees from legal fiduciary responsibilities. The union tried to prevent appointment of a receiver over the fund by contending that Congress did not intend the fiduciary provisions of the Labor-Management Reporting and Disclosure Act of 1959 (section 501(a)) to be applied to employee benefit funds. (*Journeymen Barbers.*[1])

The request for receivership came to a county court from a group of the union's members alleging mismanagement of the fund. The suit named as defendants the union, its executive board, and the committee in charge of the fund. Since the plan was unnegotiated, the committee consisted exclusively of union appointees. The union requested that the suit be removed to a Federal district court, and when this was done, challenged the court's authority to act in the matter. Its line of reasoning ran as follows:

Section 501(a) of the LMRDA is not applicable to pension funds. It provides that "The officers, agents, shop stewards, and other representatives of a labor organization occupy positions of trust in relation to such organization and its members as a group," and spells out the duties of such representatives in handling union money. But it says nothing about a fund. Had Congress wanted to extend the responsibilities to members managing a pension fund, it would have said so in specific language such as it used in another provision of the act—section 502(a)—concerning bonding of officials managing union money. There the law is explicit: "Every officer, agent, shop steward, or other representative or employee of any labor organization . . ., *or of a trust in which a labor organization is interested,* who handles funds or other property thereof should be bonded for the faithful discharge of his duties. . . ." (Emphasis supplied.) This provision clearly applies to a pension fund; but it merely requires bonding without imposing upon the persons of trust all the obligations stated in section 501(a). In short, the fiduciary responsibilities under section 501(a) apply to the handling of any kind of union money or property except "a trust in which a labor organization is interested," such as a pension fund.

Neither the district court nor the court of appeals accepted this ingenuous argument. The appellate court, first of all, repeated the usual judicial warning against speculation on the significance of Congress' silence wherever such occurs in its enactments. Such silence is meaningless, it said, where the purpose of a law clearly transpires from its broad language. And the purpose of the fiduciary provisions of LMRDA was unmistakable—protection of union moneys and other property from abuses such as were revealed in the mid-1950's by inquiries of a Senate committee (the McClellan Committee) into corruption in unions.

Most evidential of congressional intent, said the appellate court, is the legislative history of the provisions in question: "We find no statement by a member of Congress that the actual variance between section 501(a) and 502(a) was intended to exclude pension or welfare trusts from the operation of the fiduciary principle. Quite the contrary appears." The court went on to show how the linguistic ambiguity developed in the process of reconciling House and Senate bills in the conference.

After this explanation, the court still faced the unanswered question, why the ambiguity? Certainly, it was possible for the conferees to reconcile the positions of the two chambers and, if the intent of both was to make section 501(a) applicable to trusts, to say so in clear language.

In answering this question, the court pointed out that the bonding provision pertains not only to union-appointed officials but also to "other repre-

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

sentative[s] or employee[s] . . . of a trust in which a labor organization is interested"—for instance, "to trust personnel *who may or may not be representatives or appointees of a labor organization,*" hence, to personnel of jointly administered trusts (emphasis added). The court said:

> This explanation seems to have the uncomfortable concomitant that while Congress intended to impose fiduciary responsibility on union officials, agents, and representatives in their handling of members' trust funds, it was unwilling to extend the same responsibility to trust personnel generally. Of course, the basic thrust of the relevant branch of the [LMRDA] was to protect the membership against *union* abuse of its statutorily endowed power. If we are to speculate on congressional intent, it may well have been thought that extending the Federal statutory base for fiduciary responsibility to nonunion trustees was too great an incursion into a traditionally State law domain and unwarranted by the union-oriented thrust of the act. In any event, in our opinion it would be far more anomalous to impute to Congress a deliberate indifference to the need for fiduciary responsibility in the highly critical area of pension and welfare trusts, while it manifestly recognized the need for such responsibility on the part of union officials in all other areas of their activity. . . .
>
> Faced with what is at most a statutory ambiguity we will be guided by the purpose of section 501. The section, as we see it, was a direct and far-reaching response to the mischief exposed and dramatized by the McClellan Committee. That mischief was the misuse of union funds and property by union officials in its every manifestation. Thus, the reach of section 501 extends to every area in which subversion of the interests of the union membership may be accomplished by union officials or representatives bent on acting in culpable derogation of those interests. . . .

Since the lower court had found that serious mismanagement of the trust in question had occurred, the appellate decision was that the appointment of a permanent receiver was proper.

Sworn statement to NLRB

Another instance of apparent ambiguity in the language of a labor law served an employer as a basis for discharging several employees who had given sworn statements to an NLRB field representative investigating an unfair-labor-practice charge against him. The employer's legal position was that the Labor Management Relations Act protects an employee from reprisal for filing charges or testifying formally against his employer, but not for providing information to Board representatives during investigation.

The Board rejected the employer's contention, saying that "investigation of charges filed is an integral and essential stage of Board proceedings." It was subsequently overruled by a court of appeals, which was unwilling to discard its own contrary ruling in a previous case[2] involving the same issue. The Supreme Court upheld the Board. (*NLRB* v. *Scrivener.*[3])

The statutory provision in question reads as follows: "Sec. 8.(a) It shall be an unfair labor practice for an employer— . . . (4) to discharge or otherwise discriminate against an employee because he has filed charges or given testimony under this act. . . ."

Justice Blackmun, who delivered the Court's decision, anchored his opinion on one aspect of section 8(a)(4)—its *purpose*. He repeated what the late Justice Black once said [4] on the subject of congressional purpose in enacting this provision:

> . . . Congress has made it clear that it wishes all persons with information about such [unfair] practices to be completely free from coercion against reporting them to the Board. This is shown by its adoption of section 8(a)(4) which makes it an unfair labor practice for an employer to discriminate because he has filed charges. And it has been held that it is unlawful for an employer to seek to restrain an employee in the exercise of his right to file charges. . . .

The Justice added, "This complete freedom is necessary, it has been said, 'to prevent the Board's channels of information from being dried up by employer intimidation of prospective complainants and witnesses.' " [5]

Among the other reasons cited by Justice Blackmun for overruling the appellate decisions were these:

- The view that the protection of section 8(a)(4) extends to employees who have participated in the NLRB's investigative process is consistent with the Board's procedure and broad subpoena powers.
- The language of the provision can be read broadly, in which case the phrase " 'to discharge or otherwise discriminate' reveals, . . . particularly the word 'otherwise,' an intent on the part of Congress to afford broad rather than narrow protection to the employee. . . ."
- It would be senseless to protect an employee when he files charges and formally testifies before the

Board, but not when his action is "participation in the important developmental stages [investigation] that fall between these two points in time.

• The broad interpretation of the provision "accords with the Labor Board's view entertained for more than 35 years. . . ."

The case was remanded for the purpose of resolving the question of whether the Board's adjudication of the case was proper in view of the fact that the employer, a small businessman, did not meet the NLRB's jurisdictional standards based on the volume of business.

Make-whole awards

Shortly after the U.S. Supreme Court had ruled, in *H. K. Porter,*[6] that the NLRB had no authority to compel an employer or a union to agree to a substantive contractual provision, an appeals court sharply rebuked the Board for not devising remedies more effective than the mere cease-and-desist orders to induce employers to bargain. It did so in *Tiidee Products, Inc.,*[7] which involved an employer who had "brazenly" refused to bargain in good faith.

In that case, after finding the employer guilty as charged, the NLRB had merely issued a bargaining order, rejecting the union's request for an award of damages allegedly sustained by it and by the employees as a result of the employer's conduct. This decision did not satisfy the appellate court and was returned to the Board for reconsideration, along with criticism of the Board's "progressive-only doctrine" and a suggestion that some kind of monetary award might be in order.

A few months later, in *Ex-Cell-O Corp.,*[8] the Board stated its position on the issue. In effect, it said, a make-whole award was nothing less than a method of compelling an employer to accept a substantial contractual term, a method that violated the *H. K. Porter* rule. This position emerged unchanged from the subsequent reconsideration of *Tiidee Products.*[9] The Board enlarged its previous decision only to the extent of charging the employer with the costs of the entire litigation.

The Board noted that, in remanding the case, the appellate court had not given it any specific order, merely urging it "to consider the advisability of make-whole remedy" (Board's language)—that is, to see if a monetary award could not be made on the basis of an assumed pay rate on which the parties *"could,"* rather than "*should,*" have agreed. Further, the Board noted, the court had suggested consideration of "such lesser alternative remedies as an award for excess organization costs caused [to the union] by the company's behavior, or for the costs of having to litigate a frivolous case," or both (in court's language).

Reaffirming its *Ex-Cell-O* position that it had no "statutory authority to grant the compensatory monetary remedy," the Board refrained from awarding backpay on the basis of a would-be agreement of the parties. It saw no distinction between "would" and "should" in this situation: ". . . We know of no way by which the Board could ascertain with an approximate accuracy from the [union's proposal on how to compute the backpay] what the parties 'would have agreed to' if they had bargained in good faith. Inevitably, the Board would have to decide from the above [proposal of the union] what the parties 'should have agreed to.' And this, the court said, the Board must not do."

The Board also declined to award the union's claim for excessive organization costs it allegedly sustained due to the company's conduct: "We find . . . no nexus between [the company's] unlawful conduct . . . and the union's preelection organizational expenses . . .," the Board said. Nor was the Board willing to compensate the union for the loss of initiation fees and dues it would have collected from the date of an agreement: "We view this claim as partaking of a request for make-whole remedy, which we have declined to order, since presumably the dues and fees sought would have come from lost wages. . . ." Furthermore, the company is not obligated to assume the union's risk of delayed collection of fees and dues, the Board said.

No-distribution rules

Distribution of union literature and solicitation of membership on company property are among the most frequent disturbers of labor-management relations. These are functions vital to employee representation and collective bargaining; yet many employers maintain rules forbidding such activities within the confines of their establishments. Although some unions contractually waive objections to such prohibition, no-distribution no-solicitation rules usually give rise to labor disputes and to litigation.

Of paramount concern to the NLRB and the courts in this matter is whether such a rule hinders employees in the exercise of their rights to self-organization and concerted activities for mutual benefit under section 7 of the Labor Management Relations Act. The exercise of these rights means freedom for employees to uphold or oppose their or any other union.

In 1963, the NLRB encountered a situation—in *Gale Products*[10]—where a union had contractually agreed to a rule barring distribution of any literature or solicitation of membership in any labor organization, including itself, at any time anywhere on the company's property. The Board disapproved of the union's waiver, saying, "The validity of a contractual waiver of employee rights must depend . . . upon whether the interference with the employees' statutory rights is so great as to override any legitimate reasons for upholding the waiver. . . ." Finding that "unlimited contractual prohibition [in this case] would unduly hamper the employees in exercising their basic rights under the act," the Board ruled: "We find . . . that the contract clause is invalid insofar as it prohibits any distribution of literature during nonwork time in nonwork areas and any solicitation of membership on nonwork time on behalf of a labor organization *other than the contracting union,* because it interferes with the employees' right freely to select their representatives as guaranteed by section 7 of the act. . . ." (Emphasis supplied.) Thus the Board deferred to the union's agreement on its own behalf, but not insofar as it extended the no-distribution, no-solicitation ban to other unions, possibly its rivals.

A court of appeals refused to uphold this decision, but the Board's views subsequently found appellate approval in other circuits in cases [11] involving the same basic issue. In one of those cases (*Machinists District 9*), however, the appellate court noted that the Board's solution in *Gale Product*s was not fair to all employees: it favored those who wished to reject the incumbent union, since it enabled them to distribute literature and solicit membership on behalf of another union, but deprived of freedom those who wished to uphold their union. The court then dictated an addition to the language of the Board's order in *Machinists District 9,* to say that the company could not maintain a rule prohibiting "any employee . . . from distributing literature *on behalf of any labor organization or in opposition to any labor organization* where, in either case, the activity occurs in nonworking areas during nonworking time." [12] (Emphasis added.)

In the present case (*Magnavox Co.*[13]), the NLRB modified its *Gale Products* rule by adopting the above language of the court of appeals (eighth circuit) in *Machinists District 9*. The Board defined the permissible literature as one "which pertains to: (1) employees' selection or rejection of a labor organization as the bargaining representative of the employees; or (2) other matters related to the exercise by employees of their section 7 rights." □

———*FOOTNOTES*———

[1] *Victor Hood* v. *Journeymen Barbers* (C.A. 7, No. 71-1534, January 10, 1972).

[2] *NLRB* v. *Ritchie Manufacturing Co.,* 354 F.2d 90 (C.A. 8, 1966).

[3] U.S. Sup. Ct., No. 70-267, February 23, 1972.

[4] In *Nash* v. *Florida Industrial Commission,* 389 U.S. 235, 238 (1967); see *Monthly Labor Review,* February 1968, pp. 67–68.

[5] Cited from *John Hancock Mutual Insurance Co.* v. *NLRB,* 191 F.2d 483, 485 (C.A.-D.C., 1951).

[6] 397 U.S. 99 (1970); see *Monthly Labor Review,* May 1970, pp. 71–72.

[7] 426 F.2d 1243 (C.A.-D.C., 1970); see *Monthly Labor Review,* July 1970, pp. 71–72.

[8] 185 NLRB No. 20 (1970); see *Monthly Labor Review,* November 1970, pp. 52–53.

[9] *Tiidee Products, Inc.* and *International Union of Electrical Workers,* 194 NLRB No. 198 (supplementing 174 NLRB 704, 1969), January 24, 1972.

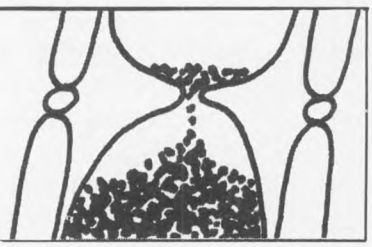
[10] 142 NLRB 1246 (1963); enforcement denied 337 F.2d 390 (C.A. 7, 1964)—see *Monthly Labor Review,* December 1964, p. 1431.

[11] *NLRB* v. *Mid-State Metal Products, Inc.,* 403 F.2d 702 (C.A. 5, 1968); *Machinists District 9* v. *NLRB,* 415 F.2d 113 (C.A. 8, 1969).

[12] *Machinists District 9,* ibid., at 116.

[13] *The Magnavox Co. of Tennessee* and *International Union of Electrical Workers,* 195 NLRB No. 40, January 31, 1972.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in June 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
Allen Contracting Co., Walt Disney World Project Agreement (Orlando, Fla.)	Construction	Building and Construction Trades Council, and Teamsters (Ind.).	1,000
Allied Building Metal Industries, 2 agreements (New York):			
5 counties of New York City and Westchester, Nassau, and Suffolk Counties	do	Iron Workers	1,100
Metropolitan District	do	do	1,150
Allied Underwear Association, Inc. (New York, N.Y.)	Apparel	Ladies Garment Workers	6,000
Armstrong Cork Co. (Macon, Ga.)	Paper	Cement Workers	1,200
Associated Brick Mason Contractors of Greater New York, Inc. (Nassau and Suffolk counties, N.Y.).	Construction	Laborers	2,000
Associated General Contractors of America, Inc.:			
Alaska Chapter, 3 agreements	do	Building and Construction Trades Department of AFL-CIO.	2,300
		Carpenters	2,000
		Teamsters (Ind.)	2,000
Houston Chapter and 1 other association (Texas)	do	Laborers	7,000
Lake Charles Chapter, 2 agreements (Louisiana)	do	Carpenters	1,400
		Laborers	1,500
Mississippi Gulf Coast Chapter, 2 agreements	do	Carpenters	1,400
		Laborers	1,000
Mobile Chapter (Alabama and Florida)	do	Building and Construction Trades Council.	7,000
Pennsylvania Builders Chapter and 1 other association	do	Laborers	1,000
Rhode Island Chapter	do	Carpenters	1,500
Southern California and San Diego Chapters	do	Plumbers	3,000
Utah Chapter, 2 agreements	do	Carpenters	1,050
		Operating Engineers	1,250
Associated General Contractors of Massachusetts, Inc., and 2 other associations:			
(Boston area)	do	Carpenters	4,350
(Newton area)	do	do	1,000
Atlanta Transit System, Inc. (Atlanta, Ga.)	Transit	Amalgamated Transit Union	1,000
Bell Aerospace Corp.:			
Bell Aerosystems Co. Division (Niagara and Erie Counties, N.Y.)	Transportation equipment	Auto Workers (Ind.)	1,900
Bell Helicopter Co. Division (Ft. Worth, Tex.)	do	do	6,600
Builders' Association of Chicago (Chicago, Ill.)	Construction	Laborers	14,900
Building Material Industry Contract (New York)[2]	Retail trade	Teamsters (Ind.)	1,000
Building Contractor's and Mason Builders' Association of Greater New York (New York)	Construction	Elevator Constructors	2,800
Building Trades Employers Association of Central New York, Inc. (New York)	do	Laborers	1,000
Building Trades Employers Association of Long Island, Inc., 2 agreements (New York)	do	Laborers	2,950
		Operating Engineers	2,400
Brown Company and Brown-New Hampshire, Inc., (New Hampshire)	Paper	Pulp, Sulphite Workers	1,500
Carpenters' Agreement (New York)[2]	Construction	Carpenters	3,300
Cement League, 3 agreements (New York, N.Y.)	do	Laborers	5,050
		Lathers	1,500
		Plasterers	1,500
Chicago Pneumatic Tool Co. (Utica, N.Y.)	Machinery	Machinists; and Molders	1,800
Confectioners Industrial Relations Board, Inc. (New York and New Jersey)	Food products	Bakery Workers	4,500
Contracting Plasterers' Association of Greater New York (New York)	Construction	Plasters and Cement Masons	1,200
CPC International, Inc., Central Labor Agreement (Interstate)	Food products	Oil, Chemical and Atomic Workers	3,500
Detroit Edison Co. (Detroit, Mich.)	Utilities	Utility Workers	3,700
Detroit Mason Contractors' Association, Detroit Chapter, Inc. (Detroit, Mich.)	Construction	Bricklayers	2,300
Dow Chemical Co., Texas Division, 2 agreements (Freeport, Tex.)	Chemicals	8 craft unions; and	1,000
		Operating Engineers	2,600
Dry Cargo and Tanker Agreement (Interstate)	Water transportation	Marine Engineers	4,400
East Bay Automotive Dealers, Inc. (California)	Services	Machinists; Painters; and Teamsters (Ind.).	2,000
Empire State Cloth Hat and Cap Manufacturers Association, Inc. (New York, N.Y.)	Apparel	Hatters	2,100
Employing Metallic Furring and Lathing Association of New York (New York)	Construction	Lathers	1,500
Ethyl Corp., Oxford Paper Co. Division (Rumford, Maine)	Paper	Papermakers and Paperworkers	2,600
Excavating Contract (New York, N.Y.)[2]	Construction	Teamsters (Ind.)	1,000
Fieldcrest Mills, Inc., (North Carolina and Virginia)	Textiles	Textile Workers Union	5,500
Franklin Association of Chicago (Chicago, Ill.)	Printing and publishing	Typographical Union	2,800
GAF Corp., Ansco Division (Binghamton, N.Y.)	Instruments	Chemical Workers	1,900
General Contractors Association (New York, N.Y.)	Construction	Laborers	3,300

See footnotes at end of table.

Major agreements expiring next month—Continued

Company and location	Industry	Union [1]	Number of workers
General Contractors Association of New York, Inc. (New York)	do	Operating Engineers	2,500
General Dynamics Corp.:			
Electric Boat Division (Groton, Conn.)	Transportation equipment	Metal Trades Council	8,200
Pomona Division (Pomona, Calif.)	Ordnance	Machinists	3,000
General Telephone Co. of Pennsylvania (Pennsylvania)	Communication	Electrical Workers (IBEW)	1,850
Greater New York Food Employers' Labor Relations Council (New York, N.Y.)	Retail trades	Meat Cutters	6,000
Greater Blouse, Skirt & Undergarment Assn., Inc., (New York)	Apparel	Ladies' Garment Workers	4,500
Hammermill Paper Co., Erie Division (Erie, Pa.)	Paper	Papermakers and Paperworkers	1,450
Hercules, Inc., Imperial Color & Chemical Department (Glens Falls, N.Y.)	Chemicals	District 50, Allied and Technical (Ind.)	1,150
Hotel Employers Association of San Francisco (San Francisco, Calif.)	Hotels	Hotel and Restaurant Employees, and Service Employees.	5,000
Independent Dockbuilders Agreement (New York, N.Y.)[2]	Construction	Carpenters	1,600
Industrial Relations Council of Furniture Manufacturers in Southern California (California).	Furniture	do	1,050
Ingersoll-Rand Co. (Athens, Pa.)	Machinery	Machinists	1,200
Iron League of New York, Inc. (New York)	Construction	Operating Engineers	1,300
Kansas City Power and Light Co. (Kansas and Missouri)	Utilities	Electrical Workers (IBEW)	1,050
John Hancock Mutual Life Insurance Co. (Interstate)	Insurance	Insurance Workers	7,000
Kennametal, Inc. (Pennsylvania)	Machinery	Auto Workers (Ind.)	1,050
Knitted Outerwear Manufacturers Association, Pennsylvania District (Pennsylvania)	Textiles	Ladies' Garment Workers	7,800
League of Voluntary Hospitals and Homes of New York (New York, N.Y.)	Hospitals	Retail, Wholesale and Department Store Union.	20,000
Lingerie Manufacturers Association of New York, Inc. (New York, N.Y.)	Apparel	Ladies' Garment Workers	14,000
Long Island Builders Institute, Inc., Labor Section (Nassau and Suffolk Counties, N.Y.)	Construction	Laborers	3,000
Los Angeles Laundryowners' Association (California)	Services	Laundry and Dry Cleaning Union	5,000
Lumber Employers Council (California)	Lumber	Carpenters	1,200
Magnavox Co. of Tennessee (Jefferson City, Tenn.)	Furniture	Electrical Workers (IUE)	1,800
Massachusetts Institute of Technology, and Draper Laboratory (Cambridge, Mass.)	Educational Services	Research, Development and Technical Employees' Union (Ind.).	1,300
Master Carpenters' Association and the Cement League (New York, N.Y.)	Construction	Carpenters	1,500
Mechanical Contractors' Association of New York, Inc. (New York)	do	Plumbers	4,200
Miehle-Goss-Dexter, Inc., Goss Co. Division (Chicago, Ill.)	Machinery	Machinists	1,800
Negligee Manufacturers Association of New York, Inc. (New York, N.Y.)	Apparel	Ladies' Garment Workers	14,000
Pacific Maritime Association (Interstate)	Water transportation	Seafarers	13,700
Painting and Decorating Employers' Association of Boston (Boston, Mass.)	Construction	Painters	1,300
Pan American World Airways, Inc., Clerical (Interstate)[3]	Air transportation	Teamsters (Ind.)	8,100
Pan American World Airways, Inc., Supply Clerks (Interstate)[3]	do	do	1,150
Philadelphia Container Association (Philadelphia, Pa.)	Paper	Pulp, Sulphite Workers	1,300
Phillips-Van Heusen Corp. (Pennsylvania)	Apparel	United Garment Workers	1,250
Plumbing-Heating and Piping Employers Council of Northern California and 1 other association (California).	Construction	Plumbers	1,000
Plumbing-Heating and Piping Employers Council of Southern California (California)	do	Plumbers	6,000
Potlatch Forests, Inc. (Idaho)	Lumber	Woodworkers	2,600
Reliance Electric Co. (Ohio)	Electric products	Electrical Workers (IUE)	1,550
Sheet Metal Contractors Association of New York City, Inc., and 1 other association (New York).	Construction	Sheet Metal Workers	3,400
Sheet Metal and Air Conditioning Contractors Association of Southern California, Inc., and 1 other association (California).	do	do	3,800
Sheet Metal and Air Conditioning Contractors National Association, Inc., (St. Louis, Mo.).	do	do	1,250
Sherwin-Williams Co. (Chicago, Ill.)	Chemicals	Oil, Chemical and Atomic Workers	1,200
Sperry Rand Corp., Univac Division (Utica, N.Y.)	Machinery	Machinists	1,200
Standard Freightship Agreement (Interstate)[2]	Water transportation	Seafarers	9,200
Sunshine Biscuits, Inc. (Sayreville, N.J.)	Food products	Bakery Workers	1,100
Tanker Agreement (Interstate)[2]	Water transportation	Marine Engineers	2,200
Timex Corp., Westclox Division (Peru, Ill.)	Instruments	District 50, Allied and Technical (Ind.)	2,250
TRW Inc., J. H. Williams & Co. Division (Buffalo, N.Y.)	Fabricated metal products	Steelworkers	1,000
Union Carbide Corp. (Oak Ridge, Tenn.):			
Nuclear Division, Oak Ridge National Laboratory	Chemicals	Atomic Trades and Labor Council	1,000
Nuclear Division, Y–12 Plant	do	Atomic Trades and Labor Council; and Machinists.	3,550
United Airlines, Inc., Pilots (Interstate)[3]	Air Transportation	Air Line Pilots	6,500
United Illuminating Co. (Connecticut)	Utilities	Utility Workers	1,000
Woodward & Lothrop, Inc. (D.C., Maryland, and Virginia)	Retail trade	The Union of Woodward & Lothrop Employees (Ind.).	5,500
Wrecking Contractors Association of the City of New York (New York)	Construction	Laborers	1,050
Zenith Radio Corp. (Chicago, Ill.)	Electrical products	Independent Radionic Workers of America (Ind.).	10,000

[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

Pay Board walkout

On March 22, AFL–CIO President George Meany, Steelworkers' President I. W. Abel, and Machinists' President Floyd Smith resigned from the Pay Board. Mr. Meany said the Board offered labor "no hope for fairness, equity, or justice." He added, "We will not be a part of the window dressing for this system of unfair and inequitable government control of wages for the benefit of business profits."

In response, the White House declared that "the stabilization program will continue and wage-price controls will continue." White House Press Secretary Ronald L. Ziegler added, "The President is not going to allow a few labor leaders to sabotage the fight against inflation." The resignations followed a special AFL–CIO Executive Council meeting convened after the Board's paring of the west coast longshore settlement. The Council assailed the Administration's stabilization effort, calling Phase 2 "nothing more than a device to make the average worker and consumer both the victim and the goat, while the banks and big businesses pile up increasing profits." The Council claimed the Board wasn't really a tripartite body and that the "so-called public members are neither neutral nor independent" and, as a result, the Board had been dominated and run by a "coalition of business and public members."

Pay Board Chairman Judge George H. Boldt countered that "each of the public members states categorically that there hasn't been any attempt by Administration officials to influence any votes by the public members." Judge Boldt said labor members had sided with the majority in 36 of 54 key board votes—and that labor's position had "prevailed" in 5 of 8 major wage cases.

President Nixon said he could not "permit any leader representing a special interest, no matter how powerful, to torpedo and sink a program which is needed to protect the public interest." He announced that the Pay Board would continue to function "but as a single public unit, with those labor leaders who wisely wish to remain on it balanced by a reduced number of business leaders."

Teamsters' President Frank E. Fitzsimmons announced he would remain on the panel "as long as the basic rights of workers are protected," adding, "We can best speak for the 2 million Teamsters members by participating in Pay Board activities." The next day, Auto Workers' President Leonard Woodcock called on Congress to investigate the "scandalous and unfair" administration of the Economic Stabilization Act and announced that he was quitting the Board.

In line with the President's announcement, four business members left the Board, with Rocco Siciliano remaining as the sole business member. The five original public members also remained on the Board. They were Chairman George H. Boldt, Arnold Weber, former director of the Cost of Living Council, Neil H. Jacoby, a professor at the University of California at Los Angeles, William Caples, president of Kenyon College, and Kermit Gordon, president of the Brookings Institution.

By a vote of 8 to 5 (with labor members united in opposition), the Board had reduced the first-year wage and benefit provisions of the 18-month longshore settlement by about one-fourth, to 14.9 percent. It had put the first-year cost of the original package at 20.9 percent. The panel left intact the 4.9-percent increase in "excludable" fringes, such as pension and insurance improvements. The first-year increase in wages and includable fringes were therefore reduced from the Board's estimate of 16 percent

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"Developments in Industrial Relations" is prepared by Leon Bornstein 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.

to 10 percent. Although considerably above the Board's own general guideline, the approved increase was defended as a "catch-up" exception, further warranted by increased productivity over the past 10 years resulting from the industry's Mechanization and Modernization Program.

Fringe benefits guidelines set

In an 8–0 vote (with all 5 labor members abstaining), the Pay Board spelled out a formula for allowable increases in fringe benefits. The action was taken to implement a section of the Economic Stabilization Act of 1970, as amended, which stipulates that employer contributions for pension, profitsharing, annuity and savings, group insurance, and disability and health plans shall not count against wage and salary guidelines unless "unreasonably inconsistent" with the guidelines. The Board said employer contributions to such plans will not be considered unreasonably inconsistent if they are necessary to maintain benefits at current levels. Further, employer contributions for new benefit plans or improvements in existing plans would not count against the guidelines if they do not exceed the "exempted benefit standard" for an employee unit.

The "exempted benefit standard" was set at 0.7 percent of the wage base (including the exempted fringe benefits), which could be added to the 5.5-percent pay standard, but the 0.7 percent must consist only of expenditures for exempted fringes. In addition, a "catch-up" increase of up to 1.5 percent is permissible in cases where fringes have not been added or improved in 3 years.

In another exception, the Board ruled that where employer expenditures for fringes amount to less than 10 percent of total compensation costs, a fringe increase of up to 5 percent could take effect, as long as the increase does not raise fringe costs above 10 percent of total costs. (For instance, if current fringe costs amount to 4 percent of total compensation, a full 5 percent could be added, but if current costs amount to 7 percent, only 3 percent could be added.)

The Board also announced it had unanimously agreed to exempt from its 5.5-percent standard money earned by professional athletes in all-star games and playoffs. The resolution was described as an "interim ruling" by the Board, which is considering the entire question of wage and salary rules for professional sports. The exemption also applied to coaches and assistants.

Wage guide violation charged

On February 24, the Justice Department filed its first suit charging violation of Pay Board wage-salary regulations. It contended the Great Atlantic and Pacific Tea Co. and Baltimore Local 117 of the Amalgamated Meat Cutters and Butcher Workmen had violated the Board's 5.5-percent annual standard by implementing a November 21 agreement that provided for wage increases averaging about 22 percent over 16 months for 77 employees of an A&P plant in Baltimore. The Department was seeking $5,000 in civil penalties from the company and leaders of the local. Union Secretary-Treasurer Patrick E. Gorman contended the package was justified because it was a "catchup pay adjustment for the last group of workers in our collective bargaining pattern in that area."

Pay raise rolled back

Donald Rumsfeld, director of the Cost of Living Council, announced the first "voluntary compliance" case in which a pay agreement was rolled back to the Pay Board's 5.5-percent guideline. The rollback affected a December 16, 1971, settlement between the Graphic Arts Association of Michigan, Inc. (42 printing firms in the Detroit area) and Detroit Local 18 of the International Typographical Union. The contract had provided for a 16.5-percent pay increase retroactive to November 15, prompting Graphic Arts to instruct its member employers to pay only the allowable 5.5 percent, while holding the remainder in reserve until the Board ruled on an exception request. When the Board denied the exception, the union threatened to strike, and 22 of the companies began paying the 16.5 percent in January. Under the rollback, Graphic Arts and the union agreed to an end to such payments and to restitution of any already made. The restitution was being handled by payroll deduction and vacation pay adjustments.

Ohio acts on pay option

Ohio Governor John Gilligan announced that 56,000 State employees would receive a pay raise of 10 percent or 38 cents an hour, whichever is greater,

effective in mid-March. In January, the Governor had signed a bill providing for the increase to be retroactive to November 14, 1971, but this was rejected by the Pay Board. The increase selected by the Governor was one of two alternatives suggested by the Board. The other would have been to grant a 7-percent increase retroactive to November 14.

The Board calculated that over the 12-month period ending November 14, 1972, the 10-percent or 38-cent increase was equal to the alternate 7 percent, because the former would be in effect for a shorter period. Although the Board has a 5.5-percent annual standard, it allows "exceptions" up to 7 percent. In this case, the 7 percent was allowed because pay increases in the prior 3 years had not averaged 7 percent annually. Under the alternative selected by Governor Gilligan, the amount in excess of 7 percent (3.6 percent, according to the Board, and 3 percent, according to the Governor) would be deducted from any increase approved for the 12 months beginning November 14, 1972.

Penn Central unveils layoff plan

On March 16, the Penn Central announced that on April 1 it would begin phasing out 6,000 of its 18,000 conductors and brakemen because they were "unneeded for the safe and efficient" operation of its 3,000 daily trains. The announcement came after 9 months of deadlocked bargaining between the carrier and the United Transportation Union over crew size within the framework of a reorganization of the bankrupt railroad. The trustees of Penn Central had been trying to reduce the basic freight crew from 5 to 3, a step the carrier said would save about $98 million a year, after severance payments to dismissed workers. A. H. Chesser, president of the UTU, said the "union will not hesitate" to retaliate if workers were laid off.

On March 31, President Nixon signed an Executive Order under the Railway Labor Act barring a walkout for 60 days. The order created a 3-member factfinding board to hold hearings and make recommendations on the dispute within 30 days. Under the act, the parties would have another 30 days to review the recommendations and reach agreement. The union then would be free to strike if there was no Congressional intervention. A similar order postponed for 60 days a possible walkout by 6,000 Sheet Metal Workers against the Nation's railroads in a dispute over pay and work rules.

Rubber workers give up 36-hour week

The 6-day, 36-hour workweek ended for Firestone Tire and Rubber Co. employees in Akron, Ohio, as the Rubber Workers agreed to convert to a 5-day, 40-hour week. The 6-day schedule was instituted during the Depression, to spread the available work at Firestone and other rubber companies in Akron. Local union leaders conceded that the company's profit on its Akron plants was unsatisfactory and backed the schedule change as part of a plan to increase productivity and stabilize employment. Employment had dropped by a reported 7,000 since 1967 (to 13,000) among union members at Firestone, Goodyear, and B. F. Goodrich, as the companies phased out some Akron facilities and opened new plants in other locations. (Bargaining on work rule changes was also under way at Goodyear and Goodrich.)

Under the new workweek, employees will be paid for the additional 4 hours of work at their existing hourly rates. Other terms of the settlement included

Hourly Earnings Index

The Hourly Earnings Index rose 0.8 in March to 135.5. 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 March 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	[1] 134.7
March	111.4	118.8	127.3	[1] 135.5
April	112.0	119.3	128.1	....
May	112.7	120.0	129.1	....
June	113.3	120.6	129.3	....
July	113.9	121.4	130.0	....
August	114.4	122.5	130.9	....
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	....

[1] Preliminary.

adoption of an annual 2-week summer vacation shutdown (employees entitled to more than 2 weeks will take the balance at other times); payments to pieceworkers for unrated work at the individual's average hourly earnings, instead of the average for all employees in his classification; and the option by senior employees to be laid off rather than bump junior employees. (Under the Supplemental Unemployment Benefit Plan, laid-off employees receive company and State payments totaling 80 percent of base pay.)

New multicraft contract

Continuing their efforts to reduce the construction industry's unemployment and work stoppage problems, 16 unions and 19 employer associations in the Detroit area agreed to a multicraft contract that provides for a $1 an hour increase over 2 years. The increase, to be allocated between wages and benefits at the discretion of each of the trades, amounted to about 10 percent over the term, based on reported average hourly compensation of about $9.60 an hour. This was about half the gain provided for by the 2-year contract scheduled to expire June 1, 1972. The parties initiated the multicraft approach in 1970 to eliminate the need for individual bargaining with each union, which had resulted in many work stoppages and a tendency for each craft to attempt to gain a better contract than those that had already settled.

The new contract, subject to approval by the Construction Industry Stabilization Committee, also called for no strikes or lockouts and for binding arbitration of work allocation disputes. A number of unions that did not participate in the multicraft bargaining were expected to settle along similar lines, as they did in 1970.

Jack Wood, secretary-manager of the Greater Detroit Building Trades Council, said the contract should reduce unemployment in the area, which he estimated at 10 to 20 percent for building tradesmen.

In another effort to create jobs and stimulate business, 13 Cleveland construction unions agreed to ease work and pay rules for Allcraft Corp., formed by 4 construction firms to provide maintenance and renovation services to factories, institutions, and utilities. New construction is not covered by the agreement. While working for Allcraft, members of the unions will receive time and one-half pay after 8 hours a day (rather than their regular double time), those on the second shift will work 7½ hours rather than 7 hours for 8 hours of pay, and those on the third shift will work 7½ hours for 8, rather than 9, hours of pay. When workers are guaranteed 40 hours of weekly work for 3 months, the firm will be permitted to stagger workweeks. As a result, weekend work will usually be paid at straight-time rates, rather than overtime rates. Finally, employees will be allowed to cross traditional craft lines on an emergency basis.

Charles R. Pinzane, president of the Cleveland Building and Construction Trades Council, said the concessions would help to reduce unemployment among area construction workers, which he estimated at 20 percent.

Kaiser's cost-savings plan revised

A 43-day strike at Kaiser Steel Corp.'s Fontana, Calif., plant ended in mid-March when 6,500 Steelworkers voted to accept a revised "long-range sharing plan." The new plan continued two cost-savings sharing groups, but one would be guaranteed a minimum of 10 percent of its base hourly wage in sharing-plan earnings, with the other guaranteed a minimum of 15 percent. (The previous plan did not have guarantees.) The company also said that cost increases would not be carried forward and applied against cost savings, as in the past, and the cost of regular and extended vacations and Supplemental Unemployment Benefits would no longer be deducted from the employees' portion of the plan's gains.

The walkout began over employee demands for revisions in the plan, established in 1963 to provide bonuses to employees by allowing them to share in production-cost savings at the plant. In recent years, the employees' annual bonuses under the plan reportedly averaged about $100, compared with about $700 in the earlier years. Because of the smaller bonuses, many employees were asking for a provision that would permit them to return to individual incentive pay coverage. Over the years, the percentage of employees on incentive pay had declined to 42, as employees switched to the long-range sharing plan, open only to nonincentive workers. This contrasts with the other major producers, where the Steelworkers recently negotiated a series of agree-

ments carrying out a requirement of the 1970 basic steel contract (and a subsequent arbitration ruling) that at least 85 percent of production workers be covered by incentive systems.

Florida farm workers sign

The first labor contract for migrant farm workers in Florida was signed on February 29 by the Coca-Cola Company's Food Division, which produces Minute Maid and other brands of citrus products, and the United Farm Workers Organizing Committee. The agreement was the union's first since it began an organizing drive in the Southeast about 6 months ago. The drive is being backed by the AFL–CIO, which recently granted the union a charter (*Monthly Labor Review*, April 1972, p. 58). Until last year, the 30,000-member union had limited its organizing efforts to California and the Southwest.

Union President Cesar Chavez said he hoped the agreement "will break the dam for our movement in Florida." Fred Adkinson, president of the Citrus Industrial Council, denounced it as "an absentee-type contract between a union, with no roots in the area in which it is operating, and a huge conglomerate company" and asserted it was signed "only because of the threat of a boycott on a nationally known product (Coca-Cola)." Both parties denied the allegation.

Under the settlement, the 300 full-time employees will receive 45 cents an hour in wage increases over the 3-year term (including 25 cents immediately), bringing their minimum and maximum rates to $2.25 and $3.70, and they will be guaranteed year round income of $50 a week. The 900 seasonal pieceworkers will receive an immediate 5-cent increase in the amount paid for each box of fruit. Both regular and seasonal workers will receive overtime pay for work in excess of 10 hours a day or 50 hours a week. Regular employees will receive 9 paid holidays, 10 paid sick days and 2 to 4 weeks of vacation annually, life and medical insurance coverage, pensions and other benefits. The benefit package for seasonal workers who work at least 100 days a year was reportedly about half of that for regular workers.

A small "break in the dam" did follow, as the union settled along similar lines with H. O. Hood and Sons, Inc., for 300 citrus workers.

The union was continuing its 2-month strike to gain recognition from another firm, Talisman Sugar Corp. The strikers, who had been machine operators, asserted they had been replaced by Jamaican laborers originally hired only to cut sugar cane.

Job bias suit settled

The Justice Department charged the Nation's largest consumer finance company, Household Finance Corp., with discriminatory employment and lending practices. The Department said a suit against HFC and a consent agreement settling the action were filed simultaneously in Federal District Court in Chicago. The agreement requires the company to hire more women and members of racial minorities and pay over $125,000 in back wages to 175 women employees allegedly denied promotions because of their sex. It also requires HFC to grant equal borrowing opportunities to blacks, Spanish-surnamed persons, and American Indians.

The Department said the suit "broke new ground in several legal areas," namely, as the first Government action to charge discrimination in lending, to allege bias against Indians under the 1968 Fair Housing Act, and to seek backpay in a sex discrimination case. Arthur E. Rasmussen, HFC chairman and president, said the company in the past had undertaken "a number of affirmative efforts to increase utilization of minority personnel and females."

In another suit by the Justice Department, Local 5 of the International Union of Elevator Constructors was charged with interfering with the "Philadelphia Plan" for increasing minority employment in federally assisted construction projects. The suit, filed in Philadelphia, accused the local of excluding blacks from union membership and thus denying them construction jobs. The Department was seeking an injunction barring the local from allegedly refusing to recruit blacks.

Maternity pay sought

In Salem, Va., 7 female employees of a General Electric Co. plant accused the company of sex discrimination because it refused to pay them disability benefits for absences resulting from pregnancy and childbirth in 1971. They asserted that this was a violation of Title 7 of the Civil Rights Act of 1964, because GE paid benefits to male employees "for

every kind and type of sickness and accident. . . ." The women, members of Local 161 of the Electrical Workers (IUE), were joined in the suit by the local and the international union. (The union's national agreement with GE provides benefits up to 60 percent of wages for up to 26 weeks.) The suit, filed in Richmond, asked for an injunction directing GE to pay the benefits to the 7 plaintiffs and to other women employed by GE, as well as damages, court costs, and attorney fees.

Minority hiring plan

Trans World Airlines, acting as project manager for itself and two other carriers, announced the signing of a Newark (N.J.) Airport terminal construction contract with "unprecedented" provisions for minority-group employment. Minority representation in the work force would be 30 to 37 percent of the journeymen and 50 percent of the apprentices. TWA said the three airlines would fund a training program and that a review council, believed to be the first in the construction industry, would oversee the minority-hiring program.

The $22-million contract covers interior construction at the airport's Terminal A, which will also house the operations of United Air Lines and Piedmont Airlines. Tishman Realty and Construction Co. will be the construction manager, overseeing the 40 subcontractors. In addition to the three airlines, the review council includes representatives of the Port of New York Authority, the Newark area, the Building Contractors Association of New Jersey, the unions and other airport tenants. The council was to receive names of eligible workers and refer them to the subcontractors.

130,000 get public service jobs

On February 17, Secretary of Labor J. D. Hodgson announced that 130,000 men and women were working in public service jobs under the $1 billion Emergency Employment Act (*Monthly Labor Review,* October 1971, p. 73). He said that "from a standing start in August—when the President approved the appropriations bill—the Manpower Administration has disbursed nearly $1 billion to States and localities, enabling them to hire tens of thousands of jobless people and provide urgently needed public services at the same time."

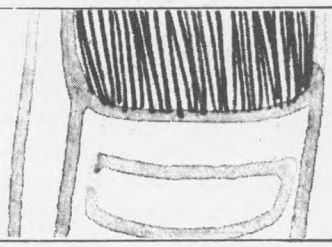
As of mid-February, $981 million had been allocated to States, counties, cities, and Indian intertribal councils designated as program agents. The remaining $19 million was for Federal administration and evaluation costs. The jobs created under the Public Employment Program (PEP) were in more than 17,000 agencies.

Drug and alcohol abuse program

A joint program to treat drug and alcohol abuse was announced in February by American Motors Corp. and the Auto Workers. The new voluntary program, available to the firm's 11,000 workers in Milwaukee and Kenosha, Wis., implements a provision of the labor contract negotiated in April 1971.

A six-member committee will establish company-wide policies and monitor the progress of local plant programs. The local effort will be directed by a four-member committee, which will arrange for treatment of abusers at appropriate community facilities. Both the national and local committees will develop informational materials and educational programs. □

Book Reviews and Notes



English economic orthodoxy

Autobiography of an Economist. By Lord Robbins. London, Macmillan London Ltd., 1971. 301 pp. $10, St. Martin's Press, New York.

"The age of chivalry is gone. That of sophisters, economists, and calculators has succeeded and the glory of Europe is extinguished forever." Thus said Edmund Burke in his "Reflections on the Revolution in France." If that was the company economists were supposed to keep at the end of the 18th century, how much more plausible is it that, in the late 20th, with the numerical elements of the subject lording it over the literary, economists should be regarded as no better than number-jugglers.

Lionel Robbins' autobiography serves to show the falsity of any such generalization. Chivalry, at least in the sense of an intensely personal obligation to adhere to high moral, social, and intellectual standards, is its essence. Ideas, objectives, and controversies are not disembodied and abstract, as they might be in academic writing; they are aspects of the way in which men, and Robbins in particular, manage to deal with events. So this is to an extraordinary degree a tale of people, told mostly with affection and nearly always with generosity. Its index is a list of proper names, and scarcely a single numeral intrudes upon its vigorous prose and candid judgments.

It is, as its title suggests, a professional and not an intimate autobiography. For economists, the student of 1920 at the London School of Economics, who in 1968 became the Chairman of its Court of Governors, has a story to tell that is centered on an institution with few peers for its seriousness of purpose, intellectual adventure, and international eminence. However, the story is much more than a review of celebrity. For the general reader, it is a statement of what it has meant to one man to be in public life. The range of interest and of responsibility is a lesson to everyone, on either side of the Atlantic Ocean, at this present time.

In remembrance of his youth, Robbins pays homage to his family, and describes his experiences in World War I and his disenchantment with new social ideologies. Then, without ambiguity, he declares his commitment, through the intellectual disciplined freedom of the London School, to the lifelong de-

Books reviewed in this issue

Lord Robbins. *Autobiography of an Economist*. Reviewed by John Henderson.

Guido Calabresi. *The Costs of Accidents—A Legal and Economic Analysis*. Reviewed by Jeffery Cohelan.

Gordon Tullock. *The Logic of the Law*. Reviewed by Harry H. Wellington.

Michael Tanzer. *The Sick Society: An Economic Examination*. Reviewed by Kendall P. Cochran.

Joel F. Handler and Ellen Jane Hollingsworth. *The "Deserving Poor"; A Study of Welfare Administration*. Reviewed by Daniel S. Hirshfield.

Ivan H. Light. *Ethnic Enterprise in America: Business and Welfare Among Chinese, Japanese, and Blacks*. Reviewed by Andrew M. Greeley.

M. Y. Yoshino. *Japan's Managerial System. Tradition and Innovation*. Reviewed by Edgar W. Moore.

Milton I. Roemer and Jay W. Friedman. *Doctors in Hospitals: Medical Staff Organization and Hospital Performance*. Reviewed by Harry I. Greenfield.

Robert E. Sibson. *Managing Professional Services Enterprises: The Neglected Business Frontier*. Reviewed by M. K. Badawy.

S. Fred Singer, editor. *Is There An Optimum Level of Population?* Reviewed by Fred Cottrell.

Richard E. Sherrell, editor, *Ecology, Crisis and New Vision*, and Warren A. Johnson and John Hardesty, editors. *Economic Growth vs. the Environment*. Reviewed by Lynton K. Caldwell.

Albro Martin. *Enterprise Denied: Origins of the Decline of American Railroads, 1897–1917*. Reviewed by Darold T. Barnum.

Harold W. Aurand. *From the Molly Maguires to the United Mine Workers: The Social Ecology of an Industrial Union*. Reviewed by Joel Seidman.

Brit Hume. *Death and the Mines: Rebellion and Murder in the United Mine Workers*. Reviewed by Gerald G. Eggert.

fense of economic liberalism and the ideals of a free society.

As stated in the autobiography, that defense was much more vigorous and pragmatic than might have been expected of the author of the *Essay on the Nature and Significance of Economic Science*—a rather austere treatise on how an economist would compromise the objectivity of his work by overtly or inadvertently acting as an adviser on policy.

A brief but furious row with Keynes about tariffs, on a committee of the British Government's Economic Advisory Council in 1930; a contribution to the celebrated 1944 White Paper on Employment Policy (which provokes Robbins now to italicized opposition to a general incomes policy); a British view of the Bretton Woods negotiation; and a recanting of opposition to the European Economic Community ("better to have been a signatory to the Treaty of Rome than a belated applicant for admission")—these are a few episodes on which Robbins' comments have a remarkable contemporary relevance.

The chronicle ends with the student riots at the London School of Economics in 1968–69. In fact, Robbins undertook the writing of his autobiography as a means of release and relief from the responsibilities of those times. To many students, it seems, Robbins must personify The Establishment. The public can feel grateful that the troubles generated such a byproduct—a practical defense of orthodoxy.

—JOHN B. HENDERSON

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Asking the right questions

The Costs of Accidents—A Legal and Economic Analysis. By Guido Calabresi. New Haven, Conn., Yale University Press, 1970. 340 pp. $10.

Yale Professor Guido Calabresi has written a most important and timely work. This book has already provided scholars in the field—and happily key staffs of both State and national legislators—with a rational framework for evaluating different systems of accident law. For just as there is said to be a health care crisis in this country, it is becoming increasingly evident that present fault systems of accident law are inadequate to the task of coping with the mounting costs of automobile accidents. As with health costs, accident costs are out of control. Something has to be done. Every legislature in the country is toying with a change in the system in order to respond to growing political pressures for some kind of reform.

This compact volume of over 300 pages contains an excellent bibliography, a helpful analytical table of contents, and a standard index. It is no exaggeration to say that this book breaks new ground. It is a fresh and innovative work and requires study, as opposed to mere reading. The use of economic analysis as a tool should set a pattern for a study of a variety of other law policy issues. Without doubt the book will have its greatest appeal among the professionals; however, it should attract a much broader audience, especially those citizens and lay groups who have shown great concern for legal reform and consumer welfare.

The author's objective is stated early in the book following a description of several well-known reform models, along with their more obvious defects. He goes on to state, "the time has come for a full reexamination of what we want a system of accident law to accomplish and for an analysis of how different approaches to accidents would accomplish our goals." Professor Calabresi does not claim that his analysis should be the basis for an all-inclusive system of accident law. Instead, he modestly limits the scope of his study to, in his words, "determine what goals are best accomplished by what types of systems, what systems are best suited for dealing with combinations of goals, and what systems are most suitable in areas where one goal predominates."

What are the goals and subgoals of accident law? Professor Calabresi reminds us that while justice is an essential goal, it is difficult to analyze. He suggests that another goal, cost reduction, being more susceptible to quantification and analysis, can lead us to a means of highlighting the needs for fairness revealed by the injustices of the current system. He stresses "that the main goal is the maximum reduction of the sum of accident costs and the costs of avoiding accidents that can be accomplished in a just way."

Analysis of the fault system by the author makes it clear that policymakers must reject the system if they would reform it. In spite of his protestation that recommendations for policy changes will require more empirical research, his critique of the fault system concludes that in the interest of the basic goals outlined above, we must concentrate on deterrence and compensation as alternative systems rather than

"archaic systems of liability that presume an organization of society in which the best that can be done is to treat each accident instance as a universe unto itself."

Professor Calabresi has written a book which should help all of us to ask the right questions as we seek to adopt reforms. This volume should be in the library of every serious student of the subject.

—JEFFERY COHELAN
Executive Director
Group Health Association of America

Welfare economics and the law

The Logic of the Law. By Gordon Tullock. New York, Basic Books, Inc., 1971, 278 pp. $7.95.

An intellectual movement beginning to assume importance in a number of influential American law schools is marked by the examination of legal issues in terms of economic theory. Increasingly one finds law journal articles and law books written by authors with a sophisticated understanding of the sister discipline. And the catalogs of law schools make plain that the movement is having its impact in the classroom as well. Of particular importance to this interdisciplinary work is welfare economics, and understandably so. Welfare economics is concerned with efficiency, and efficiency is one significant aim of many legal rules.

Thus, Gordon Tullock's new book, *The Logic of the Law*, dealing as it does with "the application of modern welfare economics to an analysis of legal problems," should have a wide readership in the law schools. For four major reasons, that readership will find this book of little consequence.

First, while Tullock addresses some areas of the law that have not been extensively analyzed in welfare terms, he fails to direct his attention to the interesting questions in those areas. Thus, for example, he tells us that the enforcement

> of contracts can be divided into two grand divisions. Suppose that A alleges that he has a contract with B under which B has agreed to do act X. A further alleges that B has not done act X and asks enforcement. The first problem is deciding whether A's double allegation is correct, and the second is compelling B to perform. The second part, the actual application of compulsion, is not very interesting or complicated and we need not linger over it.

As a legal matter, this is dead wrong. The law does not generally compel specific performance, but awards damages, and the rules of contract damages are complicated, indeed. Moreover, and more important, they are directly related to economic efficiency, for they are a major factor determining whether parties to a contract will abandon performance or renegotiate their deal.

Second, when Tullock turns to well-worked areas, such as accident law, he adds nothing of interest to the rich, recent literature. Indeed, he seems not to have digested fully the most important work, Calabresi, *The Cost of Accidents*.

Third, Tullock is careless about legal matters: he confuses mortgagees with mortgagors, and he does not seem to realize that one of the large issues today in the law of contracts is the extent to which a party can limit his liability. Tullock is careless in his economics, too. He tells us, for example, that if

> a man is murdered, his family and his insurance company should have causes of action against the murderer. . . . Clearly, they have been injured by the act, clearly this injury is an externality, and clearly we should impose the cost of that externality on the person whose activities caused the injury. This will improve the allocation of resources in society. . . .

Clearly, Mr. Tullock is wrong about "the allocation of resources in society" *if* the murderer is not the least expensive cost avoider. Tullock may believe he is, and he may well be right, but it is an empirical question, not a theoretical one. The word "clearly" is appropriate, therefore, only if empirical work supports intuition, and often it does not where emotion (clearly) is involved.

Finally, Tullock insists again and again that his "book makes no moral assumptions, and it is strictly utilitarian in its approach to legal institutions." This is a nonsense sentence; any strictly utilitarian approach *is* a moral assumption.

There are more things in Bentham, Mr. Tullock, than are dreamt of in your philosophy.

—HARRY H. WELLINGTON
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Yale University

Radical surgery

The Sick Society: An Economic Examination. By Michael Tanzer. New York, Holt, Rinehart and Winston, Inc., 1971. 260 pp. $5.95.

This is an interesting and provocative book: an opinionated view of contemporary society by a Radical Economist of the New Left, directed not to other

economists as much as to the general public. It is essentially a series of essays on what Tanzer identifies as the "chronic illnesses" of the corporate state: (1) continuous United States overseas involvement; (2) black poverty; (3) alienation. Tanzer finds the common cause of all these ills to be the "socially irresponsible corporation," whose sole function is to enhance the economic interests of a small elite, through its ceaseless, incessant, and ubiquitous drive for profits.

The essays are basically extensions of the Marxist-Leninist position that capitalism is inherently based upon the exploitation and alienation of the individual, and that imperialism is the logical extension of the drive for profits and maldistribution of income. Since the defects are inherent, there is no hope of saving the patient.

Thus, Vietnam is viewed, not as an accident, nor as the tragic consequence of many individual wrong decisions, but as a "logical and necessary outgrowth of the corporate society." Tanzer asserts that it is *always* the economic interests of the corporate power structure that ultimately determine foreign policy. All policies of the State and Defense Departments are therefore directed to the single goal of profit maximization of the ubiquitous corporate power structure.

Tanzer also points to racial discrimination in the United States, and the resulting low incomes, poor housing, and high prices for the black resident of the ghetto, and the many individuals and groups who benefit from this illiterate, essentially immobile, unskilled, low-paid labor pool (housewives having cheap domestic help and hotels hiring cheap porters). Nobody could find fault with either of these indictments, but nowhere does he tie the ugly cancer of racial discrimination to the corporate power structure and its all-consuming drive for profit maximization. Tanzer says this is the cause, but does not establish any sound evidence.

If one accepts this work as a series of provocative essays on current problems—essays designed to stimulate debate and discussion and examination—then it is indeed a worthwhile venture in current social protest. But this is not what it purports to be. It purports to be a well-researched, well-documented, heavily footnoted examination of the major social evils of the day, and how these social evils are all tied to a single cause: profit maximization, that is, the criminal behavior, the subterfuge, the chicanery and hypocrisy, of the modern corporation. And this is where the crippling weaknesses emerge, for the linkage is simply never made. There is almost total reliance for proof on: "a classic example is . . ." or, "it is commonly known that . . ." or allegations cited in secondary or even tertiary sources, and on occasion evidence supplied by a spy novel. A less critical weakness is that several quotations could not be located, and his basic grasp of the international monetary mechanism would hardly do credit to a back-row sophomore.

Clearly much of Tanzer's indictment holds true in an economy predominantly geared to profits. The market will produce baubles for the rich and ignore the housing needs of the poor. Tanzer's indictment would have been much more accurate in the 1920's, with its *laissez-faire* indifference and its philosophy that "the business of America is business," than in today's welfare society—whatever its shortcomings and inadequacies. But clearly for Tanzer these groupings are not enough. Nothing short of radical surgery can do the needed job.

—KENDALL P. COCHRAN
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Reaching those who need help

The "Deserving Poor"; A Study of Welfare Administration. By Joel F. Handler and Ellen Jane Hollingsworth, Chicago, Markham Publishing Co., 1971. 323 pp.

Joel Handler and Ellen Hollingsworth have made a significant, if slightly flawed, contribution to our understanding of the way in which our welfare laws work. Complemented by an astute Foreword by Professor Robert J. Lampman, who, like the authors, is associated with the University of Wisconsin's Institute for Research on Poverty, their study relies extensively on objective interviews with Wisconsin welfare (AFDC) clients, administrators, and caseworkers and on scientific analyses of correlations between the behavior, attitudes, and self-perceptions of these different groups.

Their results are surprising and, to a certain extent, alarming. For while they find the Wisconsin AFDC system to be "benign" and often liberal when compared to those in other States, they also discover that the system is in fact little more than an income maintenance program with small social service and work-related value and great potential for authoritarian, whimsical, and arbitrary abuse. Their well-writ-

ten description and analysis of such aspects of the AFDC program as the means test, the family budget, employment, and client stigma confirm this fact, and their exploration of social services, the caseworker relationships, and the politics of the county welfare agencies render it irrefutable.

Clearly, if the goal of AFDC is to treat and correct the causes rather than the symptoms of poverty among fatherless families, this study proves that the program is an almost total failure.

But the authors are less convincing when they depart from their description and analysis either to evaluate the AFDC and proposed alternative welfare programs or to advocate particular changes. Some of their failure in these areas is due to their apparent overemphasis on the legal latitude permitted to local welfare agencies and caseworkers (although they later admit such latitude is inevitable, though not desirable, in any such large, people-oriented program) and to the potential for abuse inherent in such latitude. But they elevate this broad grant of legal authority to the level of a fundamental fault in AFDC without proposing how the situation could realistically be changed, and indeed relying on decentralization of power in several of their own recommendations.

Another and more basic flaw in the authors' sections on evolution and advocacy is their seeming failure to come to terms with the basic implications of some of their own findings. For while they discover that two groups of welfare clients exist, with measurably different attitudes, behavior patterns, adjustment levels, and probabilities for successful departure from the welfare system, they use this result to condemn the current AFDC program and do not offer (with a single exception) broadbased substitutes.

In this context one must ask if any single system or group of related programs can simultaneously meet the needs of these two groups of clients with equal effectiveness for both. And if in fact the answer seems to be "no," then must we not grope towards a system which treats the rights of all clients equally (a nonnegotiable demand of the authors), but also errs on the side of providing resources, programs, and assistance to all clients in such ways as to impact on the least responsive group? It is only in this way that we can, within the context of the equal protection clause, reach those whom the present AFDC system so obviously fails to help.

In sum, *The "Deserving Poor"* is an interesting and most useful addition to our knowledge of American poverty. Yet it fails to fully respond to the question intriguingly posed in its title and throughout its text, namely, how a single welfare policy can reach both groups: those who need only income maintenance, on the one hand, and on the other hand, those who need the more massive and varied kinds of help—which they would most likely refuse if given the chance.

—DANIEL S. HIRSHFIELD
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Cultural repertoires

Ethnic Enterprise in America: Business and Welfare Among Chinese, Japanese, and Blacks. By Ivan H. Light. Berkeley, University of California Press, 1972. 199 pp. $7.95.

Ivan Light, an assistant professor at UCLA, addresses himself to the fascinating and potentially critical question of why Oriental immigrants to the United States have been able to develop impressive networks of small business enterprises, while black Americans have had much less success as businessmen. He examines and discards the "consumer demands" argument and the "discrimination in lending" theory and questions how much of the variance can be explained by "lack of traditions in the field of business enterprises" and "lack of business success symbols"—at least until these phrases are given more specific meaning.

Much of the book is then devoted to the existence of "rotating credit associations" among Orientals and their absence among blacks. The Chinese in both the home country and the United States organized the "hui" or "credit club," which was at least 800 years old before it was brought to this country. Similarly, the Japanese had "ko" associations and the black West Indians brought with them from Africa the *esusu*. However, such "rotating credit" groups—in Clifford Geertz's phrase, "a middle rung" in economic development—were nonexistent among American blacks.

While the existence of the *esusu* in east Africa before 1834 cannot be documented with absolute certainty, it is at least likely that social "conditions in the United States extirpated the *esusu* from the cultural repertoire of blacks in this country, whereas social conditions in the West India encouraged their persistence."

But in Light's view the *esusu* is a symbol of a larger problem. The Orientals came as members of tightly knit, familial clan and territorial groups with strong cultural and structural controls over the behavior of members. Blacks lacked such controls and were able to exercise much less group discipline towards business cooperation. Light sees the "Father Divine" movement as an example of the forces which were necessary to produce economic self-discipline:

> These sectarian achievements suggest the lengths to which blacks found it necessary to go in order to establish on a voluntary basis the kind of solidary moral communities which immigrant Orientals achieved on the basis of Old World social ties. These communities came spontaneously to Orientals but blacks had to become religious fanatics to develop them on a voluntary basis.

In addition, the controls and values of the Oriental communities created a sense of "ethnic honor."

> Among Chinese and Japanese in the United States a sense of ethnic honor was joined to the ascriptive basis of social association. As a result, individuals, irrespective of social status, were amenable to group controls over their behavior in the interest of maintaining an unsullied ethnic honor. A shared sense of ethnic honor resulted in group standards of everyday conduct with kinship and territorial associations carried into every corner of Oriental-American society. Such demands made their appearance particularly in cases involving interactions with the white majority. Chinese and Japanese rarely confronted the whites as individuals; instead, such contacts took place under the careful scrutiny of group surveillance in the interests of ethnic honor.

But the slavery experience deprived blacks of any "valued ethnic identity."

> Unlike Orientals, black migrants could not be disciplined by reference to ethnic honor, since Southern-born migrants did not conceive of themselves as having any honor. Especially among the lowest stratum of urban Negroes, peers could rarely induce a fellow to actually refrain from some line of personally advantageous activity lest it discredit or shame blacks in general, nor were there persisting grouplets able to encourage impersonal achievements in the interest of ethnic black honor. Hence, social contacts took place outside of a framework of this normative control. . . . The rampant individualism contributed to the disorganization of social life in the slums.

Light's pursuit of evidence is original and ingenious. His case is well argued and clearly put. His conclusions are persuasive, on the whole. The similarity between his conclusions and those of Frazier and Moynihan will win him no friends in certain quarters, even though the detail of his argument is more elaborate than that of the other two writers. Unquestionably, there will be other scholars who will take strong exception to his repeated suggestion that compared to the Orientals, blacks were a "culturally undifferentiated mass." But we cannot have it both ways: either slavery and its aftermath did have a negative impact on certain aspects of black culture and social structure or there was no such impact. If we are not to be permitted to consider the former possibility, we then must admit that the entire problem is present discrimination; but such an explanation must ignore the differential success of the Orientals.

If, on the other hand, we do acknowledge the long-range harmful effects of slavery, it becomes imperative that we attempt to define those effects, no matter how much some people may be offended by such definition. While Light has not written the final book on ethnic business enterprises, he has made an intelligent and brave beginning.

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Evolution of a system

Japan's Managerial System. Tradition and Innovation. By M. Y. Yoshino. Cambridge, Mass., MIT Press, 1971. 292 pp., bibliography, index. $3.95.

The remarkable resurgence of postwar Japan has been accompanied by considerable writing, by Japanese and Western scholars, on both the culture and institutions of that country. Of particular interest has been the rapidly continuing processes of industrialization that has placed Japan third among the economic powers of the world. One of the more unusual aspects of this development has been the peculiar role played by the management system, and it is upon this that Professor Yoshino bases his monograph.

One of his major themes is that Japanese management practices, although often running counter to principles considered sound in the West, have been and are successful primarily because they are "congruent" with Japan's socioeconomic and political environment and because those practices have been

receptive to changes within that environment. The first three chapters of his study are devoted to developments down to 1945.

The major features of Japanese culture were established during the nearly two and a half centuries of rule by the Tokugawa Shogunate. Most significant aspects were the rigid hierarchy of four classes and the resurrection of Confucian precepts of absolute loyalty to one's superiors and the family as the "model" for all types of social organization. From the outset, this meant control of economic activities by political authorities that became increasingly comprehensive in scope and established the precedent for future government "guidance and control."

The Meiji Restoration (1868–1945) was marked by ambitious programs of modernization and industrialization that culminated in Japan's crushing defeat in 1945. Politically these changes meant a return to direct rule by the emperor; economically, they meant direct government initiative in promoting industrialization. The majority of the new leaders were drawn from the lower ranks of the samurai class. Familiar values kept a remarkably traditional orientation to a society that rapidly was being recast into a modern structure. As the government's role in development came to an end in the 1880's, its place was taken by a small group of wealthy families, who were always expected to put the interests of the state before private concerns.

Defeat in World War II brought an end to the ruling oligarchy of civilian and military bureaucrats and to the control of large industry by the *Zaibatsu* industrial families. The Occupation dissolved the *Zaibatsu* system, which led to a broadening of corporate ownership and a shift in control to professionals risen through the ranks. During the 1950's, great emphasis was placed upon creating a managerial ideology more like that of the United States, but this gave way in the next decade to a return to values more in keeping with Japan.

The final sections revolve around the rather inclusive security provided for Japanese managers, their continued close ties with the political system, a new partnership with labor unions, and the changing organizational structures within the Japanese managerial system. Yoshino recognizes the new stresses placed upon the system, which are on the one hand peculiar to Japan and on the other typical of all modern industrial societies; at the same time, Japanese managers must broaden their vision to see that there is a rapid and continuing decline in the differences between the two.

Yoshino succeeds admirably in providing a synthesis of the major works on Japan written since 1945. With most authorities, he stresses the ability of Japanese culture (and business) to accept advantageous outside influences without damaging its basic integrative factors. In these respects, *Japan's Managerial System* is a welcome addition to sociological and methodological studies of business elites and practices. Less satisfactory was the somewhat uneven quality of the writing, particularly chapter 4, which often resembled a printed outline.

—EDGAR W. MOORE

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Structure and performance

Doctors in Hospitals; Medical Staff Organization and Hospital Performance. By Milton I. Roemer and Jay W. Friedman. Baltimore, Johns Hopkins Press, 1971. 322 pp., bibliography. $12.50.

This is an important book in the field of health care, written by two authors who are long-time students of the subject. This work, furthermore, is the culmination of a decade of research during which the authors reviewed pertinent American literature, made onsite investigations of foreign hospital practices, and undertook original statistical investigations of the extensive as well as of the in-depth ("anthropological") varieties.

The book's focus is on the relationship between what the authors term "medical staff organization" (MSO) and hospital performance, with the hypothesis to be tested that, "in general, higher levels of hospital efficiency, effectiveness or performance are achieved in conjunction with more firmly disciplined medical staff organization."

Two measures of hospital medical staff structures are employed: (1) an index of contractual physicians, that is, physicians who are under contract to and receive salaries from hospitals on either a full-time or part-time basis, and (2) a more general measure (of which the first is a part) comprising a five-stage typology of MSO ranging from Type I, "very loosely structured," to Type V, "very highly structured." The correlates of structure used to ascertain where an individual hospital falls on the MSO scale are: Composition of the staff, appointment procedure, commitment, departmentalization, control committees, documentation, and informal dynamics.

Given the complexity of the task and the softness of the data, the authors wisely chose not to calculate correlation coefficients, but instead attempted to show general quantitative associations between the independent and dependent variables. They reached the rather mild and not unexpected conclusion that "organization promotes technical excellence, which, in turn, probably achieves better health care for people."

Nevertheless, serious interpretive problems remain, some of which the authors themselves acknowledge. For example, table 4, page 71, is circular in its presentation of the basic findings on the relationships between hospital performance (represented by such criteria as general accreditation, approval of cancer program, surgical facilities, and so forth) and a contractual physician index. The data do not enable one to determine whether a high contractural physician ratio is a cause of better performance or whether the direction of causality is the reverse, that is, whether contractual physicians are induced to affiliate because of the hospital characteristics. In addition, statistical anomalies were obtained in the attempt to adjust the contractual physician index by bed size and also in the attempt to adjust the death rate for case severity.

But this book should not be judged on the basis of its lack of statistical rigor, nor even on the authors' inability to conceal their bias in favor of highly structured medical staffs. Indeed, economists will wonder that the issue exists at all. With changes in medical technology, changes in demand for health care, increasing specialization and increases in the size of hospitals, functional differentiation via departmentalization and bureaucratization are inevitable concomitants.

The great value of this book lies in the insights which abound in its pages into quality health care production—both within and outside the hospital. Issues that are central to the question of fee-for-service versus other forms of hospital service delivery are well and thoroughly treated. As a concession to American pluralism, the optimal MSO structure is judged by the authors to be not the most rigorous type (V—"very highly structured"), but an MSO which is one degree lower on their scale (IV—"highly structured"). According to the authors, this would achieve a balance between the broader social goals of the hospital as a community health center and the continued existence of private (solo or group) out-of-hospital medical practice through the maximization of educational contracts between the "hospital doctors" and the "community doctors."

All serious students of the health scene will profit greatly from a study of the substantive issues raised by Roemer and Friedman; even their quasi-statistical methodology, which has solid institutional roots, is valuable as a starting point for future investigations into the structure and function of American hospitals.

—HARRY I. GREENFIELD
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The professional as a human resource

Managing Professional Services Enterprises: The Neglected Business Frontier. By Robert E. Sibson. New York, Pitman Publishing Corp., 1971. 214 pp. $8.50.

"Professional services enterprises" refers to organizations such as advertising agencies, consulting firms, research and development laboratories, universities, hospitals, and social service agencies—establishments that essentially sell professional knowledge. The focus of this book, based on the author's experience as president of Sibson & Co. and depth interviews with managers in selected professional services organizations, is on the unique operating and economic characteristics that distinguish such organizations from product-oriented businesses.

The opening section deals with the basic characteristics and ownership of professional services enterprises, with the balance of the book organized in traditional functional categories: finance, planning, marketing, personnel, administration, and operations.

Perhaps the most valuable portion is chapter 2, in which the author discusses the operating characteristics of professional services enterprises that make the use of traditional production-oriented management principles and practices inappropriate and perhaps misleading in such enterprises. Planning for example, is part of every executive's job, yet—according to Sibson—it is more complex in professional businesses than in most product-oriented or service businesses because of the complexity of technology, methods, and resources involved. Marketing functions, marketing strategy, and sales operations and activities at professional service enterprises cannot be handled by traditional marketing and selling methods. In the last part of the book, the author emphasizes that people are the primary assets of

such organizations, and therefore systems must be designed to manage, staff, utilize, enhance, develop, and motivate human resources for their effective functioning.

Sibson has succeeded in achieving the objectives he sets out to pursue. High quality of presentation, depth of analysis, and clarity and simplicity of style are all present in his work. Yet the book suffers from these limitations: (1) It lacks the rigor of a well-documented scientific report; it provides very few footnotes and includes no bibliography. (2) The author tends to develop sweeping generalizations about "professionals" and professional organizations, with no attempt to distinguish between different categories of professional employees with varying degrees of professionalism, or different types of professional service enterprises that may still have their own unique individual characteristics (for example, a hospital vs. a consulting firm). (3) The text lacks empirical evidence to strengthen some of the author's arguments and, further, fails to use the already available body of research in such areas as organizational styles and motivational patterns appropriate for professional personnel.

In spite of the above deficiencies, Sibson has made a worthwhile contribution to the literature on organization and administration. The value of the book stems not from the novelty of its ideas, but rather from the focus on a "neglected business frontier."

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A time for choice

Is There An Optimum Level of Population? Edited by S. Fred Singer. New York, McGraw Hill Book Co., 1971, 425 pp. $12.50.

This collection of essays results from a symposium held in Boston in December 1969, under the auspices of the American Association for the Advancement of Science, and designed to help guide the work of the recently created Commission on Population Growth and the American Future. The essays vary greatly in length and in depth. Some will serve as original sources for specialists, while others were apparently designed for the general public. The relevance of some is manifest, but it takes ingenuity to discern just how others relate to the question posed.

The topic is crucial for the adoption of national priorities. Much of what has been written about the population "explosion" is predicated upon the idea that mankind is very likely to grossly exceed—or has already gone beyond—the number of people who could lead the kind of life the investigator would like to see them lead. But few commentators have stated the point at which the specific number of people living would exceed that at which the quality of life they approve would become impossible, nor do most of the symposium members do so.

The first set of essays deals with the effects of population growth in terms of natural resources and environmental factors. Most of the experts indicate that there are a great many as yet undeveloped ways in which such things as energy, minerals, and plant life can be dealt with to provide for a very much larger population than is likely to exist in the foreseeable future. But they also indicate that the declining quality of natural resources may require considerably more control over their use than we are presently accustomed to. Those dealing with food differ widely in their estimates of where the limits lie, and when they are likely to be reached. But all agree that there *are* limits to be found in the natural environment.

A second set of papers deals with the quality of life as a determinant of optimum population. Part of the good life is good health, and the cost of maintaining it is closely related to the makeup of the population. A rapidly growing population imposes a very heavy burden on middle-aged people, both for health care and for education. Thus the *rate* of growth may be as significant as is the total number. Similarly, the location of population has much to do with the cost of both education and health maintenance. And the income of those families that have the highest birth rates has a great deal to do with the necessary nature of health programs.

A third section of the book discusses optimum population in terms of life styles and human values. Here, as in the other sections, the quality of the papers and the positions their authors take are quite varied. One paper undertakes to show that the optimum population for the United States is about 50 million persons. Another, while refusing to set a fixed figure, holds that a declining population, to compensate for declining natural resources, is optimum. In all cases it is assumed that to preserve and enhance the values of the American people requires a rapid diminution of the birth rate, and many fear that it cannot be brought down fast enough to avoid

an undesired reduction in our ability to achieve what we have learned to seek.

The book stimulates thought and disagreement. The Commission on Population Growth and the American Future will itself have to choose among a number of positions, for no one policy or program emerges as preeminently good.

—FRED COTTRELL

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Population Problems

Man's interaction with his surroundings

Ecology, Crisis and New Vision. Edited by Richard E. Sherrell. Richmond, Va., John Knox Press, 1971. 159 pp. $3.45.

Economic Growth vs. the Environment. Edited by Warren A. Johnson and John Hardesty. Belmont, Calif., Wadsworth Publishing Company, Inc., 1971. 201 pp. $3.95.

Both of these books are collections of essays. They join the long list of anthologies that have appeared since the environmental quality movement broke in upon public awareness several years ago. But they are specialized collections, each focused on a particular aspect of environmental relationships.

Ecology, Crisis and New Vision consists of three groupings of essays relating to ethical aspects of man's environmental relationships. The essays grew out of a symposium sponsored by the Church Society for College Work (Cambridge, Mass.) and the Department of Higher Education, National Council of Churches (New York City). The symposium was a search for a new vision or synthesis that could respond to the challenge to religion implicit in Lynn White's widely read paper, "The Historical Roots of Our Ecological Crisis" (*Science,* March 1967), in which he attributed Western indifference to environmental destruction to the dominant interpretation of the Judeo-Christian tradition. To this extent, the book is specialized, but it is clearly intended for the general reader. Theologians might read it with profit, but it is addressed equally to all persons concerned with the moral basis of man's interaction with his surroundings.

The human environment was perceived by the symposium as including both nature and man's social relationships. The environmental crisis, as the essayists see it, is a manifestation of a more profound crisis—a crisis in the decisionmaking apparatus of society concerning the ends and purposes that the society would serve. The issue is posed in Part One by Thadis W. Box, Dean of the College of Natural Resources, Utah State University, with a concluding emphasis on the necessity for bringing all relevant knowledge into a productive relationship in order to develop ecologically valid behavior in human society.

Part Two surveys the wider human environment of psychological, sociological, and technological relationships with essays by Norman J. Faramelli, John H. Snow, Scott I. Paradise, and Michael Rossman. The cumulative message of these essays, at least to this reader, is that man's mental and physical well-being requires clarity of vision. They are essays in semantics, demonstrating for the reader the coercive power of words and concepts, and arguing that respect for human personality and for the ecological basis of the natural world are indivisible.

Part Three deals with resources of the religious imagination with papers by Brother David F. K. Steindl-Rast, Everett E. Gendler, and Richard A. Underwood. The book does not arrive at an articulate statement of a new vision, nor does it synthesize an environmental ethic from the many sources on which it draws. But it contributes to the search and is therefore a welcome contribution to the literature. Closest parallels are *A New Ethic for a New Earth* (Faith-Man-Nature Group, 1971), a collection of papers presented at the Group's Fourth National Conference and edited by Glenn C. Stone, and Frederick Elder's *Crisis in Eden: A Religious Study of Man and Environment* (Abingdon, 1970). The latter, a single-authored work, is more coherent and more precisely targeted on the substance of an environmental ethic. All are useful contributions toward understanding the ethical basis of man's environmental predicament.

Economic Growth vs. the Environment consists of 24 essays or abstracts grouped into four divisions: the ecologist's perspective; the argument against economic growth; the conventional wisdom of economic growth; and four pieces under the heading, "Precedents and Prospects."

The objective of the editors has been ". . . to integrate into economic thinking what is presently known about ecology." The book comes closest to doing this in the editors' introduction, but it does not, as a whole, "integrate." This is regretful, because an integrative treatment of the economic growth-en-

vironmental relationship is needed. As yet, no really adequate treatment of this issue has appeared in a single, coherent published work—or, at any event, has not yet become so well known as to be generally invoked in arguments over the economic implications of ecology.

Anthologies are convenient means for bringing together relevant contributions to a particular subject matter. They cannot be expected to provide the coherence of a single-authored work, but they may provide a wider range of viewpoint and interpretation. Their ideal use is to accompany the single-authored work to supplement, qualify, and criticize its contribution. They are therefore better adapted to use in the academic classroom than to casual reading by the public-at-large.

The Johnson-Hardesty essays are thought-provoking, but leave to the reader the shaping of a new synthesis. The critical factor in synthesis is implied in the introduction—it is the ultimate necessity to achieve an economy in *sustainable balance* with its environment. The essays afford a variety of background positions from which to view this achievement, but the task itself is beyond their scope. Even so, the volume is a contribution to what may be the single, most difficult conceptual problem that confronts America today—an ecologically sustainable definition of national economic goals.

—Lynton K. Caldwell

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A faltering industry

Enterprise Denied: Origins of the Decline of American Railroads, 1897–1917. By Albro Martin. New York, Columbia University Press, 1971. 402 pp., bibliography. $10.95.

This history of the American railroads for two decades begins with an industry that was vigorous and growing, and ends with a sick industry that had to be nationalized to save "the country from complete transportation collapse." Martin believes that the reversal in the railroads' fortunes occurred because the repressive effects of rate regulation cut profits and stymied new investment. The villains were definitely not the railroad leaders, according to Martin, but were the "archaic Progressives," including the Federal officials who passed restrictive legislation in 1906 and 1910, and the Interstate Commerce Commission, which used the power it received under this legislation to deny rate increases.

Martin attempts to prove his hypothesis by contrasting the first decade of the period, when the rails were generally free of Federal controls, to the second decade, when rate increases were subject to approval by the ICC. In the first decade, the railroads implemented a huge capital expansion program to handle the rapidly increasing traffic. Despite inflation, which was "the outstanding feature of the [entire 20-year] era," the railroads were able to maintain adequate profits in this decade with a combination of productivity and minor rate increases. Thus, the capital expansion was easily financed by internal cash flows and by new issues purchased by confident investors.

The advent of Federal controls, however, effectively halted rate changes in the second decade, and rates were "frozen for all practical purposes at the 1906 level." By 1910 the continuing inflation finally forced the railroads to seek rate hikes. Almost all these requests were denied by the ICC, as the book describes in great detail. These denials, according to Martin, resulted in a substantial reduction in the availability of both internal and external funds. So, in spite of the continuing growth in traffic, new capital investment declined. The result was an industry physically and financially unable to meet the transportation demands of World War I.

Martin presents detailed evidence in the form of statements by railroad leaders saying that they were intending to, or had, decreased investment because of the rate restrictions, as well as a satisfactory qualitative description of the adverse reactions of the financial community. He is not successful, however, in quantitatively establishing that the rate restrictions caused a decline in railroad investment. The theoretical basis of his model, the data used, and the statistical rigor of his tests are all insufficiently developed to support this conclusion, although I feel that a more adequate analysis might well do so.

Martin believes that a history should attempt to recreate the unique "sights, sounds, and smells" of the situation described; therefore, the book describes people and events in colorful and evaluative terms. The future Justice Brandeis, for example, becomes "the wiry little lawyer." One professor publishes a "somber, scholarly article" supporting the railroads, although one implication of an opposing expert's views "hardly deserves consideration with a straight face." What the book loses in objectivity with this

technique, however, it gains in vividness and readability for the layman.

In summary, Martin has written a study that is of interest to the general reader as well as to the historian, and which has established a valuable impressionistic base for quantitative analysis.

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Anthracite history

From the Molly Maguires to the United Mine Workers: The Social Ecology of an Industrial Union, 1869–1897. By Harold W. Aurand. Philadelphia, Temple University Press, 1971. 221 pp., bibliography. $10.

This is a well-documented account of the development of anthracite unionism from its beginnings to the emergence of the United Mine Workers as a stable and effective union in the late 1890's. The story is not a pretty one, dealing as it does with an industry where wages were low and life was cheap, where some miners turned to terrorism when moderate unionism was crushed, where armed guards recruited and paid by management were often vested with police power by the State, and where vigilante groups organized by or sympathetic to management sometimes enforced their own version of law and order.

Aurand is interested in the economic problems of the industry, its regional and community setting, and the diverse national strains that made up the working force. He describes in some detail the two waves of unionism that preceded the United Mine Workers, the post-Civil War Workingmen's Benevolent Association that was crushed in the long strike of 1875, and the unsuccessful efforts of the Knights of Labor and the Miners' and Laborers' Amalgamated Association to form effective unions of anthracite miners in the late 1870's and the 1880's. He has sifted through a great deal of material, including community and union newspapers, government reports, academic studies, and collections of coal company and coal-hauling railroad papers in order to put together this story of the rise of anthracite unionism.

The most powerful management figure in anthracite during this period, President Franklin B. Gowen of the Philadelphia and Reading Railroad, comes alive in this history much more clearly than any of the union leaders. It was Gowen who arranged for an investigation of the Mollies by the Pinkerton detective agency, and who later joined the district attorney's prosecuting team, seeking to justify his opposition to unionism by identifying it with violence.

While the author presents the facts of anthracite union developments against their community and ethnic background, he makes little effort to relate unionism in the anthracite region to union developments in the bituminous districts and in other industries. He tells little about the Knights of Labor, in terms of philosophy, structure, tactics, or national leadership, other than to record their appearance in the anthracite field after the collapse of the Workingmen's Benevolent Association in 1875. He lists the miners' effort to win the 8-hour workday on May 1, 1886, without relating it to the national movement that reached a climax on that day. He explains the emergence of stable unionism in the form of the United Mine Workers in the 1890's in terms of an earlier crisis of identification, which led the anthracite workers to think in regional or ethnic terms until immigrant workers were shot down by sheriff's deputies in Lattimer in 1897. However, mixtures of ethnic groups were common in American industry, everywhere delaying the development of the employee solidarity that is the foundation of unionism; Aurand does not attempt to show why the coal miners were the first of the semiskilled workers in this country to build a strong union.

Nor are the author's attempts at explanation always convincing. Although he insists that it was ideology, not greed or a desire to preserve management's prerogatives, that determined capital's opposition to unionism, it would be hard to analyze the appeal of that ideology to management without reference to profits or management's view of its rights. Similarly, Aurand insists that both operators and unionists misunderstood the economic plight of their industry, ascribing its ills to low prices resulting from overproduction rather than to the true cause, overinvestment. Yet this is largely a semantic difference, since it was overinvestment, in the sense of opening more mines than were necessary to meet normal demand, that caused overproduction.

Though the volume suffers from limitations such as these, it makes a contribution toward our under-

standing of the early rise of unionism in a vital and problem-ridden industry.

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And what do you get?

Death and the Mines: Rebellion and Murder in the United Mine Workers. By Brit Hume. New York, Grossman Publishers, 1971. 280 pp. $7.95.

Brit Hume, a young journalist on the staff of Washington newscolumnist Jack Anderson, has done a fine job of reporting recent efforts to secure justice and fair treatment for the nation's coal miners. Beginning with the Farmington, W.Va., disaster of November 20, 1968 (in which 78 miners died), Hume carefully traces the interwoven issues of mine safety, pensions for sufferers from black lung disease, responsible unionism, and the democratization of the United Mine Workers, through the murder of UMW presidential contender Joseph Yablonski and his wife and daughter on the last day of 1970. The miners' struggle has been neither easy nor successful.

Most Americans, probably remembering John L. Lewis and the days when the UMW was the strongest pillar in the House of Labor, assume that the miners are more than adequately protected by their union. In a brief sketch of the UMW since Lewis's retirement, Hume shows how wrong that assumption is. Hume charges that under President William A. (Tony) Boyle and his relatives and henchmen who make up the union's self-perpetuating leadership, the UMW has become corrupt, wholly undemocratic, unresponsive to the wishes and needs of its members, and the willing accomplice of big operators of the industry in their battles against independents, governmental regulation, and the demands of rank-and-file miners.

But the story also has its heroes: medical doctors Isidore E. Buff, Donald L. Rasmussen, and Hawey A. Wells, who fought to establish black lung as a legitimate, medically recognized disease entitling its victims to pensions; West Virginia Congressman Ken Hechler, who took on both the political hierarchy of his State and the UMW's leaders in his drive for mine safety and pension legislation; consumer advocate Ralph Nader, who urged the overthrow of Boyle's regime; and Yablonski, the rebel who dared to challenge Boyle in 1970.

The book suggests at least two questions that it does not answer. To what degree did the reign of Lewis, the good despot who worked closely with Boyle for 13 years, prepare the way for the corruption and tyranny described by Hume? And what beyond his disappointment at the slow pace of Yablonski's early campaigning led Nader to apparently lose enthusiasm midway through the Yablonski–Boyle contest?

Death in the Mines is a forceful cry for someone to do something about the conditions it describes. Exactly what should be done is not specified. Neither is it clear to whom the cry is directed. Disdaining footnotes, bibliography, and other scholarly apparatus, Hume clearly aims at a wider audience than scholars and specialists. But can such a cry—only one in a chorus these days—hope to arouse a benumbed public to action? Will it stir up miners who are probably only too aware of the shortcomings of their union? Will the Congress, which Hume shows so well rarely acts on such relatively minor matters except under duress, respond? Perhaps the Departments of Labor and Justice, who, Hume charges, responded weakly to Yablonski's calls for protection and for enforcement of existing laws, will now act more vigorously. We can all hope.

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Other recent publications

Economic growth and development

Ahmed, Zubeida Manzoor, "The Social and Economic Implication of the Green Revolution in Asia," *International Labor Review*, January 1972, pp. 9–34.

Bohm, Peter and Allan V. Kneese, editors, *The Economics of Environment: Papers From Four Nations.* London, Macmillan Press, Ltd., 1971, 163 pp. (Originally published in the Swedish Journal of Economics.) St. Martin's Press, New York.

Bonomo, Vittorio and J. Ernest Tanner, "Canadian Sensitivity to Economic Cycles in the United States," *Review of Economics and Statistics,* February 1972, pp. 1–8.

Canadian Association for Latin America, "Toward Latin American Development: An Inter-American Forum in Canada," *Americás,* Organization of American States, January 1972, supplementary pp. 1–20.

Cépède, Michel, "The Green Revolution and Employment," *International Labor Review,* January 1972, pp. 1–8.

Cumberland, John H., *Regional Development Experiences and Prospects in the United States of America.* The Hague, Mouton & Co., 1971, 170 pp. $8, Humanities Press, New York.

Feder, Ernest, *The Rape of the Peasantry: Latin America's Landholding System.* Garden City, N.Y., Doubleday & Co., Inc., 1971, 304 pp.

Goldman, Marshall I., *Ecology and Economics: Controlling Pollution in the '70's.* Englewood Cliffs, N.J., Prentice-Hall, Inc., 1972, 234 pp. $6.95, cloth; $2.95, paper.

Hunter, Guy, "Employment Policy in Tropical Africa: The Need for Radical Revision," *International Labor Review,* January 1972, pp 35–37.

Leathers, Charles G., "New Dimensions of Countervailing Power: Consumerism and Environmentalism," *MSU Business Topics,* Michigan State University, Winter 1972, pp. 64–72.

Meadows, Donella H. et al., *The Limits to Growth: A Report for The Club of Rome's Project on the Predicament of Mankind.* New York, Universe Books, 1972, 205 pp. $6.50, cloth; $2.75, paper.

Passell, Peter and Leonard Ross, "Don't Knock the $2-Trillion Economy," *New York Times Magazine,* March 5, 1972, pp. 14–15, et. seq.

Ruttan, Vernon W., "Technology and the Environment," *American Journal of Agricultural Economics,* December 1971, pp. 707–717.

Thornton, Robert L. and Donald C. King, "Ecology—The Fear Appeal in the Public Sector," *MSU Business Topics,* Michigan State University, Winter 1972, pp. 35–38.

Weisskopf, Thomas E., "An Econometric Test of Alternative Constraints on the Growth of Underdeveloped Countries," *Review of Economics and Statistics,* February 1972, pp. 67–78.

Economic statistics

Econometric Society, "Programs and Abstracts of Papers From Meetings of the Society: Second World Congress, Cambridge, England, September 1970; Fifth Far Eastern Meeting, Tokyo, June 1970; Tenth Indian Econometric Conference, Madurai, November 1970; North American Regional Conference, Detroit, December 1970," *Econometrica,* July 1971, pp. 1–409.

Hayami, Yujiro and Willis Peterson, "Social Returns to Public Information Services: Statistical Reporting of U.S. Farm Commodities," *American Economic Review,* March 1972, pp. 119–130.

Merewitz, Leonard and Stephen H. Sosnick, *The Budget's New Clothes: A Critique of Planning-Programing-Budgeting and Benefit-Cost Analysis.* Chicago, Markham Publishing Co., 1971, 318 pp.

Surrey, M. J. C., *The Analysis and Forecasting of the British Economy.* London, Cambridge University Press, 1971, 107 pp. (National Institute of Economic and Social Research Occasional Papers, XXV.) $3.95, Cambridge University Press, American Branch, New York.

Treml, Vladimir G. and John P. Hardt, editors, *Soviet Economic Statistics.* Durham, N.C., Duke University Press, 1972, 457 pp. $14.75.

Uyar, Kivilcim M., "Markov Chain Forecasts of Employee Replacement Needs," *Industrial Relations,* February 1972, pp. 96–106.

Winch, D. M., *Analytical Welfare Economics.* Baltimore, Md., Penguin Books, Inc., 1971, 208 pp. $1.95, paper.

Education

Bailey, Duncan and Charles Schotta, "Private and Social Rates of Return to Education of Academicians," *American Economic Review,* March 1972, pp. 19–31.

Brickman, William W. and Stanley Lehrer, *Education and the Many Faces of the Disadvantaged: Cultural and Historical Perspective.* New York, John Wiley & Sons, Inc., 1972, 435 pp. $9.95.

Caws, Peter and S. Dillon Ripley, *The Bankruptcy of Academic Policy.* Edited by Philip C. Ritterbush. Washington, Acropolis Books Ltd., 1972, 128 pp. $3.95.

Lewis, Darrell R. and Charles C. Orvis, *Research in Economic Education: A Review, Bibliography, and Abstracts.* New York, Joint Council on Economic Education, 1971, 114 pp. $3.

Thelen, Herbert A., *Education and the Human Quest: Four Designs for Education.* Chicago, University of Chicago Press, 1972, 228 pp. $2.75.

Industrial health and safety

Guenther, George C., "The Significance of the Occupational Safety and Health Act to the Worker in the United States," *International Labor Review,* January 1972, pp. 59–67.

Lapp, N. LeRoy et al., "Changes in Ventilatory Function in Coal Miners After a Work Shift," *Archives of Environmental Health,* March 1972, pp. 204–208.

Larsen, Jan F., "Setting Up a Company Drug Abuse Program," *Personnel,* January–February 1972, pp. 19–23.

Razumov, I., "Protecting Workers Against Noise and Vibration," *International Labor Review,* February 1972, pp. 161–173.

U.S. Department of Health, Education, and Welfare, *Disability Days: United States, 1968.* Rockville, Md., National Center for Health Statistics, 1972, 45 pp. (DHEW Publication (HSM) 72–1034.) (Data from the National Health Survey, Series 10, No. 67.)

Vogel, James A. et al., "Carbon Monoxide and Physical Work Capacity," *Archives of Environmental Health,* March 1972, pp. 198–203.

Industrial relations

Abodeely, John E., *The NLRB and the Appropriate Bargaining Unit.* Philadelphia, University of Pennsylvania, Wharton School of Finance and Commerce, 1971, 239

pp. (Labor Relations and Public Policy Series, Report No. 3.) $5.95.

Canada Department of Labor, "Provisions in collective agreements, Part 2," *Labor Gazette,* February 1972, pp. 98–105.

Clark, R. Theodore, Jr., "Public Employee Strikes: Some Proposed Solutions," *Labor Law Journal,* February 1972, pp. 111–120.

Fremont, E. G., Jr., "Productivity Bargaining That Really Is," *Personnel,* January–February 1972, pp. 8–18.

Fritton, Paul F., "Least of All, the Worker," *Personnel Journal,* January 1972, pp. 22–26.

Garbarino, Joseph W., "Faculty Unionism: From Theory to Practice," *Industrial Relations,* February 1972, pp. 1–17.

Housman, Kenneth A., "Final Offer Selection: An Arbitration Technique," *Personnel Administration,* January–February 1972, pp. 23–26.

Johannesen, Dell Bush, "Continuing Controversy: New Remedies for Old Unfair Labor Practices," *Labor Law Journal,* February 1972, pp. 100–110.

Krislov, Joseph and John F. Mead, "Labor-Management Attitudes Toward Mediation," *Personnel Journal,* February 1972, pp. 86–94.

Lieberman, Myron, "The Future of Collective Negotiations," *Phi Delta Kappan,* December 1971, pp. 214–216.

Litvak, I. A. and C. J. Maule, "The Union Response to International Corporations," *Industrial Relations,* February 1972, pp. 62–71.

Love, Thomas M. and George T. Sulzner, "Political Implications of Public Employee Bargaining," *Industrial Relations,* February 1972, pp. 18–33.

Lundberg, William T., "New Union in the South," *New Leader,* March 6, 1972, pp. 10–12.

Mitsufuji, Tadashi and Kiyohiko Hagisawa, "Recent Trends in Collective Bargaining in Japan," *International Labor Review,* February 1972, pp. 135–153.

Organization for Economic Co-operation and Development, *New Perspectives in Collective Bargaining.* Papers prepared for a Regional Trade Union Seminar, Paris, 1971, 190 pp. (International Seminars 1969–2.) Distributed by OECD Publications Center, Washington.

Rosen, Samuel D., "Area Standards Picketing," *Labor Law Journal,* February 1972, pp. 67–79.

Rowan, Richard L., editor, *Collective Bargaining: Survival in the '70's?* Proceedings of a conference sponsored by the Industrial Research Unit and the Labor Relations Council, Wharton School, University of Pennsylvania. Philadelphia, University of Pennsylvania Press, 1972, 481 pp. (Labor Relations and Public Policy Series, Report 5.) $12, cloth; $7.95, paper.

Sirkin, Stuart A. and Gayle A. Yeomans, "Effects of the NLRB's Unit Policies in the Retail Chain Store Industry," *Labor Law Journal,* February 1972, pp. 80–99.

Stanley, David T., "What Are Unions Doing to Merit Systems?" *Civil Service Journal,* January–March 1972, pp. 10–14.

Treckel, Karl F., "The World Auto Councils and Collective Bargaining," *Industrial Relations,* February 1972, pp. 72–79.

Tsong, Peter Z. W., "Compulsory Arbitration in British Columbia," *Industrial Relations,* February 1972, pp. 115–117.

Zagoria, Sam, *Public Workers and Public Unions.* Englewood Cliffs, N.J., Prentice-Hall, Inc., 1972, 182 pp. (Papers From the American Assembly, Columbia University.) $5.95, cloth; $2.45, paper.

Industry and government organization

Buel, Ronald A., *Dead End: The Automobile in Mass Transportation.* Englewood Cliffs, N.J., Prentice-Hall, Inc., 231 pp. $6.95.

Jones, Edward H., *Blacks in Business.* New York, Grosset & Dunlop, 1971, 214 pp. $5.95.

U.S. House of Representatives, Committee on Ways and Means, *Basic Facts on the Health Industry.* Washington, 1971, 141 pp. 60 cents, Superintendent of Documents, Washington.

Management and organization theory

Blodgett, Timothy B., " 'Borderline black' revisited," *Harvard Business Review,* March–April 1972, pp. 132–139.

Byham, William C. and Morton Edward Spitzer, *The Law and Personnel Testing.* New York, American Management Association, 1971, 238 pp. $14.

Chung, Kae H., "Incentive Theory and Research," *Personnel Administration,* January–February 1972, pp. 31–41.

Exton, William, Jr., *The Age of Systems—The Human Dilemma.* New York, American Management Association, 1972, 261 pp. $13.75.

Kaufman, Herbert, *The Limits of Organizational Change.* University, Ala., University of Alabama Press, 1971, 124 pp. $5.75.

Lippert, Frederick G., "Whither HRM in the Seventies?" *Michigan Business Review,* March 1972, pp. 11–16.

Nutt, Merle C., *Meeting the Challenge of Supervision.* New York. Exposition Press, 1972, 297 pp. $10.

Paul, W. J. and K. B. Robertson, *Job Enrichment and Employee Motivation.* London, Gower Press, 1970, 119 pp. $9.50, Cahners Books, Boston.

Peskin, Dean B., *Human Behavior and Employment Interviewing.* New York, American Management Association, 1971, 250 pp. $14.50.

Pugh, D. S., editor, *Organization Theory.* Baltimore, Md., Penguin Books, Inc., 1971, 382 pp.

Reeves, Elton T., *So You Want To Be A Supervisor!* New York, American Management Association, 1971, 133 pp. $7.

Susman, Gerald I., "Process Design, Automation, and Worker Alienation," *Industrial Relations,* February 1972, pp. 34–45.

Warr, Peter B., editor, *Psychology at Work.* Baltimore, Md., Penguin Books, Inc., 1971, 460 pp. $2.45.

Warr, Peter, Michael Bird, Neil Rachham, *Evaluation of*

Management Training. London, Gower Press, 1970, 111 pp. $9.50, Cahners Books, Boston.

Manpower training and development

Burns, James M., "Hiring the Hard Core: A Strategic Question," *Personnel Administration,* January–February 1972, pp. 13–17.

Committee for Economic Development, *Military Manpower and National Security*. New York, Committee for Economic Development, 1972, 41 pp. $1.

Haber, William, "The Evolution of U.S. Manpower Programs," *Personnel Administration,* January–February 1972, pp. 8–12.

Hall, Robert E., "Prospects for Shifting the Phillips Curve Through Manpower Policy," *Brookings Papers on Economic Activities, 3,* 1971, pp. 659–702.

Holt, Charles C. et al, "Manpower Proposals for Phase III," *Brookings Papers on Economic Activities, 3,* 1971, pp. 703–722.

Monetary and fiscal policy

Nelson, Charles R., *The Term Structure of Interest Rates.* New York, Basic Books, Inc., Publishers, 1972, 129 pp. $8.95.

Teeters, Nancy H., "Built-in Flexibility of Federal Expenditures," *Brookings Papers on Economic Activities, 3,* 1971, pp. 615–657.

Prices and living conditions

Agarwala, R. and J. Drinkwater, "Consumption Functions With Shifting Parameters Due to Socioeconomic Factors," *Review of Economics and Statistics,* February 1972, pp. 89–96.

Beman, Lewis, "The Emerging Debate About Inflation," *Fortune,* March 1972, pp. 50–53, 152–153.

Galenson, Marjorie, "Do Blacks Save More," *American Economic Review,* March 1972, pp. 211–216.

Kunnes, Richard, *Your Money or Your Life: Rx for the Medical Market Place*. New York, Dodd, Mead & Co., 1971, 205 pp. $5.95.

Slesinger, Reuber E., "Inflation Forever?" *Michigan Business Review,* March 1972, pp. 25–29.

Tobin, James, "Inflation and Unemployment," *American Economic Review,* March 1972, pp. 1–18.

Productivity and technological change

Eastburn, David P., "Productivity in Urban Areas," *Business Review,* Federal Reserve Bank of Philadelphia, February 1972, pp. 3, 7–9.

Kindl, Kathryn L., "Boosting Productivity in Local Government: Progress and Problems," *Business Review,* Federal Reserve Bank of Philadelphia, February 1972, pp. 4–6.

Lanford, H. W., *Technological Forecasting Methodologies.* New York, American Management Association, 1972, 187 pp. $18.

Social institutions and social change

Mitchell, Juliet, *Woman's Estate.* New York, Random House, Inc., 1971, 182 pp. $5.95.

Novotny, Ann, *Strangers at the Door: Ellis Island, Castle Garden, and the Great Migration to America.* Riverside, Conn., Chatham Press, Inc., 1972, 160 pp. $12.50.

O'Kane, James M., "Skidding and Making It," *Change,* February 1972, pp. 6, 62–63.

Shaver, Philip and Graham Staines, "Problems Facing Campbell's 'Experimenting Society'," *Urban Affairs Quarterly,* December 1971, pp. 173–186.

Ways, Max, "Equality: A Steep and Endless Stair," *Fortune,* March 1972, pp. 78–81, 128–130.

Wages and compensation

Dobelis, M. C., "The Three-Day Week—Offshoot of an EDP Operation," *Personnel,* January–February 1972, pp. 24–33.

Foegen, J. H., "Fringe on the Fringe," *Personnel Administration,* January–February 1972, pp. 18–22.

Great Britain, Department of Employment, "New Earnings Survey, 1971: Part 3—Analyses by region and other results," *Department of Employment Gazette,* January 1971, pp. 16–62.

Hines, A. G., "The Phillips Curve and the Distribution of Unemployment," *American Economic Review,* March 1972, pp. 155–160.

Keyserling, Leon H., *Wages, Prices, and Profits: Phase II Guidelines vs. Appropriate Policies.* Washington, Conference on Economic Progress, 1971, 88 pp. $1.

Mitchell, Daniel J. B., "Union Wage Policies: The Ross-Dunlop Debate Reopened," *Industrial Relations,* February 1972, pp. 46–61.

Perrakis, Stylianos, "The Labor-Surplus Model and Wage Behavior in Mexico," *Industrial Relations,* February 1972, pp. 80–95.

Rees, Albert, "The Construction Industry Stabilization Committee: Implications for Phase II," *Brookings Papers on Economic Activities, 3,* 1971, pp. 760–768.

Turnovsky, Stephen J. and Michael L. Wachter, "A Test of the 'Expectations Hypothesis' Using Directly Observed Wage and Price Expectation," *Review of Economics and Statistics,* February 1972, pp. 47–54.

U.S. Bureau of Labor Statistics, *A Directory of BLS Studies in Employee Compensation, 1947–71.* Washington, 1972, 20 pp.

U.S. Bureau of Labor Statistics, *Area Wage Survey: The Columbus, Ohio, Metropolitan Area, October 1971.* Washington, 1972, 20 pp. (Bulletin 1725–19.) 30 cents, Superintendent of Documents, Washington. Other recent bulletins in this series include the metropolitan areas of Waterloo, Iowa; Fort Worth, Texas; Portland, Maine; Indianapolis, Ind.; Salt Lake City,

Utah; Burlington, Vt.; Dallas, Tex.; and Boise City, Idaho. (Bulletins 1725-20 through -27.) Various pagings and prices.

U.S. Bureau of Labor Statistics, *Employment and Earnings, States and Areas, 1939–70.* Washington, 1972, 672 pp. (BLS Bulletin 1370-8.) $4.50, Superintendent of Documents, Washington. Microfiche (PB-206709), 95 cents, U.S. Department of Commerce, National Technical Information Service, Springfield, Va. 22151.

U.S. Bureau of Labor Statistics, *Industry Wage Survey: Women's and Misses' Coats and Suits, August 1970.* Washington, 1972, 24 pp. (BLS Bulletin 1728.) 35 cents, Superintendent of Documents, Washington.

U.S. Bureau of Labor Statistics, *Wage Calendar 1972.* Washington, 1972, 42 pp. (BLS Bulletin 1724.) 50 cents, Superintendent of Documents, Washington.

Von Kass, H. K., in collaboration with A. J. Lindemann, *Making Wage Incentives Work.* New York, American Management Association, 1971, 195 pp. $15.75.

Wheeler, Kenneth E., Richard Gurman, Dale Tarnowieski, *The Four-Day Week: An AMA Report.* New York, American Management Association, 1972, 41 pp. $5 members, $7.50 nonmembers.

Welfare programs and social insurance

Anreder, Steven S., *Retirement Dollars for the Self-Employed: How to Profit from Keogh Plans.* New York, Thomas Y. Crowell Co., 1972, 173 pp. $6.95, cloth; $3.95, paper

Bawden, D. Lee, "Implications of a Negative Income Tax for Rural People," *American Journal of Agricultural Economics,* December 1971, pp. 754–760.

Canada Department of Labor, "The Invisible Poor," *Labor Gazette,* February 1972, pp. 60–67.

Daly, George and Fred Giertz, "Welfare Economics and Welfare Reform," *American Economic Review,* March 1972, pp. 131–138.

Esterly, Stanley and Glenn Esterly, *Freedom From Dependence: Welfare Reform as a Solution to Poverty,* Washington, Public Affairs Press, 1971, 178 pp. $6.

Horvath, Janos, "Rural America and the Grants Economy," *American Journal of Agricultural Economics,* December 1971, pp. 740–749.

Levine, Louis, *The Role of Unemployment Insurance in National Manpower Policies.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1972, 37 pp. 75 cents.

Logan, John E., *An Analysis of Workmen's Compensation: South Carolina and the United States.* Columbia, University of South Carolina, Bureau of Business and Economic Research, 1972, 206 pp. (Essays in Economics, 26.) $3.

Lyday, James M., "Political and Social Implications for Rural Areas of a Nationalized System of Welfare," *American Journal of Agricultural Economics,* December 1971, pp. 750–753.

Mueller, Marjorie Smith, "Private Health Insurance in 1971: Population Coverage, Enrollment, and Financial Experience," *Social Security Bulletin,* February 1972, pp. 3–19.

Somers, Anne R., "The Nation's Health: Issues for the Future," *Annals* of the American Academy of Political and Social Science, January 1972, pp. 160–174.

Stone, Robert C. and Fredric T. Schlamp, *Welfare and Working Fathers: Low-Income Family Life Styles.* Lexington, Mass., D.C. Heath and Co., 1971, 284 pp. $12.50.

Streib, Gordon F. and Clement J. Schneider, S. J., *Retirement in American Society: Impact and Process.* Ithaca, N.Y., Cornell University Press, 1971, 316 pp. $10.50.

Swan, Neil, "The Loss From Inflation by Social Security Beneficiaries," *American Journal of Economics and Society,* January 1972, pp. 61–78.

Tella, Alfred, Dorothy Tella, Christopher Green, *The Hours of Work and Family Income Response to Negative Tax Plans: The Impact on the Working Poor.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1971, 31 pp. (Studies in Employment and Unemployment.) 75 cents.

Thurow, Lester C., *The Economics of Poverty and Racial Discrimination: Part I—The Allocation of Economic Resources.* New York, Joint Council on Economic Education, 1972, 4 pp. (Economic Topic.)

Treitel, Ralph, "Characteristics of Disabled-Worker Beneficiaries With Workmen's Compensation Offset," *Social Security Bulletin,* February 1972, pp. 20–31.

U.S. Department of Health, Education, and Welfare, *Hospital and Surgical Insurance Coverage, United States, 1968.* Rockville, Md., National Center for Health Statistics, 1972, 49 pp. (DHEW Publication (HSM) 72-1033.) (Data from the National Health Survey, Series 10, Number 66.)

U.S. Railroad Retirement Board, "Railroad Employees With Employment Covered by the SSA," *RRB Quarterly Review,* July–September 1971, pp. 7–13.

U.S. Social Security Administration, *Financing Mental Health Care Under Medicare and Medicaid.* Washington, Department of Health, Education, and Welfare, 1971, 52 pp. (Research Report 37.) 60 cents, Superintendent of Documents, Washington.

U.S. Social Security Administration, *Resources of People 65 or Over.* Washington, Department of Health, Education, and Welfare, 1971, 47 pp. 45 cents, Superintendent of Documents, Washington.

Vroman, Wayne, *Older Worker Earnings and the 1965 Social Security Amendments.* Washington, U.S. Department of Health, Education, and Welfare, 1971, 77 pp. (Research Report 38, DHEW Publication (SSA) 72–11800.) 40 cents, Superintendent of Documents, Washington.

Weise, Robert W., "Canada's New Unemployment Insurance Act," *Social Security Bulletin,* February 1972, pp. 31–33, 37.

Williams, Walter, *Social Policy Research and Analysis: The Experience in the Federal Social Agencies.* New York, American Elsevier Publishing Co., Inc., 1971, 204 pp. $9.50.

Current Labor Statistics

Schedule of release dates for major BLS statistical series, June 1972

Title	Date of release	Period covered	MLR table number
Employment Situation	June 2	May	1–14
Wholesale Price Index	June 2	May	27–31
Consumer Price Index	June 21	May	25–26
Work Stoppages	June 28	May	32

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	73,442	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

[In thousands]

Characteristic	Annual average		1969				1970				1971				1972
	1970	1971	1st	2d	3d	4th	1st	2d	3d	4th	1st	2d	3d	4th	1st
WHITE															
Civilian labor force	73,518	74,790	71,204	71,508	72,019	72,417	73,174	73,324	73,604	74,210	74,317	74,422	74,843	75,673	**76,417**
Men, 20 years and over	42,464	43,088	41,681	41,646	41,863	41,936	42,267	42,473	42,514	42,712	42,709	43,050	43,250	43,362	**43,618**
Women, 20 years and over	24,616	25,030	23,528	23,737	23,970	24,121	24,450	24,459	24,687	24,916	24,930	24,777	24,980	25,434	**25,584**
Both sexes, 16–19 years	6,440	6,672	5,995	6,125	6,186	6,360	6,457	6,392	6,403	6,582	6,678	6,595	6,613	6,877	**7,215**
Employed	70,182	70,716	69,061	69,307	69,667	70,052	70,389	70,134	70,070	70,220	70,237	70,328	70,762	71,572	**72,402**
Men, 20 years and over	41,093	41,347	40,940	40,884	41,023	41,078	41,180	41,158	41,013	41,035	40,983	41,268	41,484	41,665	**41,959**
Women, 20 years and over	23,521	23,707	22,757	22,945	23,144	23,289	23,524	23,425	23,536	23,622	23,617	23,458	23,662	24,081	**24,370**
Both sexes, 16–19 years	5,569	5,662	5,364	5,478	5,500	5,685	5,685	5,551	5,521	5,563	5,637	5,602	5,616	5,826	**6,073**
Unemployed	3,337	4,074	2,143	2,201	2,352	2,365	2,785	3,190	3,534	3,990	4,080	4,094	4,081	4,101	**4,014**
Men, 20 years and over	1,371	1,741	741	762	840	858	1,087	1,315	1,501	1,677	1,726	1,782	1,766	1,697	**1,659**
Women, 20 years and over	1,095	1,324	771	792	826	832	926	1,034	1,151	1,294	1,313	1,319	1,318	1,353	**1,214**
Both sexes, 16–19 years	871	1,010	631	647	686	675	772	841	882	1,019	1,041	993	997	1,051	**1,141**
Unemployment rate	4.5	5.4	3.0	3.1	3.3	3.3	3.8	4.4	4.8	5.4	5.5	5.5	5.5	5.4	**5.3**
Men, 20 years and over	3.2	4.0	1.8	1.8	2.0	2.0	2.6	3.1	3.5	3.9	4.0	4.1	4.1	3.9	**3.8**
Women, 20 years and over	4.4	5.3	3.3	3.3	3.4	3.4	3.8	4.2	4.7	5.2	5.3	5.3	5.3	5.3	**4.7**
Both sexes, 16–19 years	13.5	15.1	10.5	10.6	11.1	10.6	12.0	13.2	13.8	15.5	15.6	15.1	15.1	15.3	**15.8**
NEGRO AND OTHER															
Civilian labor force	9,197	9,322	8,890	8,870	8,978	9,073	9,188	9,225	9,208	9,188	9,270	9,272	9,388	9,372	**9,506**
Men, 20 years and over	4,461	4,773	4,552	4,550	4,583	4,631	4,697	4,703	4,765	4,755	4,748	4,752	4,792	4,805	**4,767**
Women, 20 years and over	4,726	3,769	3,535	3,539	3,597	3,620	3,656	3,695	3,656	3,649	3,741	3,748	3,797	3,791	**3,897**
Both sexes, 16–19 years	808	781	803	781	798	822	835	827	787	784	781	772	799	776	**842**
Employed	8,445	8,403	8,340	8,286	8,395	8,510	8,552	8,466	8,429	8,342	8,386	8,351	8,442	8,427	**8,503**
Men, 20 years and over	4,461	4,428	4,391	4,385	4,409	4,454	4,490	4,436	4,478	4,437	4,426	4,424	4,431	4,427	**4,435**
Women, 20 years and over	3,412	3,442	3,334	3,320	3,375	3,428	3,439	3,434	3,399	3,375	3,428	3,405	3,461	3,473	**3,545**
Both sexes, 16–19 years	573	533	615	518	611	628	623	596	552	530	532	522	550	527	**523**
Unemployed	752	919	550	584	583	563	636	759	779	846	884	921	946	945	**1,003**
Men, 20 years and over	265	345	161	165	174	177	207	267	287	318	322	328	361	378	**332**
Women, 20 years and over	252	326	201	219	222	192	217	261	257	274	313	343	336	318	**352**
Both sexes, 16–19 years	235	248	188	200	187	194	212	231	235	254	249	250	249	249	**319**
Unemployment rate	8.2	9.9	6.2	6.6	6.5	6.2	6.9	8.2	8.5	9.2	9.5	9.9	10.1	10.1	**10.6**
Men, 20 years and over	5.9	7.2	3.5	3.6	3.8	3.8	4.4	5.7	6.0	6.7	6.8	6.9	7.5	7.9	**7.0**
Women, 20 years and over	5.3	8.7	5.7	6.2	6.2	5.3	5.9	7.1	7.0	7.5	8.4	9.2	8.8	8.4	**9.0**
Both sexes, 16–19 years	29.1	31.7	23.4	25.6	23.4	23.6	25.4	27.9	29.9	32.4	31.9	32.4	31.2	32.1	**37.9**

[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		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[3]	Feb.	Mar.
FULL TIME													
Total, 16 years and over:													
Civilian labor force	71,434	71,803	72,162	71,427	71,995	72,218	72,341	72,550	73,021	73,169	73,261	72,997	**73,714**
Employed	67,483	67,868	68,051	67,616	68,128	68,209	68,284	68,643	68,890	69,022	69,279	69,123	**69,734**
Unemployed	3,951	3,935	4,111	3,811	3,867	4,009	4,057	3,907	4,131	4,147	3,982	3,874	**3,980**
Unemployment rate	5.5	5.5	5.7	5.3	5.4	5.6	5.6	5.4	5.7	5.7	5.4	5.3	**5.4**
PART TIME													
Total, 16 years and over:													
Civilian labor force	12,022	11,881	11,819	12,064	11,954	12,211	12,293	12,190	12,125	12,083	12,595	12,540	**12,596**
Employed	10,958	10,794	10,743	11,100	10,918	11,086	11,280	11,158	11,094	11,072	11,476	11,482	**11,497**
Unemployed	1,064	1,087	1,076	964	1,036	1,125	1,013	1,032	1,031	1,011	1,119	1,058	**1,099**
Unemployment rate	8.9	9.1	9.1	8.0	8.7	9.2	8.2	8.5	8.5	8.4	8.9	8.4	**8.7**

[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 and charts 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	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[2]	Feb.	Mar.
TOTAL															
Total labor force	85,903	86,929	86,385	86,670	86,836	86,217	86,727	87,088	87,240	87,467	87,812	87,883	88,301	88,075	88,817
Civilian labor force	82,715	84,113	83,455	83,788	83,986	83,401	83,930	84,313	84,491	84,750	85,116	85,225	85,707	85,535	86,313
Employed	78,627	79,120	78,446	78,732	78,830	78,600	79,014	79,199	79,451	79,832	80,020	80,098	80,636	80,623	81,241
Agriculture	3,462	3,378	3,387	3,540	3,412	3,301	3,374	3,407	3,363	3,416	3,419	3,400	3,393	3,357	3,482
Nonagriculture	75,165	75,732	75,059	75,192	75,418	75,299	75,640	75,792	76,088	76,416	76,601	76,698	77,243	77,266	77,759
Unemployed	4,088	4,993	5,009	5,056	5,156	4,801	4,916	5,114	5,040	4,918	5,096	5,127	5,071	4,912	5,072
MEN, 20 YEARS AND OVER															
Total labor force	49,948	50,308	50,026	50,234	50,368	50,256	50,369	50,458	50,492	50,530	50,527	50,463	50,498	50,373	50,714
Civilian labor force	47,189	47,861	47,457	47,707	47,869	47,820	47,949	48,057	48,113	48,179	48,200	48,169	48,259	48,181	48,582
Employed	45,553	45,775	45,411	45,618	45,725	45,762	45,879	45,893	45,969	46,124	46,066	46,080	46,247	46,255	46,569
Agriculture	2,527	2,446	2,439	2,469	2,448	2,423	2,449	2,462	2,435	2,494	2,503	2,439	2,442	2,394	2,400
Nonagriculture	43,026	43,329	42,972	43,149	43,277	43,339	43,430	43,431	43,534	43,630	43,563	43,641	43,805	43,861	44,169
Unemployed	1,636	2,086	2,046	2,089	2,144	2,058	2,070	2,164	2,144	2,055	2,134	2,089	2,012	1,926	2,013
WOMEN, 20 YEARS AND OVER															
Civilian labor force	28,279	28,799	28,566	28,555	28,545	28,531	28,594	28,826	28,960	29,082	29,254	29,284	29,424	29,358	29,574
Employed	26,932	27,149	26,907	26,871	26,851	26,928	26,964	27,144	27,319	27,471	27,571	27,592	27,794	27,878	27,972
Agriculture	549	537	534	585	533	513	529	543	548	530	528	547	564	575	620
Nonagriculture	26,384	26,612	26,373	26,286	26,318	26,415	26,435	26,601	26,771	26,941	27,043	27,045	27,230	27,303	27,352
Unemployed	1,347	1,650	1,659	1,684	1,694	1,603	1,630	1,682	1,641	1,611	1,683	1,692	1,630	1,480	1,602
BOTH SEXES, 16–19 YEARS															
Civilian labor force	7,246	7,453	7,432	7,526	7,572	7,050	7,387	7,430	7,418	7,489	7,662	7,772	8,024	7,996	8,157
Employed	6,141	6,195	6,128	6,243	6,254	5,910	6,171	6,162	6,163	6,237	6,383	6,426	6,595	6,490	6,700
Agriculture	386	404	414	486	431	365	396	402	380	392	388	414	387	388	462
Nonagriculture	5,755	5,791	5,714	5,757	5,823	5,545	5,775	5,760	5,783	5,845	5,995	6,012	6,208	6,102	6,238
Unemployed	1,105	1,257	1,304	1,283	1,318	1,140	1,216	1,268	1,255	1,252	1,279	1,346	1,429	1,506	1,457

[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	1st	2d	3d	4th	1st	2d	3d	4th	1st	2d	3d	4th	1st
EMPLOYMENT (in thousands)	78,627	79,120	77,344	77,575	78,126	78,577	78,875	78,610	78,531	78,550	78,546	78,723	79,221	79,984	80,833
White-collar workers	37,997	38,252	36,266	36,699	36,961	37,445	37,940	38,004	37,970	38,074	37,938	38,004	38,456	38,612	38,710
Professional and technical	11,140	11,070	10,659	10,750	10,742	10,918	11,055	11,139	11,226	11,143	10,872	11,081	11,139	11,192	11,232
Managers and administrators, except farm	8,289	8,765	7,844	7,998	7,983	8,122	8,220	8,295	8,259	8,381	8,646	8,642	8,799	8,612	7,988
Sales workers	4,854	5,066	4,609	4,660	4,714	4,777	4,787	4,813	4,877	4,934	5,074	5,018	5,037	5,133	5,300
Clerical workers	13,714	13,440	13,154	13,291	13,522	13,628	13,878	13,757	13,608	13,616	13,346	13,263	13,481	13,675	14,190
Blue-collar workers	27,791	27,184	28,181	28,006	28,428	28,332	28,203	27,768	27,653	27,566	27,071	27,051	27,090	27,524	28,295
Craftsmen and kindred workers	10,158	10,178	10,283	10,054	10,200	10,235	10,235	10,135	10,124	10,149	10,106	10,119	10,111	10,373	10,910
Operatives	13,909	12,983	14,288	14,260	14,570	14,369	14,196	13,957	13,793	13,696	12,912	12,958	12,946	13,116	13,346
Nonfarm laborers	3,724	4,022	3,610	3,692	3,658	3,728	3,772	3,676	3,736	3,721	4,053	3,974	4,033	4,035	4,039
Service workers	9,712	10,676	9,509	9,494	9,509	9,594	9,610	9,620	9,814	9,804	10,627	10,607	10,715	10,751	10,852
Farm workers	3,126	3,008	3,431	3,393	3,229	3,121	3,141	3,206	3,108	3,033	2,988	3,033	2,992	3,023	3,030
UNEMPLOYMENT RATE	4.9	5.9	3.4	3.5	3.6	3.6	4.2	4.8	5.2	5.8	6.0	6.0	6.0	5.9	5.8
White-collar workers	2.8	3.5	2.0	2.0	2.2	2.1	2.4	2.7	2.9	3.4	3.6	3.5	3.5	3.5	3.5
Professional and technical	2.0	2.9	1.1	1.3	1.4	1.5	1.8	1.9	2.0	2.4	3.2	2.9	2.9	3.0	2.7
Managers and administrators, except farm	1.3	1.6	1.0	.9	.9	1.0	1.1	1.3	1.4	1.6	1.6	1.6	1.5	1.8	1.8
Sales workers	3.9	4.3	3.0	2.9	3.0	2.8	3.3	3.9	3.9	4.6	4.2	4.5	4.4	3.9	4.2
Clerical workers	4.0	4.8	2.9	2.8	3.2	3.1	3.4	3.9	4.1	4.8	4.9	4.8	4.9	4.8	4.8
Blue-collar workers	6.2	7.4	3.7	3.8	3.9	4.3	5.0	6.0	6.8	7.5	7.5	7.4	7.5	7.4	7.0
Craftsmen and kindred workers	3.8	4.7	2.2	2.1	2.1	2.3	2.7	3.9	4.5	4.6	4.7	4.3	5.3	4.7	4.2
Operatives	7.1	8.3	4.1	4.3	4.4	4.9	5.8	6.6	7.5	8.6	8.5	8.5	8.2	8.1	7.7
Nonfarm laborers	9.5	10.8	6.5	6.4	7.0	7.1	7.9	9.2	10.3	10.8	10.6	10.9	10.3	11.4	11.7
Service workers	5.3	6.3	4.0	4.4	4.5	4.0	4.7	5.0	5.5	6.0	6.1	6.3	6.5	6.4	6.2
Farm workers	2.6	2.6	1.6	1.9	2.1	1.9	2.1	2.6	2.9	3.0	2.8	2.1	2.7	2.8	2.4

[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		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
NUMBER OF UNEMPLOYED													
Lost last job	2,225	2,300	2,321	2,342	2,280	2,460	2,369	2,206	2,360	2,365	2,169	2,077	2,118
Left last job	593	602	611	501	510	572	583	541	629	666	564	603	674
Reentered labor force	1,511	1,459	1,513	1,371	1,534	1,509	1,536	1,486	1,493	1,432	1,652	1,503	1,542
Never worked before	658	666	705	558	570	651	603	663	651	736	742	713	737
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	44.6	45.8	45.1	49.1	46.6	47.4	46.5	45.1	46.0	45.5	42.3	42.4	41.8
Left last job	11.9	12.0	11.9	10.5	10.4	11.0	11.5	11.0	12.3	12.8	11.0	12.3	13.3
Reentered labor force	30.3	29.0	29.4	28.7	31.3	29.1	30.2	30.4	29.1	27.5	32.2	30.7	30.4
Never worked before	13.2	13.2	13.7	11.7	11.6	12.5	11.8	13.5	12.7	14.2	14.5	14.6	14.5
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Lost last job	2.7	2.7	2.8	2.8	2.7	2.9	2.8	2.6	2.8	2.8	2.5	2.4	2.5
Left last job	.7	.7	.7	.6	.6	.7	.7	.6	.7	.8	.7	.7	.8
Reentered labor force	1.8	1.7	1.8	1.6	1.8	1.8	1.8	1.8	1.8	1.7	1.9	1.8	1.8
Never worked before	.8	.8	.8	.7	.7	.8	.7	.8	.8	.9	.9	.8	.9

[1] Seasonally adjusted data for unemployed persons who never worked before have been changed as a result of a revision in the seasonal adjustment procedures affecting this series.

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	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	4.9	5.9	6.0	6.0	6.1	5.8	5.9	6.1	6.0	5.8	6.0	6.0	5.9	5.7	5.9
16 to 19 years	15.3	16.9	17.5	17.0	17.4	16.2	16.5	17.1	16.9	16.7	16.7	17.3	17.8	18.8	17.9
16 and 17 years	17.1	18.7	18.7	18.2	19.0	18.7	18.3	19.5	18.4	19.9	18.3	18.8	19.1	22.0	20.7
18 and 19 years	13.8	15.5	16.7	15.7	17.1	14.3	15.0	15.0	15.8	14.5	15.4	16.3	16.8	16.7	15.8
20 to 24 years	8.2	10.0	10.1	10.2	10.8	10.1	9.8	10.0	9.6	9.2	10.4	10.1	10.1	8.8	9.9
25 years and over	3.3	4.0	4.0	4.0	4.0	3.9	4.0	4.1	4.0	4.0	4.0	4.1	3.7	3.6	3.7
25 to 54 years	3.4	4.2	4.2	4.2	4.1	4.1	4.2	4.2	4.3	4.3	4.2	4.3	3.9	3.7	3.9
55 years and over	2.8	3.4	3.4	3.5	3.5	3.3	3.2	3.5	3.2	3.0	3.4	3.4	3.1	3.1	3.3
Male, 16 years and over	4.4	5.3	5.3	5.4	5.5	5.2	5.2	5.5	5.4	5.3	5.4	5.4	5.3	5.3	5.3
16 to 19 years	15.0	16.6	16.8	16.5	17.6	16.1	15.8	17.2	16.3	16.5	16.2	17.3	17.3	19.6	17.8
16 and 17 years	16.9	18.6	18.3	18.7	17.8	18.4	18.4	19.4	18.6	20.3	18.1	19.0	18.7	21.8	21.4
18 and 19 years	13.4	15.0	15.7	14.8	18.3	14.3	13.7	15.0	14.6	13.7	14.7	16.0	16.1	17.6	15.1
20 to 24 years	8.4	10.3	10.2	10.3	10.7	10.1	10.2	10.5	10.2	9.7	10.7	10.5	10.4	9.2	10.4
25 years and over	2.8	3.5	3.5	3.5	3.5	3.4	3.4	3.6	3.5	3.5	3.5	3.5	3.2	3.2	3.2
25 to 54 years	2.6	3.5	3.5	3.4	3.5	3.5	3.5	3.6	3.7	3.7	3.7	3.6	3.3	3.2	3.1
55 years and over	2.9	3.4	3.5	3.6	3.5	3.3	3.1	3.3	3.0	2.9	3.2	3.0	3.0	3.2	3.4
Female, 16 years and over	5.9	6.9	7.1	7.1	7.1	6.7	6.9	7.0	6.9	6.7	6.9	7.0	6.9	6.4	6.8
16 to 19 years	15.6	17.2	18.5	17.7	17.1	16.3	17.2	16.9	17.6	17.0	17.3	17.3	18.4	17.9	17.9
16 and 17 years	17.4	18.7	19.3	17.7	20.5	19.3	18.3	19.5	18.0	19.2	18.7	18.5	19.6	22.3	19.8
18 and 19 years	14.4	16.2	17.8	16.7	15.7	14.4	16.4	15.1	17.3	15.6	16.2	16.7	17.7	15.6	16.8
20 to 24 years	7.9	9.6	10.0	10.1	10.8	10.1	9.4	9.4	8.9	8.6	10.0	9.6	9.6	8.4	9.2
25 years and over	4.1	4.9	5.0	5.0	4.8	4.7	4.9	5.0	4.9	4.9	4.8	5.0	4.6	4.3	4.7
25 to 54 years	4.5	5.3	5.5	5.5	5.2	5.2	5.4	5.4	5.3	5.3	5.2	5.4	4.9	4.7	5.1
55 years and over	2.8	3.4	3.2	3.3	3.4	3.5	3.3	3.8	3.4	3.0	3.7	3.9	3.3	2.9	3.1

[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.**

8. Unemployment indicators, seasonally adjusted [1]

[In percent]

Selected categories	Annual average		1971										1972		
	1970	1971	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total (all civilian workers)	4.9	5.9	6.0	6.0	6.1	5.8	5.9	6.1	6.0	5.8	6.0	6.0	5.9	5.7	5.9
Men, 20 years and over	3.5	4.4	4.3	4.4	4.5	4.3	4.3	4.5	4.5	4.3	4.4	4.3	4.2	4.0	4.1
Women, 20 years and over	4.8	5.7	5.8	5.9	5.9	5.6	5.7	5.8	5.7	5.5	5.8	5.8	5.5	5.0	5.4
Both sexes 16–19 years	15.3	16.9	17.5	17.0	17.4	16.2	16.5	17.1	16.9	16.7	16.7	17.3	17.8	18.8	17.9
White	4.5	5.4	5.5	5.6	5.6	5.3	5.4	5.6	5.4	5.3	5.6	5.4	5.3	5.1	5.3
Negro and other	8.2	9.9	9.5	9.8	10.5	9.4	10.0	9.9	10.4	10.4	9.4	10.4	10.6	10.5	10.5
Married men	2.6	3.2	3.2	3.2	3.2	3.1	3.1	3.2	3.3	3.0	3.3	3.2	3.0	2.8	2.8
Vietnam Era veterans,[2] men:															
20 to 29 years	6.9	8.8	9.2	9.1	9.3	8.9	8.6	9.3	9.8	8.0	8.5	8.4	8.5	7.4	8.6
20 to 24 years	9.3	12.2	12.6	13.2	13.2	13.5	11.2	13.4	12.3	9.7	12.0	12.6	12.3	9.7	12.3
25 to 29 years	4.3	5.7	6.1	5.4	5.8	4.7	6.3	5.7	7.6	6.5	5.6	5.1	5.6	5.4	5.6
Nonveterans, men:															
20 to 29 years	6.0	7.3	7.3	7.0	7.4	6.9	7.2	8.0	6.7	7.3	8.1	7.7	7.5	7.0	7.5
20 to 24 years	8.0	9.5	9.5	9.2	9.9	9.3	9.2	10.5	8.6	9.3	10.3	9.6	9.8	9.0	10.1
25 to 29 years	3.8	4.7	4.7	4.4	4.4	4.1	4.7	4.9	4.4	4.9	5.5	5.2	4.5	4.4	4.1
Full-time workers	4.5	5.5	5.5	5.5	5.7	5.3	5.4	5.6	5.6	5.4	5.7	5.7	5.4	5.3	5.4
Unemployed:															
15 weeks and over [3]	.8	1.4	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4
State insured [4]	3.6	4.4	3.9	4.0	4.2	4.2	4.0	4.2	4.3	4.4	4.1	4.1	3.4	3.5	3.5
Labor force time lost [5]	5.4	6.4	6.5	6.5	6.6	5.6	6.3	6.5	6.3	6.5	6.4	6.4	6.4	6.1	6.3
OCCUPATION															
White-collar workers	2.8	3.5	3.7	3.7	3.6	3.2	3.5	3.5	3.4	3.4	3.4	3.6	3.6	3.3	3.5
Professional and managerial	1.7	2.9	2.6	2.5	2.5	2.0	2.3	2.3	2.2	2.4	2.5	2.5	2.6	2.2	2.3
Sales workers	3.9	4.3	4.5	4.4	5.1	4.1	4.6	4.4	4.1	3.9	3.9	4.0	4.4	4.0	4.1
Clerical workers	4.0	4.8	4.9	5.0	4.8	4.7	4.9	4.9	4.8	4.7	4.6	4.9	4.7	4.7	4.9
Blue-collar workers	6.2	7.4	7.4	7.5	7.5	7.1	7.2	7.5	7.7	7.1	7.5	7.5	7.1	7.0	6.9
Craftsmen and kindred workers	3.8	4.7	4.8	4.6	4.3	4.1	5.1	5.3	5.3	4.7	4.6	4.8	4.3	4.4	4.0
Operatives	7.1	8.3	8.5	8.7	8.7	8.2	8.1	8.3	8.3	7.8	8.2	8.2	7.9	7.5	7.7
Nonfarm laborers	9.5	10.8	10.4	10.4	11.4	11.1	9.2	10.6	11.2	10.6	11.8	11.9	11.6	11.8	11.7
Service workers	5.3	6.3	6.1	6.3	6.4	6.3	6.5	6.5	6.5	6.0	6.6	6.4	6.1	5.9	6.6
INDUSTRY															
Nonagricultural private wage and salary workers [6]	5.2	6.2	6.4	6.3	6.4	6.1	6.1	6.2	6.2	5.9	6.2	6.3	6.1	5.9	6.1
Construction	9.7	10.4	10.7	10.0	11.0	10.3	9.8	9.9	9.7	10.2	9.7	11.2	9.8	10.3	9.8
Manufacturing	5.6	6.8	7.0	7.0	6.9	6.7	6.7	6.8	6.9	6.2	6.6	6.9	6.4	6.0	6.2
Durable goods	5.7	7.0	7.3	7.5	7.3	7.0	6.8	6.9	7.0	6.4	6.7	6.7	6.7	6.1	6.3
Nondurable goods	5.4	6.5	6.5	6.4	6.4	6.2	6.5	6.8	6.8	5.8	6.3	7.1	6.0	6.0	6.1
Transportation and public utilities	3.2	3.8	3.4	3.8	4.3	3.4	3.1	3.3	3.6	4.3	4.4	4.1	4.1	3.9	4.0
Wholesale and retail trade	5.3	6.4	6.7	6.5	6.8	6.5	6.4	6.3	6.3	6.1	6.6	6.5	6.3	6.2	6.7
Finance and service industries	4.2	5.1	5.2	5.2	5.1	4.8	5.2	5.3	5.1	4.9	5.1	4.9	5.3	4.9	5.3
Government wage and salary workers	2.2	2.9	2.8	2.9	3.0	2.6	2.9	3.1	3.0	3.2	3.2	3.2	3.0	2.8	2.8
Agricultural wage and salary workers	7.5	7.9	6.7	6.4	7.7	6.3	7.8	8.8	8.5	7.0	9.6	7.5	8.6	8.3	6.0

[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.

9. Duration of unemployment, seasonally adjusted [1]

[In thousands]

Period	Annual average		1971										1972		
	1970	1971	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	2,137	2,234	2,155	2,176	2,245	2,118	2,150	2,320	2,317	2,140	2,290	2,410	2,358	2,142	2,311
5 to 14 weeks	1,289	1,578	1,633	1,587	1,552	1,572	1,532	1,553	1,567	1,529	1,650	1,509	1,502	1,454	1,412
15 weeks and over	662	1,181	1,100	1,088	1,183	1,175	1,255	1,291	1,250	1,253	1,311	1,273	1,198	1,294	1,224
15 to 26 weeks	427	665	645	640	667	630	704	735	683	628	741	724	636	634	591
27 weeks and over	235	517	455	448	516	545	551	556	567	625	570	549	562	660	633
15 weeks and over as a percent of civilian labor force	.8	1.4	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4
Average (mean duration, in weeks)	8.8	11.4	10.7	11.0	11.4	12.6	11.5	11.6	12.0	12.5	11.8	11.4	11.8	12.5	12.4

[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 1971 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	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Employment service: [2]													
New applications for work	739	833	761	777	1,005	815	779	767	663	763	679	----	----
Nonfarm placements	233	295	309	308	365	315	366	353	288	317	266	----	----
State unemployment insurance program:													
Initial claims [3 4]	1,291	1,265	1,111	964	1,152	1,468	1,277	1,043	1,048	1,336	1,623	p 1,635	----
Insured unemployment [5] (average weekly volume) [6]	2,751	2,577	2,283	2,001	1,893	1,993	1,912	1,739	1,716	1,879	2,221	2,524	2,491
Rate of insured unemployment [7]	5.2	4.8	4.3	3.8	3.6	3.8	3.6	3.3	3.2	3.5	4.2	4.8	4.7
Weeks of unemployment compensated	r9,691	r10,808	9,224	p 7,431	p 7,542	6,740	6,503	5,923	r 5,336	p 5,917	p 7,317	p 8,575	----
Average weekly benefit amount for total unemployment	p $52.13	r$53.00	r$52.71	r$52.32	r$52.09	$55.23	$56.08	$56.25	r $57.15	$53.31	p $53.88	p $54.96	----
Total benefits paid	p$557,669	$631,032	$541,933	p$434,463	$446,691	r$425,440	r$433,636	r$377,795	p$348,281	p$387,019	p$467,913	p $523,652	----
Unemployment compensation for ex-servicemen: [8 6]													
Initial claims [3 6]	50	57	51	45	54	53	54	48	43	51	59	p 67	----
Insured unemployment [6] (average weekly volume)	128	128	121	113	114	120	120	106	97	105	118	133	140
Weeks of unemployment compensated	r510	r587	533	462	506	r 494	r525	p 478	401	p 416	488	p 514	----
Total benefits paid	$28,273	$33,254	$30,757	$27,010	$30,117	r$30,047	r $31,552	p$28,944	p $28,631	p$27,828	p$28,351	p $29,799	----
Unemployment compensation for Federal civilian employees: [9 10]													
Initial claims [3]	11	12	12	10	20	16	12	12	13	14	13	p 16	----
Insured unemployment [5] (average weekly volume)	37	35	31	29	31	36	35	33	35	35	35	37	38
Weeks of unemployment compensated	148	167	139	119	126	137	p 157	148	p 132	p 141	p 155	p 143	----
Total benefits paid	$8,785	$10,435	$8,912	$7,459	$7,843	r $8,392	r $9,261	$8,878	p $8,094	p $8,550	p $9,991	p $8,461	----
Railroad unemployment insurance:													
Applications [11]	38	30	85	36	45	89	98	100	48	19	69	c 8	4
Insured unemployment (average weekly volume)	22	19	20	18	13	15	32	33	27	48	33	36	27
Number of payments [12]	73	67	119	63	68	99	105	163	124	106	857	87	63
Average amount of benefit payment [13]	$61.46	$70.01	$38.34	$55.53	$58.97	$46.07	$83.28	$69.35	$61.95	r $100.32	$101.32	$97.79	$99.11
Total benefits paid [14]	$4,352	$4,566	$4,364	$3,522	$4,159	$3,800	$8,698	$11,134	$7,616	$9,930	$8,891	$8,007	$6,212
All programs: [15]													
Insured unemployment [6]	3,216	3,091	2,756	2,443	2,332	2,431	2,349	2,174	2,129	2,311	2,666	3,097	3,122

[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.

p=preliminary.
r=revised.
c=corrected.

11. Employees on nonagricultural payrolls, by industry division, 1947 to date [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 will be 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 receive 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	Feb. 1971	Jan. 1972	Feb. 1972 p	State	Feb. 1971	Jan. 1972	Feb. 1972 p
Alabama	998.2	1,013.1	1,012.9	Montana	193.5	200.0	199.6
Alaska	86.3	88.9	89.3	Nebraska [1]	474.7	485.8	486.2
Arizona	561.1	601.1	607.0	Nevada	201.4	203.6	204.6
Arkansas	526.6	536.7	538.2	New Hampshire	247.8	252.7	252.5
California	6,770.3	6,911.7	6,899.4	New Jersey [1]	2,546.1	2,561.8	2,562.2
Colorado	753.5	784.9	785.0	New Mexico	291.7	303.5	305.6
Connecticut	1,147.7	1,159.6	1,154.7	New York	6,924.4	6,842.3	6,833.2
Delaware	209.1	213.4	208.6	North Carolina	1,766.6	1,799.7	1,805.4
District of Columbia [1]	673.3	679.8	681.0	North Dakota	157.6	162.4	162.3
Florida	2,217.6	2,287.0	2,298.2	Ohio	3,769.8	3,770.4	3,774.0
Georgia	1,554.7	1,588.1	1,588.5	Oklahoma	760.9	790.8	790.0
Hawaii	294.3	299.4	300.4	Oregon	692.3	724.8	727.6
Idaho	204.6	213.4	213.8	Pennsylvania [1]	4,220.6	7,231.9	4,227.3
Illinois	4,195.4	4,212.1	4,214.9	Rhode Island	329.6	335.5	333.5
Indiana	1,793.9	1,809.9	1,812.8	South Carolina	840.0	873.0	876.2
Iowa	862.3	882.5	884.5	South Dakota	173.3	176.1	175.2
Kansas	657.2	668.0	668.9	Tennessee	1,311.5	1,379.3	1,378.6
Kentucky	913.1	931.7	928.2	Texas	3,612.9	3,700.6	3,705.3
Louisiana	1,026.6	1,066.2	1,066.9	Utah	358.2	372.7	374.3
Maine	323.6	325.8	325.7	Vermont	145.3	146.6	147.8
Maryland	1,281.0	1,311.0	1,311.5	Virginia	1,446.9	1,516.2	1,517.7
Massachusetts	2,222.0	2,225.4	2,220.7	Washington	1,036.3	1,040.4	1,038.1
Michigan	2,948.4	2,968.4	2,959.2	West Virginia [1]	508.8	520.2	520.5
Minnesota	1,252.3	1,294.7	1,291.4	Wisconsin	1,474.9	1,509.5	1,507.3
Mississippi	573.0	594.7	596.1	Wyoming	102.5	107.7	107.7
Missouri	1,619.4	1,612.0	1,608.4				

[1] Revised series; not strictly comparable with previously published data.

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	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL	70,616	70,699	69,782	70,309	70,738	71,355	70,452	70,542	71,184	71,379	71,638	72,034	70,643	70,749	71,328
MINING	622	601	608	617	622	634	613	625	623	522	524	605	602	595	599
CONTRACT CONSTRUCTION	3,345	3,259	2,967	3,164	3,265	3,414	3,480	3,509	3,471	3,478	3,410	3,177	2,965	2,883	2,961
MANUFACTURING	19,369	18,610	18,488	18,482	18,554	18,746	18,448	18,651	18,840	18,709	18,693	18,595	18,440	18,523	18,645
Production workers [2]	14,033	13,487	13,345	13,357	13,441	13,611	13,315	13,524	13,738	13,616	13,605	13,514	13,373	13,448	13,557
Durable goods	11,198	10,590	10,550	10,562	10,607	10,694	10,487	10,485	10,657	10,605	10,612	10,575	10,522	10,579	10,665
Production workers [2]	8,043	7,612	7,552	7,578	7,634	7,713	7,512	7,514	7,695	7,650	7,660	7,629	7,581	7,630	7,710
Ordnance and accessories	242.1	193.0	195.7	192.8	194.2	192.7	189.9	189.9	190.2	188.3	187.3	185.5	184.2	183.4	183.7
Lumber and wood products	572.5	579.8	554.2	556.4	566.9	593.3	596.4	602.3	601.5	601.8	598.1	591.8	584.5	586.0	595.7
Furniture and fixtures	459.9	459.1	447.4	448.1	451.3	459.3	452.1	459.1	468.3	472.8	475.8	478.3	477.8	478.8	480.3
Stone, clay, and glass products	638.5	628.5	608.9	622.8	630.1	641.7	638.6	643.8	644.0	637.7	636.3	627.3	620.5	620.6	628.5
Primary metal industries	1,314.8	1,224.6	1,265.7	1,273.3	1,278.8	1,283.1	1,238.9	1,164.1	1,176.0	1,165.4	1,165.2	1,168.6	1,180.5	1,184.5	1,206.3
Fabricated metal products	1,379.9	1,331.9	1,291.0	1,323.3	1,328.5	1,343.6	1,319.4	1,332.4	1,354.1	1,349.2	1,350.7	1,343.4	1,333.1	1,339.2	1,349.6
Machinery, except electrical	1,976.9	1,791.0	1,812.2	1,796.7	1,784.3	1,784.6	1,772.4	1,767.6	1,788.4	1,774.4	1,778.9	1,786.2	1,782.3	1,808.2	1,817.4
Electrical equipment	1,922.9	1,787.8	1,781.2	1,772.8	1,775.5	1,780.6	1,758.7	1,777.2	1,803.2	1,800.2	1,806.7	1,805.8	1,793.6	1,800.8	1,812.9
Transportation equipment	1,806.8	1,751.4	1,765.4	1,748.7	1,764.0	1,770.7	1,688.7	1,694.6	1,768.7	1,749.4	1,750.6	1,743.3	1,730.1	1,733.3	1,737.6
Instruments and related products	458.6	432.0	428.5	425.4	427.6	430.9	430.2	432.4	434.8	436.2	436.7	435.3	435.1	437.8	440.5
Miscellaneous manufacturing	425.7	410.6	399.5	401.7	406.2	413.3	402.1	421.4	428.1	429.6	425.8	409.8	400.2	406.2	412.4
Nondurable goods	8,171	8,020	7,938	7,920	7,947	8,052	7,961	8,166	8,183	8,104	8,081	8,020	7,918	7,944	7,980
Production workers [2]	5,990	5,875	5,793	5,779	5,807	5,898	5,803	6,010	6,043	5,966	5,945	5,885	5,792	5,818	5,847
Food and kindred products	1,781.7	1,753.5	1,678.6	1,674.3	1,693.2	1,749.3	1,797.0	1,882.8	1,879.3	1,803.8	1,770.8	1,734.0	1,688.2	1,667.4	1,673.0
Tobacco manufactures	81.7	73.6	70.1	69.2	68.4	67.9	61.9	77.7	84.2	80.0	76.5	73.4	70.2	68.3	67.5
Textile mill products	977.6	961.7	954.7	954.9	958.5	968.2	948.6	964.7	964.5	965.5	973.7	976.3	972.3	976.0	985.6
Apparel and other textile products	1,372.2	1,361.5	1,374.8	1,362.5	1,369.8	1,372.3	1,304.1	1,366.1	1,374.2	1,379.0	1,380.6	1,355.6	1,335.7	1,364.5	1,370.2
Paper and allied products	706.5	687.5	683.8	683.4	675.3	690.2	677.7	688.1	696.7	691.9	693.5	693.5	684.3	683.5	686.2
Printing and publishing	1,106.8	1,087.7	1,092.0	1,087.0	1,085.1	1,088.6	1,082.2	1,080.6	1,081.4	1,087.4	1,087.9	1,091.4	1,085.5	1,089.1	1,092.5
Chemicals and allied products	1,051.3	1,014.8	1,019.1	1,021.6	1,020.4	1,222.9	1,018.2	1,015.4	1,009.4	1,004.7	1,003.6	1,001.0	995.3	995.9	999.4
Petroleum and coal products	190.4	189.8	187.0	188.0	189.8	192.6	193.7	193.2	191.9	190.4	189.1	188.6	183.2	186.7	186.7
Rubber and plastics products, nec	580.4	582.0	571.2	572.9	577.7	585.0	577.4	584.5	595.9	597.4	597.0	597.8	597.5	602.8	607.9
Leather and leather products	322.2	307.9	306.6	306.5	308.8	314.9	300.0	313.2	305.5	304.1	308.6	308.0	306.1	310.0	311.2
TRANSPORTATION AND PUBLIC UTILITIES	4,504	4,481	4,466	4,469	4,500	4,549	4,534	4,486	4,509	4,455	4,447	4,469	4,430	4,411	4,474
WHOLESALE AND RETAIL TRADE	14,922	15,174	14,789	14,974	15,071	15,192	15,132	15,151	15,242	15,327	15,537	16,089	15,266	15,143	15,285
Wholesale trade	3,824	3,855	3,806	3,808	3,823	3,860	3,877	3,886	3,880	3,896	3,905	3,915	3,871	3,871	3,888
Retail trade	11,098	11,319	10,983	11,166	11,248	11,332	11,255	11,265	11,362	11,431	11,632	12,174	11,395	11,272	11,397
FINANCE, INSURANCE, AND REAL ESTATE	3,690	3,800	3,735	3,758	3,780	3,837	3,867	3,865	3,829	3,826	3,836	3,841	3,833	3,843	3,864
SERVICES	11,630	11,917	11,758	11,867	11,953	12,050	12,040	11,994	11,986	12,020	12,032	12,029	11,926	12,018	12,113
Hotels and other lodging places	761.9	774.2	726.2	747.7	764.1	810.7	878.1	882.9	812.1	759.0	736.0	746.8	750.3	760.5	-------
Personal services	992.3	946.1	952.7	949.0	958.6	958.4	939.6	932.2	933.3	939.9	946.4	935.3	922.1	920.7	-------
Medical and other health services	3,052.4	3,239.6	3,179.5	3,188.7	3,206.0	3,254.0	3,270.4	3,273.3	3,279.8	3,294.2	3,305.7	3,312.8	3,326.3	3,342.2	-------
Educational services	1,136.2	1,158.6	1,227.7	1,218.9	1,213.7	1,109.4	998.3	973.5	1,109.3	1,210.3	1,230.2	1,220.5	1,193.5	1,228.6	-------
GOVERNMENT	12,535	12,858	12,971	12,978	12,993	12,933	12,338	12,261	12,684	13,042	13,159	13,229	13,181	13,333	13,387
Federal	2,705	2,664	2,649	2,662	2,659	2,674	2,688	2,690	2,666	2,659	2,655	2,684	2,654	2,656	2,659
State and local	9,830	10,194	10,322	10,316	10,334	10,259	9,650	9,571	10,018	10,383	10,504	10,545	10,527	10,677	10,728

[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 will be 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, auxillary 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		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL	70,480	70,599	70,769	70,657	70,531	70,529	70,853	70,848	71,042	71,185	71,584	71,702	71,978
MINING	622	623	622	619	597	609	616	521	525	607	616	611	613
CONTRACT CONSTRUCTION	3,264	3,282	3,275	3,255	3,228	3,219	3,250	3,290	3,320	3,245	3,320	3,239	3,257
MANUFACTURING	18,609	18,639	18,702	18,608	18,533	18,457	18,616	18,560	18,603	18,566	18,609	18,676	18,766
Production workers [2]	13,448	13,502	13,569	13,496	13,440	13,371	13,515	13,462	13,505	13,474	13,527	13,581	13,662
Durable goods	10,571	10,598	10,651	10,598	10,552	10,485	10,597	10,561	10,572	10,548	10,574	10,627	10,687
Production workers [2]	7,569	7,612	7,667	7,627	7,594	7,534	7,630	7,600	7,614	7,594	7,629	7,668	7,728
Ordnance and accessories	195	194	196	193	191	191	190	189	186	184	183	183	183
Lumber and wood products	566	567	570	574	579	583	591	597	601	600	604	602	608
Furniture and fixtures	450	452	457	458	461	456	465	467	470	474	478	480	483
Stone, clay, and glass products	622	628	633	629	625	627	633	631	634	632	640	640	642
Primary metal industries	1,264	1,270	1,272	1,259	1,226	1,156	1,182	1,187	1,178	1,176	1,186	1,185	1,205
Fabricated metal products	1,298	1,333	1,339	1,333	1,335	1,331	1,346	1,341	1,339	1,331	1,336	1,346	1,356
Machinery, except electrical	1,796	1,784	1,783	1,769	1,770	1,775	1,794	1,791	1,797	1,793	1,784	1,799	1,801
Electrical equipment	1,787	1,789	1,793	1,783	1,773	1,772	1,791	1,793	1,791	1,793	1,792	1,803	1,818
Transportation equipment	1,753	1,745	1,768	1,759	1,751	1,754	1,758	1,720	1,732	1,719	1,716	1,728	1,726
Instruments and related products	429	426	429	430	431	430	435	437	436	434	436	439	441
Miscellaneous manufacturing	411	410	411	411	410	410	412	408	408	412	419	422	424
Nondurable goods	8,038	8,041	8,051	8,010	7,981	7,972	8,019	7,999	8,031	8,018	8,035	8,049	8,079
Production workers [2]	5,879	5,890	5,902	5,869	5,846	5,837	5,885	5,862	5,891	5,880	5,898	5,913	5,934
Food and kindred products	1,760	1,753	1,758	1,751	1,762	1,748	1,755	1,728	1,750	1,748	1,757	1,748	1,754
Tobacco manufactures	77	79	78	77	69	70	72	69	71	69	71	71	74
Textile mill products	958	958	963	956	959	959	960	963	970	974	979	980	989
Apparel and other textile products	1,368	1,374	1,373	1,357	1,349	1,351	1,361	1,365	1,370	1,357	1,353	1,363	1,363
Paper and allied products	689	690	681	682	676	681	694	693	691	690	688	688	691
Printing and publishing	1,092	1,088	1,091	1,088	1,083	1,080	1,082	1,085	1,084	1,084	1,090	1,091	1,093
Chemicals and allied products	1,021	1,021	1,024	1,016	1,008	1,004	1,008	1,008	1,008	1,005	1,003	1,002	1,001
Petroleum and coal products	191	190	190	189	188	188	190	189	189	191	188	192	191
Rubber and plastics, products, nec	574	577	582	583	584	582	591	594	592	594	600	604	611
Leather and leather products	308	311	311	311	303	309	306	305	306	306	306	310	312
TRANSPORTATION AND PUBLIC UTILITIES	4,520	4,505	4,518	4,500	4,476	4,428	4,460	4,442	4,434	4,465	4,502	4,483	4,528
WHOLESALE AND RETAIL TRADE	15,074	15,107	15,148	15,135	15,158	15,223	15,273	15,270	15,278	15,315	15,447	15,491	15,529
Wholesale trade	3,852	3,854	3,886	3,837	3,835	3,844	3,865	3,873	3,874	3,884	3,902	3,918	3,935
Retail trade	11,222	11,253	11,282	11,298	11,323	11,379	11,408	11,397	11,404	11,431	11,545	11,573	11,594
FINANCE, INSURANCE, AND REAL ESTATE	3,758	3,769	3,788	3,807	3,806	3,804	3,821	3,834	3,851	3,860	3,872	3,878	3,887
SERVICES	11,841	11,843	11,858	11,895	11,921	11,946	11,962	11,996	12,044	12,089	12,120	12,164	12,198
Hotels and other lodging places	766	768	768	775	755	760	796	784	785	801	813	813	----
Personal services	960	960	954	943	933	935	938	937	941	932	932	934	----
Medical and other health services	3,186	3,198	3,222	3,231	3,241	3,260	3,283	3,297	3,306	3,323	3,336	3,349	----
Educational services	1,168	1,168	1,167	1,155	1,142	1,139	1,160	1,165	1,168	1,165	1,160	1,169	----
GOVERNMENT	12,792	12,831	12,858	12,838	12,812	12,843	12,855	12,935	12,987	13,038	13,098	13,160	13,200
Federal	2,662	2,667	2,667	2,640	2,643	2,650	2,674	2,675	2,669	2,669	2,675	2,672	2,672
State and local	10,130	10,164	10,191	10,198	10,169	10,193	10,181	10,260	10,318	10,369	10,423	10,488	10,528

[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 will be 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	p 3.7										
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	3.2	2.7	2.2	1.6
1972		2.5	p 2.5										
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	p 3.5										
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	.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	p 1.6										
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	1.0	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	p 1.1										

[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 will be 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		
	Feb. 1971	Jan. 1972	Feb. 1972 p	Feb. 1971	Jan. 1972	Feb. 1972 p	Feb. 1971	Jan. 1972	Feb. 1972 p	Feb. 1971	Jan. 1972	Feb. 1972 p	Feb. 1971	Jan. 1972	Feb. 1972 p
MANUFACTURING	3.1	4.1	3.7	1.9	2.5	2.5	3.5	4.0	3.5	1.3	1.7	1.6	1.4	1.4	1.1
Seasonally adjusted [2]	3.7	4.4	4.5	2.4	2.9	3.1	4.1	4.2	4.1	1.7	2.0	2.1	1.5	1.3	1.2
Durable goods	2.9	3.9	3.6	1.6	2.3	2.3	3.3	3.6	3.2	1.0	1.3	1.3	1.5	1.4	1.1
Ordnance and accessories	1.7	1.8	.....	.7	1.0	.....	4.3	2.3	.....	.6	.7	.....	3.0	1.0	.....
Lumber and wood products	4.7	5.2	4.9	3.3	4.1	4.0	4.7	5.1	4.5	2.1	2.8	2.7	1.9	1.5	1.0
Furniture and fixtures	4.3	6.1	5.4	3.2	5.1	4.6	4.6	5.3	5.1	2.3	3.3	3.1	1.4	.9	.8
Stone, clay, and glass products	3.4	3.9	3.7	2.0	2.4	2.4	3.9	4.5	3.7	1.3	1.6	1.5	1.8	2.0	1.4
Primary metal industries	3.1	4.1	3.7	1.6	1.2	1.4	2.4	2.9	2.7	.7	3.7	.8	.8	1.2	1.0
Fabricated metal products	3.2	4.2	.....	1.9	2.7	.....	3.8	4.2	.....	1.2	1.5	.....	1.9	1.7	.....
Machinery except electrical	2.0	3.2	2.8	1.1	1.9	1.9	2.6	2.6	2.5	.7	.9	1.0	1.2	.8	.8
Electrical equipment	2.4	3.1	.....	1.1	2.0	.....	3.1	3.2	.....	.9	1.2	.....	1.3	1.0	.....
Transportation equipment	2.9	3.8	.....	1.4	1.7	.....	3.3	3.9	.....	.8	1.0	.....	1.8	2.0	.....
Instruments and related products	2.0	3.0	2.7	1.4	2.2	2.0	2.5	2.8	2.2	.9	1.2	1.1	1.0	.8	.5
Miscellaneous manufacturing	4.7	6.1	5.7	2.8	3.8	3.7	4.3	5.0	4.7	1.6	2.1	2.2	1.8	1.9	1.6
Nondurable goods	3.4	4.3	3.8	2.2	2.9	2.7	3.7	4.5	3.9	1.6	2.1	2.0	1.3	1.5	1.2
Food and kindred products	3.9	4.8	4.2	2.5	2.9	2.6	4.8	5.8	5.6	1.9	2.3	2.1	2.3	2.7	2.8
Tobacco manufactures	2.1	2.6	1.8	1.4	1.6	1.1	5.3	5.1	3.1	1.2	1.4	1.1	3.5	2.9	1.2
Textile mill products	4.1	5.6	4.9	2.9	4.2	3.8	4.3	5.2	4.7	2.5	3.3	3.1	.9	.9	.6
Apparel and other textile products	4.6	5.9	5.5	2.9	3.8	3.7	4.1	5.7	4.7	2.1	3.0	2.8	1.2	2.0	1.3
Paper and allied products	2.2	2.6	2.4	1.4	1.7	1.7	2.8	3.1	2.5	1.1	1.2	1.1	1.1	1.1	.7
Printing and publishing	2.5	3.2	2.8	1.8	2.5	2.1	2.6	3.2	2.6	1.2	1.6	1.4	.8	.9	.7
Chemicals and allied products	1.7	2.1	2.0	1.1	1.4	1.4	2.1	2.5	2.0	.7	.8	.8	.8	.8	.6
Petroleum and coal products	1.4	2.0	1.4	1.2	1.4	1.1	1.7	1.7	1.7	.5	.5	.6	.5	.4	.4
Rubber and plastics products, nec	4.1	4.5	3.9	2.3	3.1	3.0	3.9	4.1	3.4	1.5	2.0	1.8	1.5	1.2	.7
Leather and leather products	4.8	7.0	5.9	3.0	4.8	4.1	5.5	5.9	5.6	2.5	3.3	3.2	1.8	1.5	1.2

[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, will be 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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Feb.p
Job vacancies in manufacturing (number in thousands)	132	88	80	83	93	94	90	90	106	98	90	79	78	90	94
JOB VACANCY RATES [2]															
Manufacturing	0.7	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5
Durable goods industries	.6	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.5	.5
Nondurable goods industries	.7	.6	.5	.5	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5
Selected durable goods industries:															
Primary metal industries	.5	.2	.3	.3	.4	.3	.2	.2	.2	.2	.2	.1	.1	.2	.2
Machinery, except electrical	.7	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.5	.5
Electrical equipment and supplies	.7	.5	.4	.4	.5	.5	.5	.5	.6	.5	.6	.5	.5	.6	.6
Transportation equipment	.5	.4	.3	.4	.4	.4	.4	.5	.6	.5	.4	.4	.3	.4	.5
Instruments and related products	1.0	.7	.5	.6	.8	.7	.9	.8	.8	.8	.7	.6	.6	.7	.7
Selected nondurable goods industries:															
Textile mill products	.9	.8	.6	.8	.8	.9	.9	.8	1.0	.9	.9	.8	.8	.8	1.0
Apparel and other textile products	1.4	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.2	1.2	1.0	1.1	1.2	1.2
Printing and publishing	.6	.4	.4	.4	.4	.3	.3	.3	.4	.3	.4	.3	.3	.3	.3
Chemicals and allied products	.7	.4	.4	.5	.4	.5	.4	.4	.4	.4	.4	.3	.3	.4	.4

[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] 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 to date

Year	Total private			Mining			Contract construction			Manufacturing		
	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
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 will be 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	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL PRIVATE	37.1	37.0	36.8	36.7	36.8	37.3	37.3	37.4	37.0	37.0	37.0	37.3	36.7	36.8	36.9
MINING	42.7	42.4	42.1	42.3	42.4	42.6	42.6	42.3	42.1	42.8	42.3	42.8	42.5	42.1	42.3
CONTRACT CONSTRUCTION	37.4	37.3	37.1	37.0	37.0	38.0	38.1	38.3	36.9	38.2	37.9	36.5	35.8	36.0	36.8
MANUFACTURING	39.8	39.9	39.7	39.5	40.0	40.2	39.8	39.8	39.8	40.0	40.2	40.7	39.8	40.1	40.3
Overtime hours	3.0	2.9	2.7	2.7	2.9	3.0	2.9	3.0	3.1	3.1	3.1	3.2	2.8	3.0	3.1
Durable goods	40.3	40.4	40.4	40.0	40.5	40.8	40.1	40.0	40.0	40.5	40.7	41.4	40.4	40.7	41.0
Overtime hours	2.9	2.9	2.7	2.6	2.8	3.0	2.7	2.8	3.0	3.0	3.0	3.2	2.8	3.0	3.2
Ordnance and accessories	40.6	41.7	41.8	41.3	41.5	41.8	41.3	41.7	41.9	41.8	42.0	42.4	41.7	42.3	42.0
Lumber and wood products	39.7	40.3	39.9	40.1	40.2	40.9	40.4	40.5	40.4	41.0	40.6	40.8	40.0	40.3	40.9
Furniture and fixtures	39.2	39.8	39.4	38.9	39.5	40.1	39.7	40.4	40.0	40.4	40.4	40.9	39.7	39.9	40.2
Stone, clay, and glass products	41.2	41.6	41.3	41.1	41.6	42.3	42.0	42.3	41.9	42.1	41.9	41.6	40.9	41.3	41.8
Primary metal industries	40.5	40.4	40.8	41.1	41.1	41.3	40.7	38.8	39.5	39.7	39.9	41.0	40.7	40.9	41.1
Fabricated metal products	40.7	40.3	40.1	39.8	40.7	40.9	40.3	40.3	39.9	40.3	40.6	41.3	40.1	40.4	40.6
Machinery, except electrical	41.1	40.6	40.5	40.0	40.5	40.7	40.3	40.3	40.6	40.8	41.1	41.9	41.0	41.3	41.7
Electrical equipment and supplies	39.9	39.9	39.7	39.4	39.8	40.1	39.6	40.0	40.0	40.1	40.4	40.9	40.0	40.1	40.2
Transportation equipment	40.3	40.7	41.3	39.8	41.2	41.5	39.4	39.3	39.1	41.0	41.1	42.5	40.6	41.2	41.6
Instruments and related products	40.1	39.8	39.7	39.5	39.8	39.8	39.5	39.6	40.0	40.1	40.5	40.8	40.1	40.3	40.3
Miscellaneous manufacturing industries	38.7	38.9	38.8	38.5	38.8	38.8	38.6	39.2	38.9	39.3	39.5	39.5	38.7	39.1	39.3
Nondurable goods	39.1	39.3	38.9	38.9	39.2	39.4	39.4	39.5	39.5	39.4	39.6	39.8	39.1	39.3	39.3
Overtime hours	3.0	3.0	2.7	2.7	2.9	3.1	3.0	3.2	3.4	3.2	3.1	3.1	2.9	3.0	3.0
Food and kindred products	40.5	40.3	39.9	39.8	40.3	40.5	40.6	40.7	40.9	40.1	40.1	40.6	39.8	39.6	39.9
Tobacco manufactures	37.8	37.0	36.8	36.7	37.9	36.8	39.3	37.4	37.8	36.0	35.7	36.0	34.1	33.5	33.9
Textile mill products	39.9	40.6	40.2	40.0	40.6	41.0	40.1	40.8	40.6	41.0	41.4	41.5	40.8	41.0	41.1
Apparel and other textile products	35.3	35.5	35.4	35.0	35.5	35.5	35.8	36.0	35.5	35.9	36.3	35.9	35.3	36.0	35.9
Paper and allied products	41.9	42.1	41.6	41.9	42.0	42.3	42.4	42.5	42.2	42.3	42.4	42.8	41.9	42.3	42.3
Printing and publishing	37.7	37.6	37.5	37.3	37.6	37.7	37.6	37.7	37.7	37.6	37.6	38.0	37.1	37.2	37.7
Chemicals and allied products	41.6	41.6	41.4	41.9	41.5	41.7	41.3	41.3	42.1	41.5	41.6	41.9	41.6	41.7	41.7
Petroleum and coal products	42.7	42.4	41.8	42.3	42.5	42.6	43.0	42.6	42.8	42.6	42.1	42.3	41.7	41.4	41.6
Rubber and plastics products, nec	40.3	40.3	39.9	39.9	40.3	40.7	40.1	40.3	40.5	40.6	40.8	41.2	40.6	40.7	40.5
Leather and leather products	37.2	37.7	37.1	37.2	37.8	38.1	38.2	37.6	36.9	37.7	38.4	38.7	38.2	38.5	37.8
TRANSPORTATION AND PUBLIC UTILITIES	40.5	40.2	40.2	40.2	39.8	40.8	38.4	40.7	40.8	40.5	40.6	40.6	39.8	40.0	40.1
WHOLESALE AND RETAIL TRADE	35.3	35.1	34.7	34.8	34.8	35.4	36.1	36.0	35.2	35.0	34.9	35.5	34.7	34.7	34.7
Wholesale trade	40.0	39.8	39.6	39.4	39.6	40.0	39.9	39.9	39.7	39.8	39.8	40.3	39.6	39.7	39.8
Retail trade	33.8	33.7	33.1	33.3	33.3	34.0	34.8	34.7	33.7	33.5	33.4	34.1	33.2	33.1	33.1
FINANCE, INSURANCE, AND REAL ESTATE	36.8	37.0	36.9	36.9	36.9	37.0	37.1	37.3	36.9	37.0	37.0	37.0	37.3	37.1	37.1
SERVICES	34.4	34.2	34.0	34.0	33.9	34.2	34.8	34.7	34.1	34.1	34.0	34.2	33.9	34.0	33.9

[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 will be 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		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL PRIVATE	37.0	37.0	36.9	37.1	36.9	36.9	36.7	37.0	37.1	37.2	37.0	37.2	37.1
MINING	42.8	42.2	42.4	42.3	42.2	42.0	41.9	42.5	42.3	42.6	43.0	42.6	43.0
CONTRACT CONSTRUCTION	37.8	37.1	36.8	37.2	37.1	37.1	35.7	37.6	39.0	36.8	37.4	37.3	37.5
MANUFACTURING	39.8	39.8	40.0	40.0	40.0	39.8	39.5	39.8	40.1	40.3	40.0	40.5	40.4
Overtime hours	2.9	2.9	3.0	2.9	3.0	2.9	2.8	3.0	3.0	3.1	2.9	3.2	3.3
Durable goods	40.4	40.3	40.5	40.6	40.4	40.0	39.7	40.3	40.6	40.9	40.6	41.1	41.0
Overtime hours	2.8	2.8	2.9	2.9	2.8	2.8	2.7	2.8	2.9	3.0	2.9	3.2	3.3
Ordnance and accessories	41.9	41.5	41.5	41.6	41.9	41.9	41.7	41.8	41.9	42.0	41.2	42.5	42.1
Lumber and wood products	39.9	40.1	39.8	40.4	40.5	40.2	40.1	40.7	40.8	40.8	40.9	40.8	40.9
Furniture and fixtures	39.7	39.5	39.9	39.9	40.1	39.9	39.4	39.7	40.0	39.9	40.3	40.8	40.5
Stone, clay, and glass products	41.7	41.1	41.4	42.0	41.8	41.8	41.4	41.8	41.9	41.6	41.8	42.1	42.2
Primary metal industries	40.8	41.0	41.0	41.0	40.6	38.8	39.5	40.1	40.1	41.0	40.6	41.0	41.1
Fabricated metal products	40.3	40.1	40.7	40.6	40.7	40.2	39.3	40.1	40.4	40.9	40.4	41.0	40.8
Machinery, except electrical	40.2	40.0	40.5	40.7	40.7	40.8	40.5	40.8	41.1	41.3	41.0	41.3	41.4
Electrical equipment and supplies	39.7	39.8	39.9	39.9	40.1	40.0	39.6	39.9	40.1	40.3	40.1	40.6	40.2
Transportation equipment	41.7	40.6	41.1	41.4	39.5	39.9	38.5	40.5	40.5	41.7	40.7	41.9	42.0
Instruments and related products	39.7	39.7	40.0	39.7	39.8	39.8	39.7	39.9	40.2	40.4	40.3	40.7	40.3
Miscellaneous manufacturing industries	38.8	38.6	38.9	38.7	39.2	39.2	38.7	38.9	39.1	39.2	39.0	39.5	39.3
Nondurable goods	39.1	39.2	39.4	39.3	39.3	39.3	39.1	39.3	39.5	39.5	39.4	39.7	39.5
Overtime hours	2.9	2.9	3.0	3.1	3.0	3.1	3.1	3.0	3.0	3.0	3.1	3.2	3.2
Food and kindred products	40.5	40.5	40.5	40.4	40.5	40.5	40.5	40.0	40.0	40.3	40.1	40.0	40.1
Tobacco manufactures	38.0	37.5	38.3	36.2	39.6	37.1	36.6	34.7	35.6	35.6	34.8	34.0	35.0
Textile mill products	40.3	40.4	40.8	40.8	40.3	40.7	40.4	40.8	41.1	41.0	41.3	41.2	41.2
Apparel and other textile products	35.2	35.1	35.5	35.4	35.8	35.7	35.4	36.0	36.2	35.9	35.7	36.3	35.7
Paper and allied products	41.9	42.3	42.1	42.3	42.4	42.4	41.9	42.0	42.3	42.3	42.1	42.7	42.6
Printing and publishing	37.5	37.5	37.7	37.7	37.6	37.5	37.4	37.5	37.6	37.5	37.5	37.5	37.7
Chemicals and allied products	41.4	41.7	41.5	41.7	41.4	41.5	42.1	41.5	41.4	41.7	41.8	41.9	41.7
Petroleum and coal products	41.9	41.7	41.7	42.3	42.6	43.4	42.9	42.4	41.8	42.7	42.2	42.0	41.7
Rubber and plastics products, nec	40.3	40.3	40.4	40.7	40.3	40.1	40.0	40.3	40.6	40.9	40.8	41.0	40.9
Leather and leather products	37.4	38.3	37.8	37.5	37.7	37.6	37.3	37.9	38.3	37.9	38.0	38.5	38.1
TRANSPORTATION AND PUBLIC UTILITIES	40.6	40.6	40.0	40.7	38.0	40.5	40.6	40.3	40.4	40.5	40.0	40.2	40.5
WHOLESALE AND RETAIL TRADE	35.0	35.2	35.1	35.2	35.3	35.1	35.1	35.2	35.2	35.3	35.1	35.2	35.0
Wholesale trade	39.7	39.6	39.8	39.9	39.6	39.7	39.7	39.8	39.9	40.0	39.7	40.0	39.9
Retail trade	33.5	33.7	33.7	33.7	33.8	33.6	33.6	33.8	33.7	33.9	33.7	33.6	33.5
FINANCE, INSURANCE, AND REAL ESTATE	36.9	36.9	37.0	37.0	37.1	37.3	37.0	36.9	36.9	37.0	37.3	37.1	37.1
SERVICES	34.0	34.1	34.1	34.1	34.4	34.3	34.2	34.2	34.1	34.2	34.1	34.2	33.9

[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 will be 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 and division group	Annual average		1971										1972		
	1970	1971	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL PRIVATE	$3.22	$3.43	$3.36	$3.38	$3.41	$3.42	$3.43	$3.45	$3.49	$3.49	$3.48	$3.51	$3.54	$3.55	$3.57
MINING	3.84	4.05	4.01	40.4	4.04	4.04	4.05	4.10	4.15	3.92	3.92	4.27	4.32	4.31	4.30
CONTRACT CONSTRUCTION	5.25	5.72	5.54	5.55	5.65	5.63	5.68	5.75	5.86	5.90	5.90	5.93	5.99	5.98	5.97
MANUFACTURING	3.36	3.57	3.52	3.54	3.55	3.57	3.57	3.56	3.60	3.60	3.60	3.69	3.71	3.72	3.74
Durable goods	3.56	3.80	3.75	3.76	3.78	3.80	3.79	3.79	3.83	3.82	3.83	3.93	3.95	3.96	3.99
Ordnance and accessories	3.61	3.85	3.77	3.80	3.81	3.85	3.89	3.88	3.90	3.91	3.88	3.98	3.98	4.04	4.01
Lumber and wood products	2.96	3.14	3.05	3.07	3.12	3.17	3.19	3.19	3.21	3.21	3.20	3.19	3.21	3.20	3.25
Furniture and fixtures	2.77	2.90	2.85	2.86	2.88	2.90	2.91	2.94	2.95	2.93	2.93	2.98	2.98	2.98	3.00
Stone, clay and glass products	3.40	3.66	3.57	3.59	3.63	3.67	3.70	3.73	3.75	3.73	3.71	3.74	3.76	3.78	3.80
Primary metal industries	3.93	4.23	4.12	4.17	4.15	4.21	4.19	4.29	4.35	4.35	4.36	4.50	4.54	4.55	4.57
Fabricated metal products	3.53	3.74	3.66	3.70	3.74	3.75	3.74	3.75	3.77	3.77	3.78	3.87	3.88	3.89	3.92
Machinery, except electrical	3.77	3.99	3.94	3.95	3.97	3.99	4.00	4.02	4.04	4.04	4.04	4.16	4.16	4.18	4.22
Electrical equipment and supplies	3.28	3.50	3.46	3.47	3.49	3.49	3.51	3.50	3.52	3.51	3.52	3.60	3.60	3.62	3.65
Transportation equipment	4.06	4.44	4.42	4.40	4.43	4.43	4.39	4.37	4.42	4.44	4.44	4.62	4.60	4.65	4.66
Instruments and related products	3.35	3.53	3.49	3.49	3.52	3.52	3.55	3.55	3.57	3.55	3.56	3.62	3.67	3.68	3.71
Miscellaneous manufacturing industries	2.82	2.96	2.93	2.94	2.94	2.95	2.94	2.95	2.96	2.96	2.97	3.05	3.07	3.07	3.07
Nondurable goods	3.08	3.26	3.21	3.23	3.24	3.26	3.29	3.27	3.31	3.29	3.29	3.36	3.38	3.39	3.40
Food and kindred products	3.16	3.38	3.34	3.37	3.38	3.38	3.39	3.34	3.38	3.38	3.40	3.51	3.52	3.53	3.56
Tobacco manufactures	2.92	3.15	3.11	3.24	3.30	3.30	3.33	3.19	3.03	3.02	3.08	3.29	3.32	3.39	3.39
Textile mill products	2.45	2.57	2.55	2.55	2.56	2.56	2.56	2.57	2.58	2.59	2.59	2.62	2.69	2.71	2.71
Apparel and other textile products	2.39	2.49	2.47	2.47	2.47	2.47	2.47	2.50	2.53	2.52	2.52	2.55	2.56	2.57	2.57
Paper and allied products	3.44	3.68	3.60	3.61	3.62	3.67	3.71	3.73	3.77	3.73	3.73	3.80	3.81	3.83	3.83
Printing and publishing	3.92	c4.20	4.09	4.14	4.18	4.20	4.21	4.23	4.28	4.27	4.27	4.36	4.35	4.36	4.40
Chemicals and allied products	3.69	3.94	3.84	3.88	3.90	3.94	3.99	3.99	4.03	4.00	4.00	4.06	4.10	4.11	4.10
Petroleum and coal products	4.28	4.58	4.50	4.58	4.58	4.58	4.60	4.59	4.66	4.65	4.65	4.65	4.84	4.88	4.87
Rubber and plastics products, nec	3.20	3.41	3.32	3.36	3.38	3.38	3.44	3.45	3.48	3.46	3.46	3.53	3.54	3.54	3.52
Leather and leather products	2.49	2.59	2.59	2.58	2.58	2.58	2.58	2.59	2.62	2.63	2.61	2.65	2.67	2.70	2.69
TRANSPORTATION AND PUBLIC UTILITIES	3.85	4.21	4.07	4.10	4.13	4.15	4.23	4.25	4.33	4.31	4.33	4.41	4.46	4.47	4.48
WHOLESALE AND RETAIL TRADE	2.71	2.87	2.84	2.85	2.87	2.87	2.87	2.88	2.90	2.91	2.91	2.91	2.97	2.99	2.99
Wholesale trade	3.44	3.67	3.59	3.62	3.67	3.66	3.67	3.70	3.72	3.72	3.74	3.79	3.82	3.83	3.85
Retail trade	2.44	2.57	2.55	2.56	2.57	2.58	2.58	2.57	2.60	2.60	2.60	2.61	2.66	2.66	2.66
FINANCE, INSURANCE, AND REAL ESTATE	3.08	3.28	3.24	3.26	3.30	3.28	3.29	3.30	3.30	3.31	3.30	3.34	3.40	3.40	3.39
SERVICES	2.81	2.99	2.95	2.96	2.98	2.97	2.98	2.99	3.04	3.03	3.04	3.06	3.09	3.10	3.11

[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 will be 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.

c=corrected.

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	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
TOTAL PRIVATE	$119.46	$126.91	$123.65	$124.05	$125.49	$127.57	127.94	$129.03	$129.13	$129.13	$128.76	$130.92	$129.92	$130.64	$131.73
MINING	163.97	171.72	168.82	170.89	171.30	172.10	172.53	173.43	174.72	167.78	165.82	182.76	183.60	181.45	181.89
CONTRACT CONSTRUCTION	196.35	213.36	205.53	205.35	209.05	213.94	216.41	220.23	216.23	225.38	223.61	216.45	214.44	215.28	219.70
MANUFACTURING	133.73	142.44	139.74	139.83	142.00	143.51	142.09	141.69	143.28	144.00	144.72	150.18	147.66	149.17	150.72
Durable goods	143.47	153.52	151.50	150.40	153.09	155.04	151.98	151.60	153.20	154.71	155.88	162.70	159.58	161.17	163.59
Ordnance and accessories	146.57	160.55	157.59	156.94	158.12	160.93	160.66	161.80	163.41	163.44	162.96	168.75	165.97	170.89	168.42
Lumber and wood products	117.51	126.54	121.70	123.11	125.42	129.65	128.88	129.20	129.68	131.61	129.92	130.15	128.40	128.96	132.93
Furniture and fixtures	108.58	115.42	112.29	111.25	113.76	116.29	115.53	118.78	118.00	118.37	118.37	121.88	118.31	118.90	120.60
Stone, clay, and glass products	140.08	152.26	147.44	147.55	151.01	155.24	155.40	157.78	157.13	157.03	155.45	155.58	153.78	156.11	158.84
Primary metal industries	159.17	170.89	168.10	171.39	170.57	173.87	170.53	166.45	171.83	172.70	173.96	184.50	184.78	186.10	187.83
Fabricated metal products	143.67	150.72	146.77	147.26	152.22	153.38	150.72	151.13	150.42	151.93	153.47	159.83	155.59	157.10	159.15
Machinery, except electrical	154.95	161.99	159.57	158.00	160.79	162.39	161.20	162.01	164.02	164.83	166.04	174.30	170.56	172.63	175.97
Electrical equipment and supplies	130.87	139.65	137.36	136.72	138.90	139.95	139.00	140.00	140.80	140.75	142.21	147.24	144.00	145.16	146.73
Transportation equipment	163.62	180.71	182.55	175.12	182.52	183.85	172.97	171.74	172.82	182.04	182.48	196.35	186.76	191.58	193.86
Instruments and related products	134.34	140.49	138.55	137.86	140.10	140.10	140.23	140.58	142.80	142.36	144.18	147.70	147.17	148.30	149.51
Miscellaneous manufacturing industries	109.13	115.14	113.68	113.19	114.07	114.46	113.48	115.64	115.14	116.33	117.32	120.48	118.81	120.04	120.65
Nondurable goods	120.43	128.12	124.87	125.65	127.01	128.44	129.63	129.17	130.75	129.63	130.28	133.73	132.16	133.23	133.62
Food and kindred products	127.98	136.21	133.27	134.13	136.21	136.89	137.63	135.94	138.24	135.54	136.34	142.51	140.10	139.79	142.04
Tobacco manufactures	110.38	116.55	114.45	118.91	125.07	121.44	130.87	119.31	114.53	108.72	109.96	118.44	113.21	113.57	114.92
Textile mill products	97.76	104.34	102.51	102.00	103.94	104.96	102.66	104.86	104.75	106.19	107.23	108.73	109.75	111.11	111.38
Apparel and other textile products	84.37	88.40	87.44	86.45	87.69	87.69	88.43	90.00	89.82	90.47	91.48	91.55	90.37	92.52	92.26
Paper and allied products	144.14	154.93	149.76	151.26	152.04	155.48	157.30	158.53	159.08	157.78	158.15	162.64	159.64	162.01	162.01
Printing and publishing	147.78	157.92	153.38	154.42	157.17	158.34	158.30	159.47	161.36	160.55	160.55	165.68	161.39	162.19	165.88
Chemicals and allied products	153.50	163.90	158.98	162.57	161.85	164.30	164.79	164.79	169.66	166.00	166.40	170.11	170.56	171.39	170.97
Petroleum and coal products	182.76	194.19	188.10	193.73	194.65	195.11	197.80	195.53	199.45	198.09	195.77	196.70	201.83	202.03	202.59
Rubber and plastics products, nec	128.96	137.42	132.47	134.06	136.21	137.57	137.94	139.04	140.94	140.48	141.17	[e]145.44	143.72	144.08	142.56
Leather and leather products	92.63	97.64	96.09	95.98	97.52	98.30	98.56	97.38	96.68	99.15	100.22	102.56	101.99	103.95	101.68
TRANSPORTATION AND PUBLIC UTILITIES	155.93	169.24	163.61	164.82	164.37	169.32	162.43	172.98	176.66	174.56	175.80	179.05	177.51	178.80	179.65
WHOLESALE AND RETAIL TRADE	95.66	100.74	98.55	99.18	99.88	101.60	103.61	103.68	102.08	101.85	101.56	103.31	103.06	103.75	103.75
Wholesale trade	137.60	146.07	142.16	142.63	145.33	146.40	146.43	147.63	147.68	148.06	148.85	152.74	151.27	152.05	153.23
Retail trade	82.47	86.61	84.41	85.25	85.58	87.72	89.78	89.18	87.62	87.10	86.84	89.00	88.31	88.05	88.05
FINANCE, INSURANCE, AND REAL ESTATE	113.34	121.36	119.56	120.29	121.77	121.36	122.06	123.09	121.77	122.47	122.10	123.58	126.82	126.14	125.77
SERVICES	96.66	102.26	100.30	100.64	101.02	101.57	103.70	103.75	103.66	103.32	103.36	104.65	104.75	105.40	105.43

[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 will be 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.

[e] = corrected.

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:												
March	123.65	103.21	101.10	84.39	109.55	91.44	139.74	116.64	112.98	94.31	122.14	101.95
April	124.05	103.20	101.40	84.36	109.86	91.40	139.83	116.33	113.04	94.04	122.21	101.67
May	125.49	103.88	102.46	84.82	111.00	91.89	142.00	117.55	114.65	94.91	123.90	102.57
June	127.57	105.00	104.00	85.60	112.64	92.71	143.51	118.12	115.76	95.28	125.07	102.94
July	127.94	105.04	104.27	85.61	112.93	92.72	142.09	116.66	114.71	94.18	123.97	101.78
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 [p]	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 [p]	**131.73**	**106.23**	**108.38**	**87.40**	**117.60**	**94.84**	**150.72**	**121.55**	**122.39**	**98.70**	**132.47**	**106.83**

[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 will be 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 to date [1]

[Indexes: 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]

Group	General summary													
	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All items	121.3	119.4	119.8	120.2	120.8	121.5	121.8	r122.1	r122.2	r122.4	122.6	123.1	123.2	123.8
All items (1957–59=100)	141.0	138.9	139.3	139.8	140.5	141.3	141.7	r142.0	r142.1	r142.4	142.6	143.1	143.3	143.9
Food	118.4	115.9	117.0	117.8	118.2	119.2	119.8	120.0	119.1	118.9	c119.0	120.3	120.3	122.2
Food at home	116.4	113.9	115.1	116.1	116.3	117.4	118.1	118.1	116.9	116.6	116.7	118.2	118.2	120.5
Food away from home	126.1	123.9	124.3	124.8	125.3	125.9	126.5	127.1	127.6	128.0	128.2	128.3	128.6	128.9
Housing	124.3	122.6	122.4	122.5	123.2	124.0	124.5	125.1	125.5	125.9	126.4	126.8	127.3	127.6
Rent	115.2	113.6	113.9	114.4	114.7	115.2	115.4	115.8	116.1	116.4	116.6	116.9	117.1	117.5
Homeownership	133.7	132.3	131.2	130.9	131.6	133.0	133.5	134.4	135.1	135.7	136.7	137.0	137.8	138.0
Apparel and upkeep	119.8	118.1	118.6	119.1	120.2	120.1	119.3	119.0	120.6	121.6	121.9	121.8	120.2	120.7
Transportation	118.6	117.5	117.8	118.1	118.8	119.6	119.5	r119.3	r118.6	r119.3	118.8	118.6	119.0	118.3
Health and recreation	122.2	120.2	120.6	121.2	121.6	122.1	122.6	123.1	123.6	123.5	123.7	123.9	124.3	124.7
Medical care	128.4	125.8	126.8	127.5	128.1	128.6	129.3	130.0	130.4	129.6	129.7	130.1	130.5	131.0
Special groups														
All items less shelter	119.3	117.4	118.0	118.6	119.2	119.8	120.0	r120.2	r120.2	r120.3	120.4	120.9	120.9	121.5
All items less food	122.1	120.4	120.6	120.9	121.6	122.2	122.4	r122.7	r123.1	r123.5	123.7	123.9	124.0	124.2
All items less medical care	120.9	119.1	119.4	119.8	120.4	121.1	121.4	r121.6	r121.7	r122.1	122.3	122.7	122.8	123.4
Commodities	117.4	115.5	116.1	116.6	117.2	117.9	118.1	r118.2	r118.1	r118.4	118.5	118.9	118.7	119.4
Nondurables	117.7	115.7	116.4	116.9	117.4	118.1	118.3	118.6	118.7	118.8	118.9	119.5	119.2	120.3
Durables	116.5	115.0	115.2	115.7	116.6	117.4	117.5	r116.9	r116.4	r117.1	117.4	117.2	117.3	117.1
Services	128.4	126.6	126.6	126.8	127.5	128.2	128.8	r129.4	r129.8	r130.0	130.4	130.8	131.5	131.8
Commodities less food	116.8	115.2	115.5	115.8	116.6	117.1	117.0	r117.1	r117.4	r118.0	118.1	118.1	117.7	117.8
Nondurables less food	117.0	115.4	115.7	116.0	116.6	116.9	116.7	117.2	118.2	118.7	118.7	118.8	118.1	118.4
Apparel commodities	120.1	118.3	118.8	119.3	120.5	120.4	119.5	119.1	120.9	122.0	122.4	122.2	120.3	120.9
Apparel commodities less footwear	119.9	118.0	118.5	119.0	120.3	120.1	119.3	118.6	120.7	121.9	122.3	122.1	119.9	120.6
Nondurables less food and apparel	115.2	113.8	114.0	114 0	114.3	114.9	115.1	116.2	116.6	116.8	116.5	116.8	116.8	117.0
Household durables	112.9	111.8	112.1	112.4	112.7	113.1	113.2	113.4	113.5	113.6	113.6	113.7	113.7	113.6
Housefurnishings	114.3	113.2	113.5	114.0	114.1	114.7	114.7	114.8	114.9	115.1	115.1	115.3	114.9	115.0
Services less rent	130.9	129.0	128.9	129.1	129.8	130.6	131.2	r131.9	r132.3	r132.5	132.9	133.3	134.1	134.4
Household services less rent	132.6	131.0	130.1	129.7	130.7	131.6	132.5	133.6	134.2	134.7	135.4	136.1	137.0	137.4
Transportation services	133.1	131.3	132.0	133.0	133.1	134.1	134.3	r134.1	r133.8	r133.9	134.0	134.2	135.6	135.7
Medical care services	133.3	130.2	131.4	132.2	132.9	133.5	134.4	135.1	135.6	134.6	134.8	135.3	135.8	136.4
Other services	122.5	120.9	121.2	121.5	122.0	122.5	122.6	122.8	123.7	123.8	124.0	124.1	124.3	124.5

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Item and group	Groups, subgroups, and selected items													
	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD	118.4	115.9	117.0	117.8	118.2	119.2	119.8	120.0	119.1	118.9	119.0	120.3	120.3	122.2
Food away from home	126.1	123.9	124.3	124.8	125.3	125.9	126.5	127.1	127.6	128.0	128.2	128.3	128.6	128.9
Restaurant meals	125.8	123.6	124.1	124.5	125.0	125.7	126.2	126.9	127.3	127.7	127.9	128.0	128.3	128.6
Snacks	127.5	125.4	125.7	126.2	126.7	127.2	128.0	128.2	128.6	129.5	129.4	129.6	130.0	130.0
Food at home	116.4	113.9	115.1	116.1	116.3	117.4	118.1	118.1	116.9	116.6	116.7	118.2	118.2	120.5
Cereals and bakery products	113.9	112.8	113.0	113.9	114.1	114.2	114.8	114.5	114.6	114.3	114.1	113.8	113.7	114.3
Flour	101.0	100.7	99.8	101.3	101.6	101.7	101.3	101.2	101.5	101.1	101.1	100.5	100.8	100.9
Cracker meal	129.8	126.4	128.0	129.4	130.1	130.6	130.8	131.1	131.5	131.6	131.7	131.9	132.2	133.9
Corn flakes	107.3	109.4	109.7	110.1	110.2	110.1	109.0	105.6	104.2	103.6	103.5	103.0	102.5	102.2
Rice	109.4	108.7	108.9	108.9	109.1	109.4	109.6	109.9	110.1	109.9	109.8	110.0	110.3	110.3
Bread, white	112.3	111.8	111.2	112.1	112.2	112.6	113.9	112.9	113.4	112.1	112.0	111.4	111.2	112.7
Bread, whole wheat	117.5	115.2	115.9	116.6	117.0	117.2	118.4	118.7	119.1	119.2	119.3	118.5	118.9	119.3
Cookies	108.7	106.0	107.1	109.7	109.8	108.4	109.9	110.0	109.9	109.9	108.7	109.3	109.2	109.7
Layer cake	120.1	119.1	119.1	119.6	119.5	120.0	120.3	121.2	121.5	120.7	120.5	120.8	119.6	119.2
Cinnamon rolls	118.2	117.0	117.5	117.3	118.0	118.3	118.8	119.1	118.6	119.6	119.2	118.5	119.0	119.2
Meats, poultry, and fish	116.9	113.6	115.6	115.7	115.8	117.4	118.0	118.7	119.1	118.4	118.1	118.9	120.7	126.3
Meats	116.7	113.5	115.6	115.7	115.6	117.0	117.6	118.4	118.8	118.3	118.2	119.1	121.1	127.5
Beef and veal	124.9	120.0	122.4	124.2	124.6	126.1	126.6	126.8	127.7	127.1	126.6	128.0	130.8	136.1
Steak, round	123.5	119.1	121.1	124.3	123.8	125.1	124.4	125.3	126.1	125.5	125.2	126.3	130.8	137.2
Steak, sirloin	122.8	116.1	118.9	120.9	122.5	125.1	126.7	125.0	127.8	125.3	123.5	125.5	128.5	132.1
Steak, porterhouse	124.1	117.3	119.6	121.7	123.1	125.7	128.1	128.1	129.5	127.3	125.7	127.5	131.1	134.4
Rump roast	122.4	118.6	120.3	122.7	123.1	124.1	122.4	124.1	124.0	125.2	124.0	124.4	128.1	134.6
Rib roast	126.2	118.1	121.9	122.5	125.4	128.2	129.3	129.9	130.8	129.3	128.8	131.8	135.2	139.2
Chuck roast	124.4	119.5	124.8	125.6	125.1	125.5	125.1	126.0	125.9	125.6	125.9	128.9	131.0	139.5
Hamburger	126.2	122.3	124.7	125.7	125.9	127.4	127.5	127.1	128.3	127.6	127.6	129.1	130.8	135.9
Beef liver	113.7	112.3	112.9	114.0	113.5	113.3	114.5	114.3	114.0	114.8	114.7	114.6	114.8	118.3
Veal cutlets	141.7	134.2	136.1	138.7	139.6	140.8	144.6	145.5	146.0	146.7	147.2	148.0	150.1	156.2
Pork	105.0	103.2	106.0	103.6	102.2	103.6	104.7	106.9	106.4	105.8	106.3	107.2	109.2	119.4
Chops	107.4	102.7	108.4	105.9	102.5	105.3	108.0	113.1	109.9	109.8	110.5	111.2	111.4	124.2
Loin roast	106.6	103.4	107.0	103.6	102.5	104.9	106.6	111.1	110.0	108.7	109.2	109.7	111.1	121.4
Pork sausage	111.4	110.9	112.0	111.7	109.3	110.4	110.9	111.4	113.0	112.8	112.0	111.4	112.9	120.3
Ham, whole	103.9	105.7	106.6	99.4	102.4	103.6	103.0	102.9	103.8	102.0	102.4	105.9	110.0	112.6
Picnics	108.0	108.5	110.3	109.2	106.8	105.5	105.6	107.4	106.7	107.9	108.7	111.3	113.3	122.7
Bacon	96.6	95.4	96.6	95.6	95.3	96.1	96.7	96.6	97.7	96.6	97.4	97.3	101.0	114.0
Other meats	115.6	114.0	114.5	114.3	114.9	115.9	116.1	116.4	117.0	116.5	116.5	116.6	116.8	120.3
Lamb chops	121.5	118.1	118.7	118.6	119.4	121.1	123.5	124.2	124.7	123.4	124.5	124.4	124.8	127.1
Frankfurters	115.1	113.3	114.2	115.2	114.4	115.8	114.7	115.7	116.0	116.0	115.9	115.2	115.4	121.3
Ham, canned	107.2	107.6	107.7	104.6	107.1	107.5	105.9	106.6	108.0	107.8	108.3	107.8	109.0	111.4
Bologna sausage	118.8	116.5	117.3	117.9	118.4	118.9	119.4	119.8	120.4	120.1	119.9	120.1	120.0	124.5
Salami sausage	116.3	114.8	115.1	115.4	115.5	116.9	117.4	117.6	117.7	116.8	116.4	117.4	116.9	119.8
Liverwurst	114.3	113.8	114.0	114.0	114.4	114.8	115.5	114.2	114.8	114.5	113.8	114.1	114.2	117.4
Poultry	109.0	105.5	107.8	107.3	107.8	111.6	112.1	112.1	112.2	110.0	108.1	107.5	108.4	110.7
Frying chicken	108.5	104.2	107.5	107.5	107.3	112.1	112.3	111.7	111.9	109.0	106.8	106.2	107.5	110.1
Chicken breasts	109.5	106.6	106.7	108.7	108.3	109.9	111.1	113.5	112.7	111.3	109.7	109.8	110.4	112.0
Turkey	111.1	110.7	110.4	105.5	109.6	111.1	112.2	112.6	113.3	113.7	112.9	111.4	111.1	112.2
Fish	130.2	127.0	127.7	128.6	129.4	130.3	131.0	131.9	132.5	132.8	132.9	133.2	134.7	137.0
Shrimp, frozen	117.6	115.1	114.5	115.3	116.2	116.8	118.8	119.9	119.7	120.1	120.6	120.4	123.1	128.3
Fish, fresh or frozen	140.2	135.6	137.8	138.5	140.0	141.3	141.9	142.4	142.5	143.0	142.7	142.7	144.7	145.0
Tuna fish, canned	128.4	127.1	127.9	129.0	128.8	129.5	129.1	129.1	129.2	128.9	128.2	128.7	128.6	130.4
Sardines, canned	134.7	130.2	130.8	131.5	132.8	133.7	134.3	136.3	138.5	139.1	139.7	140.9	142.2	144.1
Dairy products	115.3	114.0	114.2	114.6	115.1	115.7	116.0	116.0	116.1	116.0	115.9	116.1	116.4	116.9
Milk, fresh, grocery	114.6	113.1	113.7	114.2	114.8	115.2	115.1	115.2	115.4	115.3	115.2	115.2	115.7	116.4
Milk, fresh, delivered	117.6	116.5	116.8	117.2	117.6	117.9	118.1	118.1	118.1	118.1	118.1	118.5	118.8	119.4
Milk, fresh, skim	119.7	118.0	118.2	119.4	120.2	120.7	120.5	120.3	120.8	120.3	120.1	120.1	120.5	121.3
Milk, evaporated	118.6	115.4	115.9	115.8	117.0	119.0	120.4	121.2	121.2	121.4	120.2	120.6	120.9	120.9
Ice cream	106.2	106.0	105.4	105.0	105.4	105.2	107.2	106.5	106.9	106.1	106.4	107.2	106.7	106.1
Cheese, American process	121.0	119.2	119.4	120.3	120.7	121.7	122.1	122.0	121.8	122.1	122.3	122.1	122.3	123.4
Butter	105.8	106.0	105.9	105.9	105.6	105.8	105.6	105.7	105.8	105.8	105.7	105.4	105.8	105.8
Fruits and vegetables	119.1	112.6	116.0	120.0	121.4	125.1	126.0	123.6	116.6	115.6	117.8	124.4	120.9	123.9
Fresh fruits and vegetables	121.0	112.2	117.7	123.6	125.6	131.2	132.2	127.4	115.3	113.6	117.3	128.2	122.1	126.8
Apples	114.2	104.5	108.4	113.4	116.2	123.9	136.1	139.0	125.3	101.8	98.5	102.1	106.8	109.9
Bananas	95.5	95.1	96.0	95.8	94.1	92.6	97.4	99.5	98.5	101.8	94.1	92.2	92.6	100.4
Oranges	125.5	115.1	116.3	115.9	120.9	125.0	128.7	135.3	138.3	137.1	133.1	128.4	123.7	122.0
Orange juice, fresh	124.3	116.8	116.7	119.2	121.6	124.0	126.8	128.2	129.4	129.1	129.9	130.5	130.8	130.6
Grapefruit	135.7	107.1	109.5	118.9	124.3	149.3	168.2	175.9	171.6	153.5	126.8	120.6	121.2	121.1
Grapes [1]	143.8	-------	-------	-------	-------	-------	171.4	169.7	120.3	119.6	138.2	-------	-------	-------
Strawberries [1]	114.1	-------	-------	128.6	109.4	104.2	-------	-------	-------	-------	-------	-------	-------	-------
Watermelon [1]	141.7	-------	-------	-------	-------	170.9	135.1	119.0	-------	-------	-------	-------	-------	-------
Potatoes	117.3	110.1	111.2	113.4	115.7	135.9	134.0	127.7	115.0	111.2	110.2	112.4	112.7	114.7
Onions	104.4	95.7	95.4	97.3	103.4	107.0	111.1	115.2	111.3	109.8	106.2	105.5	105.7	106.8
Asparagus [1]	131.0	-------	159.9	123.2	123.3	121.2	127.3	-------	-------	-------	-------	-------	-------	-------
Cabbage	122.2	121.0	119.7	126.8	129.8	139.5	127.4	109.4	103.4	106.4	113.3	158.3	145.3	144.1
Carrots	129.9	109.5	108.6	121.2	133.7	153.0	163.6	162.7	125.5	117.3	120.6	134.2	145.7	142.4

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Item and group	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Fruits and vegetables—Continued														
Celery	118.5	108.3	106.5	107.3	107.6	121.4	122.3	125.6	111.2	111.5	129.1	161.3	174.6	172.0
Cucumbers	120.1	125.5	135.0	173.2	151.5	129.4	109.5	90.0	84.8	96.6	104.9	125.2	120.9	148.2
Lettuce	124.1	108.8	118.6	109.7	125.3	117.3	125.4	124.0	111.4	123.2	146.6	173.0	133.6	152.1
Peppers, green	142.9	127.9	159.6	215.6	212.2	207.3	131.6	105.2	90.8	97.5	118.5	148.3	114.0	134.3
Spinach	129.2	126.3	126.8	129.5	129.2	127.4	129.8	129.0	128.1	130.8	131.0	140.0	139.1	143.2
Tomatoes	131.8	130.4	138.0	147.0	152.2	127.9	154.3	122.0	95.4	106.0	121.7	159.1	143.8	140.8
Processed fruits and vegetables	116.2	113.0	113.5	114.7	115.1	115.9	116.9	117.9	118.6	118.4	118.5	118.8	119.2	119.5
Fruit cocktail, canned	117.9	114.7	115.2	116.8	117.2	117.7	119.0	119.1	120.2	120.0	119.9	120.2	121.4	120.9
Pears, canned	116.7	115.9	115.9	116.7	116.6	117.1	116.9	117.4	117.7	117.5	116.9	116.5	116.9	117.3
Pineapple-grapefruit drink	113.6	111.6	112.4	113.5	113.3	113.2	113.5	114.1	114.0	114.5	115.1	114.4	114.7	114.4
Orange juice concentrate, frozen	127.2	117.4	117.6	120.4	121.0	126.1	130.3	133.6	136.3	136.0	135.3	135.6	135.8	135.9
Lemonade concentrate, frozen	113.9	111.9	112.3	113.0	113.2	113.5	113.8	114.8	115.5	115.9	115.3	116.9	117.4	117.5
Beets, canned	115.1	112.2	112.4	114.0	114.4	114.8	115.7	116.6	117.5	117.4	116.8	117.0	118.3	119.0
Peas, green, canned	106.6	104.5	105.2	106.5	106.3	105.8	107.2	107.6	108.0	107.0	108.0	108.6	108.6	108.5
Tomatoes, canned	115.6	114.8	115.2	115.6	115.3	116.0	115.9	116.2	116.6	115.7	115.7	115.1	114.9	115.3
Dried beans	122.8	113.1	113.9	116.0	119.1	122.4	124.7	128.1	129.5	130.6	131.9	133.2	133.9	135.4
Broccoli, frozen	117.7	116.7	116.7	117.8	117.9	117.5	118.2	118.7	118.4	117.9	117.8	117.9	117.8	118.5
Other food at home	115.9	115.7	115.6	115.8	115.5	114.7	115.7	116.7	115.5	116.2	115.6	116.6	116.2	115.6
Eggs	108.4	112.7	110.9	109.7	106.1	99.1	105.2	109.7	102.4	106.7	103.2	110.5	108.0	101.4
Fats and oils:														
Margarine	116.0	113.7	114.0	115.3	116.1	115.6	115.6	116.4	117.6	118.1	117.8	117.7	117.3	118.1
Salad dressing, Italian	109.3	107.4	107.7	109.0	109.7	109.6	110.2	110.0	110.2	109.9	110.6	110.9	110.2	110.4
Salad or cooking oil	120.1	116.7	117.3	119.0	119.1	119.0	119.7	121.6	123.3	123.4	123.5	123.5	123.9	124.0
Sugar and sweets	119.3	117.9	118.1	118.7	119.0	119.4	119.7	120.3	120.2	120.1	120.0	120.1	120.1	120.5
Sugar	112.5	111.4	111.4	112.1	112.2	112.2	112.6	113.2	113.5	113.4	113.5	113.5	113.6	114.3
Grape jelly	119.3	116.2	116.2	117.3	118.5	119.4	120.4	121.7	121.6	121.2	121.4	121.6	121.5	122.7
Chocolate bar	130.9	129.8	130.3	130.7	130.7	131.2	131.3	131.7	131.4	131.5	131.3	131.3	130.8	130.7
Syrup, chocolate flavored	113.2	113.2	113.4	113.7	113.6	113.5	113.3	113.4	113.2	113.0	112.5	112.7	113.3	113.4
Nonalcoholic beverages	121.6	122.1	121.8	122.0	121.8	122.2	122.0	122.0	121.0	121.2	120.9	120.5	120.4	120.7
Coffee ,can and bag	121.8	125.0	123.8	123.1	122.6	122.4	121.8	121.8	119.1	119.3	119.0	118.5	118.2	118.3
Coffee, instant	124.7	124.0	123.0	124.1	124.3	125.0	124.9	125.2	125.4	125.3	125.1	125.1	124.7	125.5
Tea	107.6	107.3	107.5	108.5	107.7	108.4	108.5	108.0	108.0	107.8	107.8	106.0	106.1	107.1
Cola drink	125.9	123.7	124.9	125.2	125.7	126.3	126.4	126.7	127.0	127.3	127.1	127.1	127.7	127.8
Carbonated fruit drink	126.4	124.3	124.7	125.6	125.9	126.8	127.2	127.5	127.6	127.8	127.7	127.9	127.9	127.6
Prepared and partially prepared foods	112.7	111.6	111.9	112.3	112.5	112.8	113.1	113.5	113.4	113.4	113.2	113.3	113.5	114.1
Bean soup, canned	114.1	113.6	113.2	113.7	113.6	114.0	113.7	114.8	114.7	114.7	114.7	114.7	114.5	115.7
Chicken soup, canned	106.4	106.2	106.7	106.6	106.5	106.5	106.4	106.3	106.6	106.5	106.0	105.7	106.4	106.9
Spaghetti, canned	117.3	117.0	117.1	117.2	117.0	117.1	117.1	117.6	117.7	117.7	117.7	117.5	118.1	117.8
Mashed potatoes, instant	110.8	110.3	110.4	110.2	110.8	111.6	112.4	111.9	110.4	110.4	110.7	111.0	111.5	112.2
Potatoes, French fried, frozen	110.1	110.4	110.6	110.4	110.1	110.1	110.8	110.9	110.3	109.9	108.5	109.3	108.5	110.0
Baby food, canned	110.9	109.9	110.4	110.7	110.6	111.1	111.0	111.8	111.8	111.6	111.3	111.1	111.1	111.2
Sweet pickle relish	117.4	114.4	114.7	115.2	116.5	116.7	117.4	118.9	119.5	120.0	120.6	121.2	122.0	122.5
Pretzels	113.1	110.1	111.2	112.8	113.4	113.9	114.5	114.1	114.5	114.4	114.0	114.5	114.1	114.5
HOUSING	124.3	122.6	122.4	122.5	123.2	124.0	124.5	125.1	125.5	125.9	126.4	126.8	127.3	127.6
Shelter	128.8	127.3	126.7	126.5	127.2	128.3	128.8	129.5	130.1	130.6	131.3	131.6	132.3	132.5
Rent	115.2	113.6	113.9	114.4	114.7	115.2	115.4	115.8	116.1	116.4	116.6	116.9	117.1	117.5
Homeownership	133.7	132.3	131.2	130.9	131.6	133.0	133.5	134.4	135.1	135.7	136.7	137.0	137.8	138.0
Mortgage interest rates	120.4	127.4	122.0	118.5	117.3	117.0	117.4	118.1	118.7	119.1	118.9	118.6	118.4	118.2
Property taxes	131.1	127.1	127.4	127.8	129.6	129.9	130.5	132.2	133.1	134.6	136.3	137.6	141.1	141.8
Property insurance rates	119.9	116.0	117.0	118.8	119.3	120.2	121.5	121.5	121.5	122.4	122.4	122.4	122.4	122.4
Maintenance and repairs	133.7	129.3	130.4	131.1	131.9	134.0	134.7	135.8	136.8	137.0	137.1	137.4	137.8	138.0
Commodities	119.0	116.4	116.7	117.4	118.1	119.8	119.9	120.6	120.9	120.9	120.8	120.8	121.3	121.3
Exterior house paint	115.9	115.6	115.5	115.5	116.0	116.0	115.7	115.3	116.5	116.5	116.5	116.8	117.7	117.9
Interior house paint	114.5	113.9	113.1	113.9	113.4	114.1	114.2	115.2	115.5	115.6	115.3	115.4	115.8	115.6
Services	140.0	134.9	136.2	137.1	137.9	140.1	141.2	142.4	143.7	144.0	144.1	144.6	144.9	145.2
Repainting living and dining rooms	148.3	141.7	142.9	144.6	146.2	148.5	149.6	151.3	153.0	153.1	153.6	154.0	154.4	155.1
Reshingling roofs	144.8	136.2	138.9	140.4	141.9	145.8	147.2	148.8	150.1	150.7	150.6	151.6	152.0	152.3
Residing houses	130.6	127.4	128.3	128.8	129.0	130.5	131.1	132.1	132.8	133.1	133.2	133.3	133.4	133.7
Replacing sinks	140.6	136.4	137.4	137.9	138.9	141.1	142.2	143.0	143.4	143.4	143.6	143.7	143.9	144.2
Repairing furnaces	144.3	139.1	140.7	141.1	141.6	143.0	144.5	145.9	148.9	149.2	149.1	150.2	150.9	151.2
Fuel and utilities	115.1	113.1	113.8	114.1	114.4	114.6	115.5	116.3	116.3	116.3	116.8	117.9	118.7	119.3
Fuel oil and coal	117.5	117.2	117.4	117.3	117.2	117.4	117.5	117.8	117.8	117.8	118.1	118.1	118.7	118.7
Fuel oil, #2	116.1	115.8	116.0	116.0	115.9	116.1	116.1	116.4	116.4	116.4	116.4	116.4	116.5	116.5
Gas and electricity	114.7	112.8	113.3	113.9	114.4	114.6	114.7	115.7	115.7	115.7	116.2	118.2	119.0	119.4
Gas	116.3	114.6	114.8	115.8	116.6	116.4	116.1	116.8	116.8	116.8	118.1	120.5	121.7	121.9
Electricity	113.2	111.2	112.0	112.1	112.4	113.0	113.5	114.6	114.6	114.6	114.5	116.0	116.6	117.0
Other utilities:														
Residential telephone	108.0	105.9	r105.9	106.2	106.2	r106.4	108.9	110.2	110.2	110.2	110.2	110.7	111.8	113.5
Residential water and sewerage	133.4	128.9	132.6	132.6	132.6	132.6	135.0	135.0	135.0	135.0	136.4	136.4	136.4	136.4

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Item and group	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
HOUSING—Continued														
Household furnishings and operations	118.1	115.9	116.4	117.0	118.1	118.7	118.9	119.1	119.4	119.5	119.5	119.6	119.5	119.6
House furnishings	114.3	113.2	113.5	114.0	114.1	114.7	114.7	114.8	114.9	115.1	115.1	115.3	114.9	115.0
Textiles	111.6	111.1	111.3	111.7	110.8	112.2	111.3	111.1	111.9	112.2	112.9	113.1	110.8	112.1
Sheets, percale, or muslin	113.9	115.7	114.7	115.5	111.7	114.7	112.0	110.2	114.0	113.4	116.5	116.5	110.1	114.1
Curtains, tailored, polyester marquisette	110.0	108.7	108.8	109.3	108.2	110.0	110.7	111.5	111.3	111.5	110.9	110.6	110.3	111.2
Bedspreads, chiefly cotton	107.8	108.2	108.2	108.1	107.6	107.7	106.7	107.0	107.4	107.8	108.4	108.8	105.1	106.9
Drapery fabric, cotton or rayon/acetate	118.4	117.7	117.5	117.1	117.7	118.6	119.3	118.9	118.8	119.5	119.0	119.1	118.9	119.6
Slipcovers, throws, ready made, chiefly cotton	111.8	110.7	111.0	111.2	111.2	112.7	112.2	112.4	111.6	112.5	112.8	113.2	113.1	113.0
Furniture and bedding	119.1	117.4	118.1	118.8	119.1	119.6	119.6	119.6	119.7	119.9	119.9	120.1	119.8	119.5
Bedroom furniture, chest and dresser [2 3]	103.6	101.9	102.4	102.8	103.3	104.1	104.5	104.5	104.6	104.7	104.8	104.7	104.6	104.1
Living room suites, good or inexpensive quality [4]	115.7	114.3	115.1	115.0	115.3	115.8	115.7	116.2	116.4	116.5	116.6	116.9	------	------
Lounge chair, upholstered [4]	123.6	120.9	121.7	122.3	123.6	124.7	124.3	125.1	125.6	125.0	125.0	125.0	------	------
Dining room chairs [3 5]	103.0	102.2	102.6	103.5	102.8	103.4	103.2	102.9	103.4	103.3	103.4	103.5	103.4	103.3
Sofas, upholstered	117.5	115.8	116.9	117.9	116.6	117.1	116.8	117.5	117.5	119.4	119.1	119.5	119.3	119.0
Sofas, dual purpose	116.4	116.6	117.3	115.9	116.7	116.4	116.4	116.5	116.3	116.4	116.4	116.9	116.7	115.9
Bedding, mattress, and box springs [6 7]	103.4	102.3	102.8	103.3	103.3	103.8	103.9	104.0	103.7	104.1	103.9	104.4	103.7	104.4
Cribs	117.9	116.5	117.1	117.1	117.5	118.3	118.9	118.0	118.4	118.0	119.2	118.8	118.0	118.1
Cocktail table [8]	------	------	------	------	------	------	------	------	------	------	------	100.0	100.1	99.7
Recliner, upholstered [8]	------	------	------	------	------	------	------	------	------	------	------	100.0	99.2	98.2
Floor coverings	106.3	106.2	106.2	106.2	106.0	106.4	106.3	106.8	106.5	106.5	106.3	106.6	106.3	106.1
Broadloom carpeting, manmade fibers	102.3	102.5	102.3	102.2	101.9	102.4	102.1	102.7	102.2	102.3	101.8	102.1	101.9	101.4
Vinyl sheet goods	114.7	112.8	113.2	114.5	114.4	114.5	114.9	115.9	116.1	116.0	116.3	116.5	115.6	116.3
Vinyl asbestos tile	116.6	116.6	116.7	116.1	116.3	116.7	116.9	116.4	116.7	116.7	117.0	117.4	117.6	117.6
Appliances	105.5	105.1	105.0	105.2	105.3	105.6	105.7	105.7	105.8	105.8	105.7	105.8	105.8	105.7
Washing machines, automatic	109.4	108.5	109.0	108.9	109.3	109.4	109.7	109.9	110.1	110.0	110.0	110.0	110.2	110.4
Vacuum cleaners, canister type	103.8	103.5	102.9	103.4	103.6	104.3	104.3	104.3	104.3	104.1	103.9	103.6	104.0	103.8
Refrigerator-freezers	108.1	107.8	107.8	107.9	107.9	108.3	108.3	108.2	108.3	108.3	108.2	108.3	108.2	108.3
Ranges, free standing, gas or electric	111.0	109.9	110.0	110.6	111.3	111.3	111.7	111.4	111.2	112.0	111.0	111.3	111.2	110.4
Clothes dryers, electric	112.4	110.8	111.5	112.1	112.2	112.8	113.1	113.2	113.4	113.1	113.0	113.0	113.3	113.5
Air conditioners [1]	110.2	------	109.1	108.9	110.0	111.0	111.4	111.0	------	------	------	------	------	------
Room heaters, electric, portable [1]	108.1	107.6	107.1	------	------	------	------	------	------	108.0	108.5	108.9	108.6	108.4
Garbage disposal units	110.1	110.5	109.2	109.5	109.6	109.6	110.1	110.2	110.3	110.2	110.3	110.4	110.9	111.0
Other house furnishings:														
Dinnerware, earthenware	117.8	115.1	116.0	117.0	117.9	118.3	118.4	118.9	119.2	119.3	119.2	119.4	120.1	121.0
Flatware, stainless steel	120.4	119.8	119.5	119.4	119.3	119.6	120.4	121.5	121.7	122.1	122.0	121.8	122.0	122.2
Table lamps, with shade	121.0	118.9	119.3	120.3	121.0	121.4	121.9	122.3	122.2	122.0	122.2	121.8	122.0	122.2
Housekeeping supplies:														
Laundry soaps and detergents	109.8	107.4	108.1	109.8	110.5	110.4	110.6	111.1	111.1	110.9	110.6	110.8	111.0	111.0
Paper napkins	126.7	122.9	125.1	126.6	127.5	126.1	127.6	128.1	128.3	128.8	128.9	128.6	128.6	128.4
Toilet tissue	123.6	122.7	123.3	123.6	124.5	124.8	124.0	122.6	123.7	123.9	123.6	123.8	124.5	124.8
Housekeeping services:														
Domestic service, general housework	133.8	131.5	131.9	132.3	133.0	133.7	134.5	134.9	135.1	135.3	136.0	136.1	136.4	136.4
Baby sitter service	130.0	127.8	127.9	128.3	128.4	130.3	130.5	130.7	132.1	132.3	132.4	132.8	133.4	133.8
Postal charges	138.1	121.0	121.0	121.0	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6	146.6
Laundry, flatwork	133.3	129.9	131.1	132.1	132.8	133.6	133.9	134.6	135.0	135.4	135.6	136.3	136.4	136.6
Licensed day care service, preschool child	118.2	116.9	117.5	117.4	117.5	117.9	118.0	119.0	119.1	119.4	119.1	119.4	119.4	120.0
Washing machine repair	135.3	131.0	132.0	132.9	134.9	136.8	137.3	137.3	137.4	137.6	138.2	138.2	138.1	138.4
APPAREL AND UPKEEP	119.8	118.1	118.6	119.1	120.2	120.1	119.3	119.0	120.6	121.6	121.9	121.8	120.2	120.7
Men's and boys'	120.3	117.9	119.4	120.3	121.2	121.4	119.9	119.6	120.8	121.8	121.8	121.6	119.9	119.7
Men's:														
Topcoats, wool or all weather coats, polyester blend [1]	122.3	119.9	119.7	------	------	------	------	------	121.9	123.4	124.4	124.2	121.2	119.5
Suits, year round weight	129.0	124.8	127.4	129.1	129.7	130.0	127.1	127.7	130.5	132.4	133.0	131.5	126.5	125.6
Suits, tropical weight [1]	129.2	------	127.8	130.1	131.6	131.4	125.1	------	------	------	------	------	------	------
Jackets, lightweight	112.5	111.2	113.9	111.9	112.6	112.9	112.2	112.1	112.2	112.9	114.2	114.3	113.0	112.7
Slacks, wool or blend	116.8	115.0	115.9	116.8	117.3	117.9	117.3	115.4	118.2	118.2	117.6	116.8	115.7	116.3
Slacks, cotton or blend	132.3	130.9	131.5	132.5	133.0	133.3	131.0	130.9	132.5	133.9	134.7	134.7	134.0	137.1
Trousers, work, cotton	113.0	111.0	112.2	112.7	112.8	113.2	113.5	113.7	113.7	114.0	114.0	114.0	114.1	114.4
Shirt, work, cotton	113.3	111.1	112.0	112.8	113.4	113.4	113.9	114.0	114.2	114.6	114.8	114.5	114.5	114.2
Shirt, business, cotton	112.7	110.4	113.0	112.4	113.7	113.8	113.1	112.4	113.0	113.0	114.4	114.4	112.6	112.7
T-shirts, chiefly cotton	119.0	119.0	119.0	118.8	119.2	119.4	119.4	119.0	118.8	118.9	118.4	118.2	118.3	118.0
Socks, cotton or manmade fibers	115.5	115.3	116.2	114.8	116.2	116.4	114.9	114.9	115.2	115.7	115.7	115.8	114.3	114.9
Handkerchiefs, cotton	114.9	113.8	114.2	113.0	115.3	115.4	115.2	115.2	115.4	115.7	115.7	116.1	116.3	116.0
Boys':														
Coats, all purpose, cotton or cotton blend [1]	118.3	116.5	115.9	------	------	------	------	------	------	119.2	120.3	118.3	115.8	114.8
Sport coats, wool or blend [1]	122.0	------	------	------	------	------	------	------	123.5	128.1	118.3	121.3	118.1	------
Dungarees, cotton or blend	122.5	120.3	120.9	121.2	122.0	122.6	122.6	122.7	123.2	123.2	125.2	125.8	126.4	126.1
Undershorts, cotton	119.5	119.0	119.8	119.9	120.0	119.4	119.1	119.9	119.6	119.6	119.6	119.6	119.9	120.6
Women's and girls'	120.1	118.5	118.3	118.7	120.4	119.9	119.3	118.2	121.3	122.7	123.4	123.2	120.2	121.7
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	114.4	------	------	------	------	------	------	131.1	135.7	142.1	142.1	135.0	125.3
Skirts, cotton or polyester cotton or manmade fibers	114.0	------	113.1	115.0	119.4	118.7	114.7	102.9	------	------	------	------	------	------
Blouses, cotton	121.9	123.4	122.0	123.6	123.5	123.6	121.8	119.1	122.1	120.0	122.2	121.6	117.6	122.9
Dresses, street, chiefly manmade fiber	127.6	128.1	125.9	126.7	126.6	126.4	124.5	126.8	127.5	129.4	131.1	130.1	129.6	131.3
Dresses, street, wool or wool blend [1]	140.4	------	------	------	------	------	------	------	140.3	144.3	143.8	142.7	138.4	------

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Item and group	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
APPAREL AND UPKEEP—Continued														
Slips, nylon	110.7	110.7	110.6	110.9	110.5	109.8	110.9	111.1	111.1	111.1	110.4	111.2	111.2	111.0
Panties, acetate or nylon	115.2	114.6	115.2	114.7	115.0	115.2	115.7	115.7	115.8	115.4	116.2	116.2	116.7	116.3
Girdles, manmade blend	116.2	115.2	114.6	114.9	114.7	116.1	116.3	116.8	117.1	117.7	117.9	118.1	116.1	117.2
Brassieres, nylon lace	120.9	118.2	119.0	120.6	120.6	120.0	121.2	121.2	122.2	123.0	123.4	123.4	122.3	121.3
Hose, or panty hose, nylon, seamless	98.9	100.3	99.7	98.9	99.4	98.0	99.2	98.6	97.9	98.1	98.2	98.3	97.4	97.7
Anklets or knee-length socks, various fibers	115.8	116.5	116.3	116.5	116.7	115.8	115.6	114.8	114.8	114.6	115.6	116.4	115.9	115.8
Gloves, fabric, nylon or cotton	109.6	109.3	109.3	109.4	109.8	110.0	110.5	109.7	109.9	109.5	109.7	109.8	110.2	109.8
Handbags, rayon faille or plastic	132.4	127.9	128.1	130.2	132.3	131.9	132.1	134.2	135.6	134.8	136.8	138.2	138.9	140.2
Girls:														
Raincoats, vinyl plastic or chiefly cotton [1]	116.5	113.3	113.2	------	------	------	------	------	115.6	118.5	119.5	119.3	117.1	117.3
Skirts, wool or wool blend [1]	106.8	------	------	------	------	------	------	------	105.2	109.0	107.1	108.6	100.2	------
Dresses, cotton, manmade fibers or blends	107.4	103.3	104.7	107.9	111.1	109.6	105.2	107.4	109.3	110.3	109.4	109.3	108.9	107.2
Slacks, cotton [1]	131.3	131.1	------	------	------	------	------	------	------	131.8	131.5	131.7	131.1	------
Slips, cotton blend	110.4	109.0	110.6	110.5	110.2	110.5	110.4	109.8	111.0	110.9	111.3	111.9	111.7	112.7
Handbags	129.0	127.6	127.9	129.5	131.2	130.3	129.7	126.9	128.3	129.3	130.0	129.3	124.1	127.5
Footwear	121.5	119.9	120.5	121.1	121.7	121.7	120.9	121.5	122.2	122.7	132.2	123.1	122.7	122.7
Men's:														
Shoes, street (oxford or buckle strap)	119.6	117.8	118.6	119.1	119.7	120.2	119.4	119.2	120.9	119.8	121.1	121.0	119.7	119.9
Shoes, work, high	118.7	116.7	117.4	117.9	118.1	118.5	118.9	119.5	120.0	120.1	120.4	120.6	121.1	121.4
Women's:														
Shoes, street, pump	123.4	122.2	123.0	123.4	123.9	123.7	122.0	122.9	123.2	124.5	125.2	125.1	124.3	123.8
Shoes, evening, pump	120.2	120.1	120.4	119.9	120.5	119.3	118.8	119.6	120.3	121.0	121.0	121.1	120.7	120.5
Shoes, casual, pump	124.1	121.2	122.3	123.4	125.2	126.2	122.9	123.5	124.3	125.7	126.0	125.8	125.1	124.7
Houseslippers, scuff	121.9	119.7	119.9	120.4	121.0	121.0	122.5	123.5	123.4	123.5	123.6	123.4	124.0	124.0
Children's:														
Shoes, oxford	122.3	120.1	120.7	122.5	122.4	122.9	122.1	122.4	122.8	123.8	124.4	124.1	122.4	123.6
Sneakers, boys', oxford type	118.8	117.2	117.8	118.4	118.8	118.9	119.4	119.4	119.5	119.7	119.9	120.3	121.0	121.5
Dress shoes, girls', strap or pump	125.8	123.0	123.5	125.5	125.6	126.2	124.4	126.4	127.3	128.4	128.6	128.4	128.6	128.7
Miscellaneous apparel:														
Diapers, cotton gauze or disposable	112.0	110.6	111.2	110.9	111.8	111.8	112.3	112.5	112.7	112.8	113.3	113.3	113.0	113.0
Yard goods, polyester blend	122.1	121.8	121.8	122.0	122.5	123.0	122.4	121.9	122.1	122.1	122.3	121.9	120.6	120.5
Apparel services:														
Drycleaning, men's suits and women's dresses	116.6	115.7	116.1	116.3	117.1	117.1	116.8	116.8	117.1	117.2	117.0	117.1	117.2	117.4
Automatic laundry service	113.8	114.8	114.9	115.1	112.6	112.8	112.9	113.2	113.3	113.3	113.8	113.9	113.7	114.3
Laundry, men's shirts	119.1	118.4	118.7	118.8	119.0	119.3	119.1	119.2	119.1	119.2	119.2	120.4	120.5	120.7
Tailoring charges hem adjustment	128.5	126.7	126.9	127.2	127.6	127.7	128.3	129.0	129.6	130.0	131.2	131.6	131.7	131.8
Shoe repairs, women's heel lift	112.0	109.7	109.7	109.9	112.3	113.0	112.3	112.4	113.5	114.0	114.0	113.8	113.8	113.8
TRANSPORTATION	118.6	117.5	117.8	118.1	118.8	119.6	119.5	r119.3	r118.6	r119.3	118.8	118.6	119.0	118.3
Private	116.6	115.8	115.9	116.2	117.0	117.6	117.4	r117.3	r116.4	r117.2	116.6	116.3	116.4	115.7
Automobiles, new	112.0	115.2	114.3	113.8	113.9	113.9	113.8	r109.3	r105.6	r109.1	109.6	110.4	112.2	111.9
Automobiles, used	110.2	105.5	106.8	109.8	112.8	114.1	113.5	112.5	111.6	111.7	110.2	107.2	105.3	103.0
Gasoline, regular and premium	106.3	106.0	105.8	103.7	104.0	104.9	104.1	107.9	108.7	108.8	106.9	107.3	106.7	105.7
Motor oil, premium	120.0	117.8	118.3	119.0	119.3	119.9	120.5	121.0	121.5	121.7	121.8	121.9	122.3	122.5
Tires, new, tubeless	116.3	115.0	115.1	114.6	114.8	114.8	116.2	117.3	117.5	117.6	118.8	118.3	117.9	117.4
Auto repairs and maintenance	129.2	125.8	127.0	127.9	128.4	129.4	130.3	131.0	131.2	131.3	131.6	131.9	133.1	133.6
Auto insurance rates	141.4	139.9	140.1	141.9	142.1	142.5	142.7	142.9	142.9	141.8	141.8	141.8	141.0	140.8
Auto registration	123.2	121.7	121.7	123.8	123.8	123.8	123.8	123.7	123.7	123.7	123.7	123.7	127.1	127.1
Public	137.7	134.4	136.0	136.4	136.4	139.0	139.0	139.1	139.3	139.3	139.3	139.7	143.4	143.5
Local transit fares	143.4	141.2	143.1	143.7	143.7	143.8	143.8	144.0	144.0	144.0	144.0	144.4	150.2	150.3
Taxicab fares	126.5	119.0	119.1	119.1	119.1	131.7	131.7	131.7	131.7	131.7	131.7	132.8	132.8	132.8
Railroad fares, coach	126.8	125.1	126.2	126.2	126.2	127.4	127.4	127.4	127.7	127.7	127.6	128.2	128.2	128.2
Airplane fares, chiefly coach	126.9	121.9	124.1	124.1	124.1	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6
Bus fares, intercity	132.7	128.9	130.6	130.6	130.6	132.9	132.9	132.9	135.9	135.9	135.9	136.1	136.1	136.1
HEALTH AND RECREATION	122.2	120.2	120.6	121.2	121.6	122.1	122.6	123.1	123.6	123.5	123.7	123.9	124.3	124.7
Medical care	128.4	125.8	126.8	127.5	128.1	128.6	129.3	130.0	130.4	129.6	129.7	130.1	130.5	131.0
Drugs and prescriptions	105.4	104.9	104.9	105.1	105.5	105.7	105.5	105.6	105.7	105.6	105.7	105.6	105.5	105.5
Over-the-counter items	110.2	109.8	109.9	110.4	110.7	111.0	110.0	110.2	110.3	110.4	110.5	110.2	110.3	110.6
Multiple vitamin concentrates	96.6	97.9	98.2	98.1	97.6	97.2	95.4	95.3	95.1	95.4	95.4	95.1	95.1	95.0
Aspirin compounds	114.1	112.9	112.9	113.7	114.0	114.5	114.3	114.2	115.1	115.8	115.4	114.0	114.1	114.5
Liquid tonics	101.3	101.6	101.7	101.7	101.4	101.5	101.2	101.3	100.7	100.9	100.8	100.8	100.8	101.2
Adhesive bandages, package	122.6	120.2	120.9	122.6	123.1	124.1	123.2	123.8	124.1	123.6	123.6	124.1	123.8	123.7
Cold tablets or capsules	111.3	109.2	109.8	110.4	111.6	111.8	111.8	112.2	112.0	112.0	113.2	112.9	112.8	113.1
Cough syrup	112.4	114.0	113.3	112.9	113.4	113.8	111.2	111.3	111.4	111.4	111.2	111.3	111.7	112.7
Prescriptions	101.3	100.8	100.7	100.7	101.1	101.2	101.6	101.7	101.8	101.6	101.6	101.7	101.5	101.2
Anti-infectives	80.2	81.6	80.7	80.0	80.2	80.2	80.4	80.0	79.9	79.6	79.4	79.1	78.9	77.4
Sedatives and hypnotics	122.9	120.9	121.4	121.9	122.4	122.4	123.9	123.8	124.2	123.8	124.6	124.8	124.7	124.9
Ataractics	101.7	101.3	101.4	101.2	100.8	100.7	101.2	102.3	102.6	102.5	102.6	102.6	102.6	102.7
Anti-spasmodics	107.1	105.6	105.7	106.0	107.4	107.7	108.1	108.1	108.1	107.9	107.8	108.0	107.9	107.7
Cough preparations	126.0	124.2	124.5	124.8	125.8	125.8	126.8	127.3	127.9	127.4	127.2	127.2	127.1	127.8
Cardiovasculars and antihypertensives	111.1	109.5	109.8	110.2	111.2	111.6	111.7	112.0	112.0	112.0	112.0	112.1	112.0	111.8
Analgesics, internal	107.8	107.2	107.4	107.6	107.8	107.9	108.2	108.2	108.3	107.7	107.9	108.3	108.2	109.1
Anti-obesity	114.9	111.5	111.6	112.9	114.8	115.3	115.9	116.6	117.1	117.0	117.0	117.3	117.7	117.7
Hormones	94.9	95.1	94.9	95.0	94.9	94.6	94.6	94.8	94.9	94.7	94.6	94.8	94.0	94.0

See footnotes at end of table.

25. Continued—Consumer Price Index—U.S. average

Item and group	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	c.	Jan.	Feb.
HEALTH AND RECREATION—Continued														
Professional services:														
Physicians' fee	129.8	126.6	128.0	128.5	129.2	129.9	130.3	131.2	131.5	131.7	132.0	132.2	132.3	132.6
General physician, office visits	131.4	128.2	129.9	130.6	130.9	131.7	132.2	132.7	133.0	133.0	133.1	133.3	133.3	133.5
General physician, house visits	131.0	127.0	128.7	129.2	130.0	131.4	131.6	132.0	133.6	133.9	134.1	134.6	134.8	135.1
Obstetrical cases	129.0	125.7	126.2	126.9	128.8	128.9	129.0	130.9	131.3	131.5	131.5	131.6	132.0	132.3
Pediatric care, office visits	132.0	128.5	130.1	130.3	132.2	132.4	132.6	133.4	133.5	133.6	134.7	135.3	135.3	135.6
Psychiatrist, office visits	124.8	123.0	123.4	123.6	124.1	124.7	125.1	125.7	125.7	125.9	127.2	127.3	127.9	128.3
Herniorrhaphy, adult	123.4	121.1	121.6	121.8	122.7	123.3	123.6	124.3	124.4	125.2	126.2	126.4	126.8	127.0
Tonsillectomy and adenoidectomy	125.2	121.3	122.3	122.9	124.1	124.3	125.0	128.0	128.0	128.2	128.7	128.7	128.7	129.2
Dentists' fees	127.0	124.2	124.8	125.6	126.0	126.4	127.5	127.9	128.2	129.6	129.8	130.0	130.5	130.6
Fillings, adult, amalgam, one surface	128.0	125.0	125.5	126.4	126.8	127.3	128.7	129.3	129.5	131.0	131.0	131.3	131.8	131.8
Extractions, adult	126.9	124.5	125.2	126.1	126.4	126.5	127.3	127.4	127.7	128.9	129.4	129.6	130.4	130.6
Dentures, full uppers	124.9	122.4	122.9	123.4	123.8	124.4	125.1	125.6	126.0	127.7	127.7	127.7	128.2	128.3
Other professional services:														
Examination, prescription, and dispensing of eyeglasses	120.3	117.6	118.1	118.6	119.6	120.0	120.5	121.9	122.1	122.6	122.9	122.9	123.1	123.8
Routine laboratory tests	116.1	114.5	114.7	114.9	115.2	115.3	115.7	117.2	117.6	117.8	117.8	118.6	118.7	118.9
Hospital service charges:														
Daily service charges	160.8	155.3	157.1	158.8	159.6	160.5	162.5	163.5	164.4	164.6	164.6	165.5	167.1	168.2
Semiprivate rooms	163.1	157.4	159.2	161.0	161.7	162.6	164.8	165.8	166.8	167.0	167.0	167.9	169.6	171.1
Private rooms[4]	157.5	152.3	154.0	155.6	156.4	157.3	159.0	160.0	160.9	161.1	161.1	162.0	163.5	------
Operating room charges	156.2	151.6	154.0	154.5	155.2	155.3	157.8	156.7	158.0	159.1	159.0	162.6	163.5	165.0
X-ray, diagnostic series, upper G.I.	124.9	122.0	122.5	124.4	124.8	125.4	125.9	126.4	126.5	126.5	126.6	126.9	127.7	127.9
Personal care	116.8	115.4	115.8	116.3	116.5	116.8	117.1	117.5	117.6	117.9	117.9	117.9	118.1	118.4
Toilet goods	113.8	112.3	112.8	113.5	113.5	113.8	114.2	114.5	114.6	114.9	114.8	114.8	115.1	115.4
Toothpaste, standard dentifrice	107.7	106.5	107.3	107.5	107.3	107.6	107.2	107.7	108.6	108.8	108.3	109.3	109.9	109.6
Toilet soap, hard milled	114.1	108.5	109.6	111.8	112.2	112.4	115.4	116.8	115.2	118.4	118.8	119.7	119.7	120.3
Hand lotions, liquid	119.5	120.0	119.8	120.3	118.1	118.9	117.5	119.0	119.7	120.5	120.0	120.4	121.2	124.0
Shaving cream, aerosol	106.6	105.3	105.0	106.6	107.1	107.1	107.3	106.9	107.2	107.1	107.8	107.3	107.1	106.4
Face powder, pressed	123.5	123.9	124.0	123.9	123.9	124.1	123.8	124.0	124.1	123.9	122.4	122.0	122.0	123.1
Deodorants, aerosol	105.6	105.2	105.5	104.9	105.1	105.5	105.7	106.0	106.4	106.3	105.9	105.9	104.9	105.0
Cleansing tissues	123.3	121.4	122.6	123.2	124.4	124.7	124.8	124.2	124.1	122.6	123.6	121.8	124.4	123.1
Home permanent wave sets	110.9	109.4	109.8	110.4	110.7	111.2	111.7	111.5	111.7	111.8	111.7	111.6	111.3	111.3
Personal care services	120.0	118.6	119.0	119.3	119.6	119.9	120.2	120.6	120.8	121.0	121.2	121.2	121.3	121.5
Men's haircuts	122.6	121.5	121.7	121.7	121.8	122.2	122.5	123.2	123.4	123.7	123.7	123.9	123.9	124.1
Beauty shop services	118.2	116.5	117.1	117.6	118.0	118.4	118.5	118.8	118.9	119.1	119.4	119.2	119.4	119.7
Reading and recreation	119.3	117.5	117.7	118.4	118.9	119.3	119.6	119.7	120.5	120.5	120.8	121.1	121.4	121.5
Recreational goods	106.6	105.6	105.8	106.2	106.4	106.7	106.8	106.9	107.1	107.2	107.2	107.3	107.4	107.3
TV sets, portable and console	100.1	100.1	99.9	100.1	100.0	100.1	99.9	99.9	100.0	100.2	100.3	100.3	99.9	99.7
TV replacement tubes	122.5	121.1	121.4	121.6	121.9	122.2	122.2	122.1	123.4	124.1	124.5	124.7	126.4	126.9
Radios, portable and table model	98.5	98.6	98.3	98.3	98.4	98.5	98.4	98.4	98.5	98.1	98.4	98.4	98.4	98.4
Tape recorders, portable	94.2	95.6	95.8	95.1	94.7	94.3	94.1	93.6	93.0	92.7	92.5	93.1	93.4	93.3
Phonograph records, stereophonic	103.5	99.5	99.5	100.5	102.3	103.1	104.9	105.8	106.5	106.5	106.5	107.1	107.2	107.0
Movie cameras, Super 8, zoom lens	89.4	90.3	90.0	88.8	89.3	89.2	89.3	89.3	89.1	89.2	88.9	88.9	88.3	88.7
Film, 35mm, color	108.3	108.1	108.1	108.1	108.1	108.5	108.6	108.4	108.4	108.3	108.5	108.7	108.6	108.3
Bicycle, boys'	112.6	110.2	110.4	111.9	112.5	113.4	113.9	114.0	113.7	114.0	113.6	113.3	113.8	114.2
Tricycles	111.2	109.6	110.3	111.1	111.3	111.2	111.6	111.9	112.0	111.9	111.7	112.2	112.6	113.0
Recreational services	125.2	123.2	123.3	124.0	125.0	126.0	126.1	126.1	126.3	126.2	126.6	126.4	126.9	127.0
Indoor movie admissions	137.6	135.5	136.1	136.6	138.3	138.4	138.8	138.2	138.9	138.3	138.7	137.9	139.0	138.6
Drive-in movie admissions, adult	140.1	135.9	135.9	138.0	139.3	141.5	141.9	142.5	142.5	142.3	142.3	142.5	143.1	143.5
Bowling fees, evening	116.3	115.5	115.9	116.4	116.0	116.5	116.3	116.1	116.1	116.7	117.7	117.6	117.9	118.4
Golf greens fees[1]	127.5	------	(9)	124.0	125.8	128.5	128.6	128.8	128.4	128.3	------	------	------	------
TV repairs, picture tube replacement	98.0	97.2	97.5	97.8	98.1	98.3	98.2	98.1	98.5	98.4	98.5	98.6	98.6	98.5
Film developing, color	116.7	114.7	114.7	114.7	116.2	117.0	117.4	117.7	118.3	118.1	118.3	118.2	118.2	118.3
Reading and education:														
Newspapers, street sale and delivery	129.6	127.7	128.2	129.3	129.8	130.0	130.4	130.5	130.6	130.5	130.6	130.7	130.7	130.8
Piano lessons, beginner	121.0	120.6	120.8	120.8	120.8	120.6	120.7	120.7	121.4	121.5	121.5	121.5	121.6	122.0
Other goods and services	120.9	119.1	119.4	119.7	119.9	120.3	121.2	121.8	122.4	122.6	122.8	123.0	123.5	124.3
Tobacco products	126.4	124.1	124.1	124.3	124.7	125.3	126.9	127.9	128.9	128.9	129.0	129.2	130.2	132.0
Cigarettes, nonfilter tip, regular size	127.9	125.5	125.6	125.9	126.3	126.9	128.5	129.6	130.2	130.2	130.3	130.6	131.6	133.2
Cigarettes, filter, king	128.1	125.5	125.5	125.7	126.1	126.9	128.6	129.6	130.8	130.8	130.8	131.1	132.2	134.3
Cigars, domestic, regular	107.1	105.7	105.8	105.9	105.9	106.0	106.3	107.3	108.5	108.7	109.3	109.5	109.7	110.3
Alcoholic beverages	116.9	115.4	115.8	116.2	116.4	116.7	117.0	117.4	117.6	117.9	118.3	118.4	118.5	118.7
Beer	112.9	111.6	112.1	112.8	112.7	113.2	113.3	113.3	113.4	113.6	113.7	113.8	113.5	113.6
Whiskey, spirit blended and straight bourbon	106.4	105.8	105.8	105.9	106.0	106.2	106.3	107.0	107.0	106.8	106.9	107.0	107.4	108.5
Wine, dessert and table	122.3	119.0	119.8	120.6	121.2	121.8	123.0	123.9	124.5	124.7	124.9	125.1	125.3	125.6
Beer, away from home	126.4	124.7	125.1	125.1	125.6	125.7	126.2	126.8	127.1	127.7	128.8	128.8	129.3	129.0
Financial and miscellaneous personal expenses:														
Funeral services, adult	117.2	115.6	115.9	116.2	116.3	116.8	117.7	118.3	118.4	118.8	119.1	119.2	119.5	120.2
Bank service charges, checking accounts	110.6	111.1	111.3	111.4	111.5	110.7	110.8	110.9	110.9	109.3	109.3	109.5	109.7	108.5
Legal services, will	135.5	133.1	133.3	133.3	133.3	133.3	133.6	133.9	137.4	139.9	140.2	141.4	141.7	141.8

[1] Priced only in season.

[2] This item is a replacement for bedroom suites, good or inexpensive quality, which was discontinued after March 1970.

[3] March 1970=100.

[4] Item discontinued.

[5] This item is a replacement for dining room suites, which was discontinued after March 1970.

[6] This item is a replacement for box springs, which was discontinued after April 1970.

[7] June 1970=100.

[8] December 1971=100.

[9] Not available.

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.

c=corrected.

26. Consumer Price Index [1]—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified][2]

Area[2]	Annual average 1971	1971											1972	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All items														
U.S. city average[3]	121.3	119.4	119.8	120.2	120.8	121.5	121.8	r122.1	r122.2	r122.4	122.6	123.1	123.2	123.8
Atlanta, Ga.	121.7	(4)	120.4	(4)	(4)	122.3	(4)	(4)	r122.0	(4)	(4)	123.5	(4)	(4)
Baltimore, Md.	123.4	(4)	122.1	(4)	(4)	123.5	(4)	(4)	r124.4	(4)	(4)	125.1	(4)	(4)
Boston, Mass.	122.8	(4)	(4)	121.7	(4)	(4)	122.9	(4)	(4)	r124.5	(4)	(4)	124.9	(4)
Buffalo, N.Y.	121.8	119.6	(4)	(4)	121.4	(4)	(4)	r122.8	(4)	(4)	123.1	(4)	(4)	**124.9**
Chicago, Ill.-Northwestern Ind.	120.8	119.4	119.9	120.2	120.6	120.9	120.9	r121.5	r121.7	r121.7	121.8	122.3	122.1	**123.0**
Cincinnati, Ohio-Kentucky	120.7	(4)	119.8	(4)	(4)	120.7	(4)	(4)	r121.4	(4)	(4)	121.9	(4)	(4)
Cleveland, Ohio	122.8	121.5	(4)	(4)	122.0	(4)	(4)	r123.2	(4)	(4)	124.4	(4)	(4)	**125.9**
Dallas, Tex.	121.3	119.8	(4)	(4)	120.4	(4)	(4)	r122.7	(4)	(4)	122.4	(4)	(4)	**123.7**
Detroit, Mich.	121.7	120.0	120.1	120.1	120.9	121.9	121.8	r122.8	r122.8	r122.8	123.4	123.7	124.2	**124.9**
Honolulu, Hawaii	118.9	(4)	116.7	(4)	(4)	118.5	(4)	(4)	r121.2	(4)	(4)	121.1	(4)	(4)
Houston, Tex.	120.9	(4)	(4)	119.5	(4)	(4)	121.3	(4)	(4)	r122.4	(4)	(4)	123.2	(4)
Kansas City, Mo.-Kansas	120.5	(4)	119.2	(4)	(4)	120.6	(4)	(4)	r121.5	(4)	(4)	121.4	(4)	(4)
Los Angeles-Long Beach, Calif.	118.5	116.2	116.9	116.7	118.1	118.7	119.1	r119.5	r120.0	r120.3	120.1	120.1	120.2	**120.4**
Milwaukee, Wis.	120.1	119.0	(4)	(4)	119.1	(4)	(4)	r121.4	(4)	(4)	120.9	(4)	(4)	**122.2**
Minneapolis-St. Paul, Minn.	121.7	(4)	(4)	120.3	(4)	(4)	121.9	(4)	(4)	r123.4	(4)	(4)	123.8	(4)
New York, N.Y.-Northeastern N.J.	125.9	123.5	124.3	124.6	125.2	126.1	126.8	r126.9	r127.3	r127.5	127.6	128.0	128.4	**129.5**
Philadelphia, Pa.-N.J.	123.5	121.8	122.2	122.6	123.4	124.1	123.7	r123.6	r124.6	r125.0	124.7	125.0	124.7	**125.2**
Pittsburgh, Pa.	121.5	(4)	(4)	120.9	(4)	(4)	121.8	(4)	(4)	r122.9	(4)	(4)	123.2	(4)
Portland, Oreg.-Wash.[5]	116.1	(4)	(4)	114.7	(4)	(4)	116.2	(4)	(4)	r117.4	(4)	(4)	118.1	(4)
St. Louis, Mo.-Ill.	119.6	(4)	118.2	(4)	(4)	119.9	(4)	(4)	r120.5	(4)	(4)	120.9	(4)	(4)
San Diego, Calif.	119.9	118.2	(4)	(4)	119.5	(4)	(4)	r120.7	(4)	(4)	120.9	(4)	(4)	**122.3**
San Francisco-Oakland, Calif.	120.2	(4)	119.1	(4)	(4)	119.9	(4)	(4)	r120.9	(4)	(4)	121.8	(4)	(4)
Scranton, Pa.[5]	121.4	118.9	(4)	(4)	120.8	(4)	(4)	r123.2	(4)	(4)	122.6	(4)	(4)	**123.6**
Seattle, Wash.	116.4	114.6	(4)	(4)	115.5	(4)	(4)	r117.6	(4)	(4)	117.6	(4)	(4)	**119.0**
Washington, D.C.-Md.-Va.	122.7	120.9	(4)	(4)	122.2	(4)	(4)	r123.5	(4)	(4)	124.2	(4)	(4)	**124.7**
Food														
U.S. city average	118.4	115.9	117.0	117.8	118.2	119.2	119.8	120.0	119.1	118.9	119.0	120.3	120.3	**122.2**
Atlanta, Ga.	118.1	115.4	116.6	118.3	118.1	118.8	119.1	119.3	119.0	118.4	118.7	119.6	120.6	**122.1**
Baltimore, Md.	121.0	118.6	119.8	120.1	120.2	121.5	122.0	122.6	122.2	121.8	121.7	123.2	121.9	**123.2**
Boston, Mass.	118.5	117.7	118.1	118.7	117.8	118.6	119.0	119.2	118.5	118.4	118.8	119.9	119.5	**121.2**
Buffalo, N.Y.	119.7	116.6	118.4	119.9	120.1	121.0	121.4	122.0	119.6	119.8	119.8	120.9	121.1	**122.9**
Chicago, Ill.-Northwestern Ind.	118.5	115.7	117.3	118.0	117.7	119.8	120.5	120.7	119.4	118.9	119.2	119.6	119.8	**122.8**
Cincinnati, Ohio-Kentucky	118.4	116.3	117.0	117.8	118.5	119.3	119.2	119.7	118.7	118.9	118.9	120.7	120.5	**123.6**
Cleveland, Ohio	118.9	118.6	119.3	119.5	119.3	119.4	120.3	119.0	118.2	118.1	118.4	119.2	118.9	**121.7**
Dallas, Tex.	117.8	115.2	116.6	116.9	117.3	117.9	118.8	119.5	118.6	118.7	118.5	120.6	120.8	**122.5**
Detroit, Mich.	117.3	114.6	115.4	116.2	117.5	118.6	118.9	119.4	118.4	117.8	117.8	119.2	119.7	**122.1**
Honolulu, Hawaii	118.1	115.4	116.2	116.8	116.7	116.6	116.5	119.6	121.4	121.8	120.4	120.9	120.7	**123.7**
Houston, Tex.	118.8	115.6	116.8	117.8	118.3	118.7	120.1	120.5	120.1	120.2	120.0	121.5	121.9	**123.2**
Kansas City, Mo.-Kansas	118.6	116.1	117.1	117.5	117.5	118.8	119.6	120.3	120.0	119.5	119.8	120.8	120.9	**122.8**
Los Angeles-Long Beach, Calif.	114.9	112.9	114.0	114.3	114.6	115.2	115.8	115.8	115.1	115.3	115.8	116.6	117.5	**118.9**
Milwaukee, Wis.	115.7	113.1	114.1	114.9	115.7	116.7	117.6	117.6	116.8	116.3	116.3	117.2	117.0	**119.4**
Minneapolis-St. Paul, Minn.	119.2	115.6	116.8	119.0	119.3	120.2	121.8	122.1	119.5	119.1	119.2	120.6	120.5	**122.0**
New York, N.Y.-Northeastern N.J.	123.1	120.1	121.4	122.4	122.8	123.9	124.8	124.9	124.2	124.3	124.3	125.2	125.2	**126.9**
Philadelphia, Pa.-N.J.	120.1	117.8	118.9	119.3	119.6	120.8	121.4	121.8	121.4	121.0	120.6	122.0	122.2	**123.8**
Pittsburgh, Pa.	118.9	116.6	118.1	118.4	119.0	119.9	120.3	120.1	119.4	119.0	119.4	120.9	120.9	**122.6**
Portland, Oreg.-Wash.[5]	113.4	------	------	113.6	------	------	114.6	------	------	112.5	------	------	114.9	------
St. Louis, Mo.-Ill.	118.0	115.8	117.1	117.8	117.9	118.3	119.6	120.0	118.8	118.3	118.5	119.4	119.7	**120.9**
San Diego, Calif.	117.3	115.6	116.2	116.2	117.3	117.9	118.3	118.2	117.8	117.7	118.6	119.5	120.0	**121.8**
San Francisco-Oakland, Calif.	116.1	114.5	114.9	115.7	115.9	116.7	117.2	116.6	115.5	116.3	116.9	118.9	119.1	**120.2**
Scranton, Pa.[5]	120.1	117.2	------	------	120.6	------	------	122.8	------	------	119.6	------	------	**123.6**
Seattle, Wash.	115.9	114.0	114.4	114.7	116.0	116.5	116.7	117.0	116.8	116.3	116.5	r118.2	118.4	**119.6**
Washington, D.C.-Md.-Va.	120.2	117.1	118.5	119.5	120.0	121.4	121.4	122.2	121.3	121.4	121.2	122.0	120.9	**123.7**

[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.

In the January, February, March, and April issues, U.S. individual area food indexes for July 1971 were omitted and data for previous periods back to January 1971 appeared in the wrong columns. The table above has been corrected to show data in the appropriate columns.

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		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	All commodities	113.9	113.0	113.3	113.8	114.3	114.6	114.9	114.5	114.4	114.5	115.4	116.3	117.3	117.4
	All commodities (1957–59=100)	120.9	119.9	120.2	120.7	121.3	121.6	121.9	121.5	121.4	121.5	122.4	123.4	124.5	124.6
	Farm products and processed foods and feeds	113.8	113.4	113.3	114.3	115.4	115.0	114.6	113.0	113.0	113.6	115.9	117.4	119.6	119.1
	Industrial commodities	114.0	112.8	113.3	113.7	113.9	114.5	115.1	115.0	115.0	114.9	115.3	115.9	116.5	116.9
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	112.9	113.0	113.0	114.0	116.0	113.4	113.2	110.5	111.3	112.2	115.8	117.8	120.7	119.7
01-1	Fresh and dried fruits and vegetables	120.1	125.3	120.8	127.5	136.1	109.3	115.9	103.6	115.8	127.1	126.3	124.9	127.5	112.8
01-2	Grains	100.9	108.4	106.8	107.2	109.4	102.5	92.8	89.0	88.3	87.8	95.3	94.1	93.0	93.8
01-3	Livestock	118.3	114.9	116.9	119.0	118.9	121.3	121.3	119.1	120.9	121.0	124.7	132.2	139.6	136.7
01-4	Live poultry	100.3	100.1	99.5	101.3	108.1	121.1	100.8	102.8	93.5	92.3	87.2	94.3	105.4	107.6
01-5	Plant and animal fibers	92.8	88.9	89.4	90.3	92.3	92.6	93.4	95.2	96.3	97.3	102.5	109.5	113.2	114.3
01-6	Fluid milk	118.8	118.1	119.7	118.7	119.1	119.5	119.3	119.2	119.2	118.8	119.0	120.5	120.5	121.8
01-7	Eggs	100.8	101.2	104.4	92.4	98.0	89.4	110.1	107.8	92.4	88.5	114.4	92.6	91.9	107.7
01-8	Hay, hayseeds, and oilseeds	109.2	107.6	104.8	106.8	109.9	114.4	114.3	108.9	107.9	109.0	109.2	108.7	110.2	114.4
01-9	Other farm products	115.4	116.1	114.4	113.6	113.7	113.3	113.9	115.6	115.4	111.8	117.3	118.0	116.8	117.5
02	Processed foods and feeds	114.3	113.7	113.5	114.5	114.9	116.0	115.4	114.6	114.1	114.4	115.9	117.2	118.8	118.6
02-1	Cereal and bakery products	111.4	111.5	111.5	111.5	111.5	111.5	111.4	111.3	111.3	111.5	111.6	112.2	112.4	112.6
02-2	Meats, poultry, and fish	116.0	112.9	113.3	116.4	116.7	119.6	117.7	117.5	116.9	117.1	120.4	125.4	130.5	127.3
02-3	Dairy products	115.4	115.0	115.5	116.2	116.1	116.2	115.4	115.4	116.4	116.3	117.4	117.3	117.5	118.0
02-4	Processed fruits and vegetables	114.3	111.9	113.0	114.0	115.4	115.9	116.2	115.7	115.3	115.4	115.8	116.0	116.1	116.7
02-5	Sugar and confectionery	119.2	119.2	118.6	119.2	119.0	119.4	120.5	119.8	118.7	119.1	120.2	120.1	121.1	121.9
02-6	Beverages and beverage materials	115.8	115.3	115.6	115.7	115.7	115.9	116.1	116.0	116.4	116.6	116.4	116.4	116.8	116.7
02-71	Animal fats and oils	130.9	142.1	135.9	131.5	123.9	135.7	144.0	136.5	132.1	130.1	122.3	121.4	133.5	130.4
02-72	Crude vegetable oils	128.8	128.8	120.4	120.6	127.2	136.7	147.5	135.6	128.9	128.6	118.2	114.2	116.8	115.6
02-73	Refined vegetable oils	134.8	152.5	125.2	128.3	131.6	135.5	140.7	133.6	127.9	130.4	122.7	121.0	120.1	120.6
02-74	Vegetable oil end products	121.1	119.4	119.4	118.5	118.5	122.8	124.6	123.3	122.8	122.8	122.0	121.7	121.1	120.8
02-8	Miscellaneous processed foods	113.2	113.7	114.3	113.9	113.9	113.8	113.8	113.0	112.7	113.0	113.1	113.6	113.8	113.7
02-9	Manufactured animal feeds	104.4	107.2	104.4	104.6	107.4	106.9	104.7	101.3	98.7	100.3	104.5	103.8	103.7	108.5
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	108.6	106.9	107.5	107.8	108.5	109.2	109.7	109.7	109.6	109.8	110.6	111.3	112.0	112.1
03-1	Cotton products	110.6	107.8	108.9	109.6	110.9	111.9	112.5	112.2	112.2	112.5	113.6	116.7	118.0	119.6
03-2	Wool products	93.5	94.5	94.4	93.5	93.4	92.6	92.7	92.5	92.4	92.3	91.5	92.0	92.2	92.0
03-3	Manmade fiber textile products	100.8	97.6	98.6	99.7	101.4	101.9	103.1	103.1	102.5	103.2	104.3	105.4	105.9	106.1
03-5	Apparel	112.9	112.2	112.2	112.2	112.3	113.3	113.6	113.8	113.8	113.8	113.8	113.8	114.0	114.1
03-6	Textile housefurnishings	104.2	103.5	103.5	104.3	104.5	104.8	104.8	104.1	104.1	104.1	106.1	106.2	108.5	108.7
03-7	Miscellaneous textile products	117.2	106.7	118.7	113.6	118.7	119.9	117.2	119.8	120.8	121.2	136.2	137.4	141.6	130.9
04	Hides, skins, leather, and related products	114.0	112.5	114.0	114.4	114.2	114.2	114.4	114.7	114.7	115.1	116.2	117.8	119.1	123.0
04-1	Hides and skins	115.1	105.5	121.1	121.4	114.0	114.0	114.6	117.7	117.2	123.1	128.6	136.0	148.9	173.8
04-2	Leather	112.5	108.6	111.0	113.0	114.4	114.4	114.4	113.4	113.4	113.5	117.0	120.0	120.6	128.4
04-3	Footwear	116.8	116.5	116.6	116.7	116.8	116.8	117.1	117.1	117.1	117.1	117.1	118.1	118.5	120.1
04-4	Other leather and related products	108.3	107.5	107.7	107.9	108.2	108.2	108.2	109.0	109.0	109.1	109.8	110.6	111.2	111.9
05	Fuels and related products and power	114.2	112.8	113.0	114.2	114.4	114.4	114.8	115.3	114.8	114.7	115.0	116.0	116.1	116.5
05-1	Coal	181.8	176.0	184.0	182.8	182.5	182.9	182.9	182.9	182.9	182.9	190.2	192.7	192.6	192.6
05-2	Coke	148.7	145.9	145.9	147.6	150.5	150.5	150.5	150.5	150.5	150.5	150.5	150.5	155.0	155.0
05-3	Gas fuels	108.0	109.4	105.9	106.9	107.5	107.7	107.2	108.4	108.8	108.8	107.9	110.0	110.2	110.9
05-4	Electric power	113.6	111.1	112.3	112.6	113.0	113.5	115.3	116.4	116.3	116.2	116.3	118.9	120.0	120.0
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	113.2
05-7	Petroleum products, refined	106.8	105.9	105.3	107.4	107.4	107.2	107.3	107.3	106.3	106.2	106.1	106.1	105.5	106.3
06	Chemicals and allied products	104.2	104.5	104.5	104.3	104.4	104.4	104.3	104.3	104.2	103.8	103.4	103.4	103.5	103.4
06-1	Industrial chemicals	102.0	102.2	101.9	101.5	102.2	102.4	102.4	102.4	102.4	101.7	101.1	101.4	101.4	101.0
06-21	Prepared paint	115.6	115.1	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	116.2	117.3	117.9
06-22	Paint materials	101.5	103.5	103.5	103.5	99.4	99.8	99.8	99.7	99.7	99.7	101.9	102.7	102.7	102.7
06-3	Drugs and pharmaceuticals	102.4	102.6	102.0	101.9	102.3	102.6	102.7	102.6	102.6	102.4	102.5	102.3	102.2	102.5
06-4	Fats and oils, inedible	133.5	144.3	143.0	138.8	132.0	130.8	134.2	132.9	129.0	125.3	115.9	111.3	110.7	103.5
06-5	Agricultural chemicals and chemical products	92.2	93.9	94.1	93.8	94.1	93.4	91.0	91.0	90.4	90.3	90.3	90.3	90.2	90.6
06-6	Plastic resins and materials	88.9	87.3	88.2	88.2	88.1	88.6	89.0	89.5	89.9	89.2	89.0	88.6	89.3	88.9
06-7	Other chemicals and allied products	112.1	111.5	111.8	112.1	112.5	112.5	112.4	112.4	112.5	112.5	112.4	112.4	112.5	112.7
07	Rubber and plastic products	109.2	109.1	109.0	108.7	108.7	109.7	109.8	109.7	109.5	109.5	109.4	109.5	109.2	108.9
07-1	Rubber and rubber products	112.2	111.2	110.8	110.9	111.1	113.2	113.7	113.7	113.3	113.3	113.3	113.4	113.0	112.9
07-11	Crude rubber	99.3	99.1	99.8	100.6	99.4	98.8	99.6	99.3	99.0	98.5	98.5	99.2	98.8	98.5
07-12	Tires and tubes	109.2	107.5	107.5	107.5	107.5	111.2	111.4	110.8	110.8	110.8	110.8	110.3	108.4	108.4
07-13	Miscellaneous rubber products	118.0	117.2	116.3	116.3	117.0	118.7	119.3	119.8	119.2	119.2	119.2	119.7	120.4	120.4
07-21	Plastic construction products [3]	94.7	95.9	95.5	94.6	93.6	94.0	94.1	94.7	94.6	94.1	93.8	93.7	93.8	93.6
07-22	Unsupported plastic film and sheeting [4]	101.1	102.7	102.6	102.2	101.9	100.6	100.1	100.0	100.0	100.1	100.0	100.0	99.9	98.9
07-23	Laminated plastic sheets, high pressure [4]	99.2	99.5	101.0	99.1	99.2	99.7	98.6	98.6	98.2	98.0	97.9	98.2	98.6	98.1
08	Lumber and wood products	127.0	123.4	124.6	124.9	126.1	130.6	134.6	134.3	131.8	131.3	132.7	134.9	137.7	139.5
08-1	Lumber	135.5	129.0	131.5	132.8	134.4	142.5	146.7	146.8	142.7	141.9	143.8	146.9	150.4	152.4
08-2	Millwork	120.7	116.2	118.6	120.3	122.2	122.8	123.8	123.7	123.7	123.7	124.3	124.9	125.5	125.8
08-3	Plywood	114.7	120.2	115.6	111.0	110.2	111.7	120.5	119.1	116.2	115.9	117.8	120.2	125.1	128.9
08-4	Other wood products	118.8	118.3	119.3	119.2	119.1	119.0	118.9	118.9	118.8	119.5	119.1	119.6	119.9	120.1

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		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	INDUSTRIAL COMMODITIES—Continued														
09	**Pulp, paper, and allied products**	110.1	109.3	109.6	109.9	110.2	110.5	110.6	110.6	110.6	110.6	110.7	110.8	111.6	112.3
09-1	Pulp, paper, and products, excluding building paper and board	110.4	109.6	109.9	110.2	110.5	110.8	110.8	110.8	110.9	110.9	111.0	111.1	111.9	112.5
09-11	Woodpulp	112.0	112.2	112.2	112.4	112.4	112.4	112.4	111.5	111.5	111.5	111.5	111.5	111.5	111.5
09-12	Wastepaper	111.9	104.8	107.7	107.6	112.3	111.8	112.8	114.5	117.2	117.2	124.6	124.9	126.6	129.3
09-13	Paper	114.1	113.1	114.3	114.2	114.3	114.6	114.7	114.7	114.7	114.7	114.7	114.9	115.3	115.7
09-14	Paperboard	102.4	102.5	103.0	102.6	102.8	102.8	102.8	102.8	102.9	102.9	102.7	102.7	103.5	103.6
09-15	Converted paper and paperboard products	109.7	109.0	108.8	109.4	109.8	110.1	110.1	110.2	110.1	110.1	110.1	110.3	111.4	112.2
09-2	Building paper and board	103.0	101.4	101.7	102.7	103.2	103.6	104.3	104.5	104.6	104.7	104.6	104.7	104.7	105.6
10	**Metals and metal products**	119.0	116.5	117.8	118.5	118.5	119.4	121.1	121.1	121.0	120.9	120.8	121.4	122.6	123.4
10-1	Iron and steel	121.8	118.2	118.4	120.1	120.3	121.9	125.3	125.6	125.5	125.3	125.3	126.8	128.2	128.3
10-13	Steel mill products	123.0	118.0	118.5	120.7	121.1	123.4	128.1	128.2	128.1	128.2	128.2	c129.6	131.0	130.9
10-2	Nonferrous metals	116.0	113.7	117.2	117.2	116.4	116.9	117.1	116.5	116.3	116.0	114.9	114.4	115.0	117.2
10-3	Metal containers	121.7	115.8	123.1	123.1	123.0	123.0	124.2	124.2	124.2	124.2	124.2	124.2	127.1	127.1
10-4	Hardware	116.5	115.5	115.6	115.6	115.8	116.7	117.7	117.7	117.7	117.7	117.7	118.4	119.0	119.2
10-5	Plumbing fixtures and brass fittings	116.4	113.2	114.9	115.8	116.8	117.9	118.3	118.3	118.3	118.3	118.4	118.2	118.6	118.9
10-6	Heating equipment	115.5	114.5	114.7	115.1	115.2	115.9	116.8	116.7	116.3	116.5	116.3	115.9	116.2	117.0
10-7	Fabricated structural metal products	118.2	116.6	116.8	117.3	117.9	118.2	119.6	120.3	120.3	120.3	120.4	121.6	122.0	122.1
10-8	Miscellaneous metal products	119.0	117.9	118.0	118.2	118.7	119.3	119.8	119.9	119.7	119.7	120.9	121.3	123.2	124.1
11	**Machinery and equipment**	115.5	114.9	115.0	115.3	115.5	115.7	116.1	116.0	116.0	115.9	116.2	116.5	117.1	117.3
11-1	Agricultural machinery and equipment	117.2	116.5	116.7	116.6	116.9	117.4	117.5	117.5	117.5	117.5	118.6	119.9	121.5	122.0
11-2	Construction machinery and equipment	121.4	120.8	120.9	121.1	121.2	121.6	121.9	121.8	121.8	122.0	123.2	124.3	124.7	125.0
11-3	Metalworking machinery and equipment	117.3	116.0	116.6	117.4	117.9	117.7	118.1	118.0	118.1	118.2	118.4	118.5	118.9	119.4
11-4	General purpose machinery and equipment	119.1	117.8	118.3	118.7	119.3	119.8	120.3	120.2	120.2	120.2	120.5	120.8	121.2	121.5
11-6	Special industry machinery and equipment	120.9	119.6	119.7	120.4	120.9	121.6	121.6	121.7	122.0	122.0	122.1	122.6	123.1	123.0
11-7	Electrical machinery and equipment	109.5	109.7	109.5	109.4	109.4	109.5	109.9	109.7	109.6	109.3	109.3	109.5	110.0	110.1
11-9	Miscellaneous machinery	117.2	116.3	117.0	117.2	117.2	117.3	118.0	117.8	117.8	117.8	117.9	118.3	118.8	119.0
12	**Furniture and household durables**	109.9	109.6	109.7	109.9	109.8	110.0	110.2	110.2	110.2	110.2	110.2	110.2	110.8	110.9
12-1	Household furniture	114.8	114.0	114.1	115.0	115.2	115.3	115.5	115.6	115.6	115.4	115.5	116.0	116.7	116.8
12-2	Commercial furniture	118.1	118.2	118.1	118.1	118.1	118.1	118.2	118.2	118.2	118.2	118.2	118.3	118.3	118.7
12-3	Floor coverings	98.8	100.2	99.8	99.8	98.4	98.2	97.6	97.6	97.6	97.6	97.9	98.1	98.2	98.2
12-4	Household appliances	107.2	107.0	107.1	107.1	107.1	107.0	107.4	107.6	107.5	107.6	107.4	106.9	107.5	107.4
12-5	Home electronic equipment	93.8	93.7	93.7	93.7	93.6	93.9	94.0	93.8	93.8	93.4	93.4	93.3	92.9	93.0
12-6	Other household durable goods	120.9	119.8	120.1	120.1	120.1	121.6	122.1	122.1	121.9	122.0	122.1	122.3	124.1	124.5
13	**Nonmetallic mineral products**	122.4	120.9	121.6	121.8	122.2	123.3	124.2	124.2	124.1	124.0	124.2	124.3	124.6	124.8
13-11	Flat glass	123.9	125.3	126.2	124.4	122.5	122.5	124.3	124.3	124.3	123.1	123.6	123.6	123.6	122.4
13-2	Concrete ingredients	121.9	120.6	121.0	121.2	121.5	123.3	124.0	124.1	124.1	124.3	124.2	124.4	124.6	124.6
13-3	Concrete products	120.6	118.5	119.4	119.6	120.1	121.5	122.8	122.6	122.6	122.6	122.9	123.4	123.8	124.5
13-4	Structural clay products excluding refractories	114.2	113.6	114.5	114.5	114.5	114.5	114.9	114.9	114.9	114.9	114.9	114.8	116.1	116.2
13-5	Refractories	126.9	126.7	126.7	126.7	126.9	126.9	126.9	126.9	127.1	127.1	127.1	127.1	127.1	127.1
13-6	Asphalt roofing	125.5	123.6	123.6	123.6	130.7	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2	131.2
13-7	Gypsum products	106.8	98.9	101.0	101.2	104.0	112.7	114.3	114.5	113.6	112.1	114.1	113.4	112.8	115.3
13-8	Glass containers	131.6	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5	131.5
13-9	Other nonmetallic minerals	124.1	121.4	122.0	124.8	124.8	125.6	125.7	125.7	125.7	125.6	125.6	125.7	125.9	126.4
14	**Transportation equipment**[5]	110.3	109.5	109.7	109.8	110.0	110.3	110.5	109.6	110.7	110.8	112.9	113.4	113.6	113.8
14-1	Motor vehicles and equipment	114.7	113.8	114.1	114.2	114.4	114.7	114.9	113.8	115.2	115.3	117.5	117.9	118.1	119.1
14-4	Railroad equipment	121.1	119.9	119.9	120.4	120.8	121.5	122.5	122.5	122.5	122.5	122.6	123.7	123.9	127.3
15	**Miscellaneous products**	112.8	112.8	112.7	112.5	112.6	112.8	113.0	113.0	113.0	113.1	113.2	113.7	114.0	114.3
15-1	Toys, sporting goods, small arms, ammunition	112.6	113.1	112.5	112.4	112.6	112.6	112.6	112.6	112.6	112.8	113.1	113.5	114.0	114.5
15-2	Tobacco products	116.7	116.9	116.5	116.5	116.5	116.6	116.8	116.8	116.8	116.8	116.7	117.4	117.4	117.4
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	105.8	105.8	105.9	106.0	106.2	106.3	106.3	106.3	106.5	106.5	106.4	106.7	106.9
15-9	Other miscellaneous products	112.3	111.8	112.2	111.6	111.9	112.4	112.9	112.9	112.9	112.9	113.0	113.9	114.4	114.5

[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.

c=corrected.

28. Wholesale Price Index for special commodity groupings [1]

[1967 = 100 unless otherwise specified] [2]

Commodity group	Annual average 1971	1971										1972		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All commodities—less farm products	114.0	113.0	113.3	113.8	114.0	114.7	115.1	114.9	114.8	114.8	115.4	116.1	116.9	**117.1**
All foods	115.5	115.0	114.7	116.0	117.0	115.8	116.6	115.1	115.3	116.3	118.1	118.9	120.8	**119.3**
Processed foods	115.6	114.5	114.5	115.8	116.0	117.3	116.9	116.4	116.1	116.2	117.5	119.2	121.2	**120.3**
Textile products, excluding hard and bast fiber products	103.7	101.4	102.2	102.9	104.1	104.6	105.2	105.0	104.7	105.1	106.1	107.6	108.7	**109.1**
Hosiery	95.6	95.6	95.6	95.5	95.5	95.5	95.5	95.5	95.5	95.5	96.0	96.0	96.0	**96.0**
Underwear and nightwear	108.1	107.6	107.9	107.9	108.1	108.3	108.6	108.4	108.4	108.4	108.4	108.7	109.6	**109.6**
Refined petroleum products	106.8	105.9	105.3	107.4	107.4	107.2	107.3	107.3	106.3	106.2	106.1	106.1	105.5	**106.3**
East Coast	120.0	116.2	122.2	122.2	121.8	121.8	120.8	120.8	120.4	119.2	119.2	119.2	119.9	**119.9**
Mid-Continent	103.3	99.4	97.3	106.0	103.1	103.1	103.1	103.1	101.6	101.6	101.6	101.6	100.2	**100.2**
Gulf Coast	100.0	100.4	98.4	100.7	100.7	100.7	100.7	100.7	98.4	98.4	98.4	98.4	96.9	**99.2**
Pacific Coast	112.7	112.9	113.8	113.8	113.8	112.4	113.0	113.3	113.8	113.8	112.7	113.3	114.1	**113.3**
Midwest	112.5	110.3	110.1	111.6	113.1	113.1	113.1	113.1	113.1	113.1	113.1	113.1	113.1	**112.8**
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns [3]	103.2	103.3	103.3	103.2	103.4	103.5	103.3	103.3	103.3	103.0	102.9	103.0	103.2	**103.2**
Pharmaceutical preparations	102.2	102.5	101.8	101.7	102.1	102.4	102.5	102.5	102.5	102.3	102.4	102.2	102.1	**102.5**
Lumber and wood products, excluding millwork and other wood products [4]	130.1	126.7	127.4	127.2	128.2	134.7	140.0	139.7	135.9	135.3	137.2	140.1	143.9	**146.4**
Special metals and metal products [5]	117.6	115.7	116.6	117.1	117.2	117.9	119.0	118.7	119.0	119.0	119.7	120.3	121.1	**121.6**
Copper and copper products [6]	116.6	113.1	119.4	119.4	117.7	118.4	117.8	117.0	116.7	116.0	114.0	115.0	116.3	**120.1**
Machinery and motive products	115.3	114.6	114.8	115.0	115.2	115.5	115.8	115.3	115.8	115.8	116.7	117.2	117.6	**117.8**
Machinery and equipment, except electrical	118.9	117.8	118.2	118.6	118.9	119.3	119.6	119.6	119.6	119.7	120.1	120.6	121.1	**121.4**
Agricultural machinery, including tractors	117.3	116.6	116.8	116.7	117.0	117.6	117.7	117.7	117.7	117.7	118.9	120.4	122.1	**122.6**
Metalworking machinery	118.6	117.6	117.6	118.4	119.1	119.2	119.4	119.2	119.3	119.5	119.8	119.9	120.3	**120.8**
Numerically controlled machine tools (Dec. 1971 =100)												100.0	100.5	**100.6**
Total tractors	120.7	120.4	120.4	120.4	120.8	120.8	120.8	120.8	120.8	120.8	122.5	124.1	124.6	**125.0**
Industrial valves	116.3	112.8	114.3	116.6	117.7	118.1	118.6	118.6	118.6	119.1	119.1	119.1	120.2	**120.2**
Industrial fittings	122.4	122.4	122.2	122.2	122.2	122.6	122.6	122.6	122.6	122.6	123.0	123.8	123.1	**123.1**
Abrasive grinding wheels	122.1	117.5	123.6	123.6	123.7	123.7	123.5	123.5	123.5	123.5	123.5	123.5	123.8	**126.5**
Construction materials	119.5	117.2	118.0	118.5	119.0	120.9	122.9	123.0	122.2	122.0	122.4	123.2	124.2	**124.9**

[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.

[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] 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		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All commodities	113.9	113.0	113.3	113.8	114.3	114.6	114.9	114.5	114.4	114.5	115.4	116.3	117.3	**117.4**
Total durable goods	117.0	115.5	116.1	116.5	116.7	117.5	118.4	118.2	118.2	118.1	118.6	119.2	120.0	**120.4**
Total nondurable goods	111.7	111.1	111.2	111.8	112.5	112.4	112.4	111.7	111.6	111.8	113.0	114.1	115.3	**115.2**
Total manufactures	113.8	112.7	113.0	113.5	113.8	114.5	114.9	114.7	114.5	114.5	115.1	115.7	116.5	**116.7**
Durable	117.0	115.5	116.1	116.5	116.7	117.5	118.5	118.3	118.3	118.3	118.8	119.3	120.1	**120.4**
Nondurable	110.5	109.9	109.9	110.5	110.8	111.4	111.2	111.0	110.6	110.7	111.3	112.0	112.8	**112.9**
Total raw or slightly processed goods	114.4	114.0	114.4	114.9	116.3	114.7	114.8	113.2	113.8	114.3	116.8	118.9	120.9	**120.7**
Durable	112.2	114.5	115.9	113.7	111.5	111.4	110.4	111.1	110.4	108.9	107.4	110.3	113.1	**116.2**
Nondurable	114.6	114.0	114.4	115.1	116.6	115.0	115.1	113.4	114.0	114.6	117.3	119.3	121.3	**121.0**

[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 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		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All commodities	113.9	113.0	113.3	113.8	114.3	114.6	114.9	114.5	114.4	114.5	115.4	116.3	117.2	117.4
Crude materials for further processing	115.0	114.3	115.2	115.8	116.9	116.6	115.2	113.9	114.3	114.3	117.0	120.2	123.1	123.1
RAW MATERIALS														
Foodstuffs and feedstuffs	114.2	114.0	114.4	115.4	117.1	116.6	114.5	112.1	112.6	112.7	115.8	119.3	122.9	122.0
Nonfood materials except fuel	110.5	109.4	110.6	110.3	110.1	110.4	110.2	111.1	111.1	111.1	112.8	115.4	117.3	119.5
Manufacturing	109.7	108.6	109.9	109.6	109.3	109.5	109.3	110.3	110.3	110.2	112.2	115.1	117.1	119.5
Construction	119.1	117.6	118.2	118.7	119.3	119.6	120.1	120.3	120.3	120.5	120.4	120.7	120.9	121.0
Crude fuel	138.5	134.5	138.5	139.0	139.4	139.7	139.3	140.3	140.6	140.6	142.7	145.4	145.6	146.2
Manufacturing industries	129.6	126.0	129.1	129.8	130.4	130.7	130.2	131.4	131.8	131.8	132.8	135.5	135.7	136.5
Nonmanufacturing industries	150.4	145.7	151.0	151.0	151.3	151.5	151.2	152.0	152.2	152.2	155.7	158.4	158.6	159.0
INTERMEDIATE MATERIALS														
Intermediate materials: Supplies and components	114.0	112.6	113.1	113.6	114.0	114.8	115.6	115.4	115.0	115.0	115.4	115.9	116.7	117.2
Materials and components for manufacturing	113.0	111.4	112.1	112.6	112.8	113.6	114.6	114.4	114.2	114.2	114.4	114.9	115.7	115.9
Materials for food manufacturing	116.2	115.5	115.2	116.2	116.3	117.5	118.3	117.1	116.6	116.8	117.3	117.9	119.4	118.6
Materials for nondurable manufacturing	105.6	104.8	105.4	105.5	105.9	106.1	106.3	106.2	105.9	105.9	106.3	107.0	107.4	107.5
Materials for durable manufacturing	118.8	115.9	117.2	118.0	118.1	119.6	121.7	121.6	121.4	121.2	121.0	121.5	122.7	123.3
Components for manufacturing	114.7	113.6	113.8	114.1	114.5	114.9	115.5	115.6	115.4	115.6	115.8	116.0	116.5	116.6
Materials and components for construction	119.5	117.3	118.0	118.5	119.2	120.8	122.5	122.5	121.9	121.8	122.3	123.1	124.2	124.9
Processed fuels and lubricants	113.4	112.3	112.0	113.0	113.2	113.4	114.6	115.3	114.6	114.4	114.3	116.0	116.8	116.9
Manufacturing industries	115.2	113.8	113.9	114.3	114.7	115.1	116.6	117.5	117.2	117.0	117.0	119.2	120.4	120.4
Nonmanufacturing industries	110.6	110.0	109.1	111.1	110.9	110.9	111.5	111.9	110.6	110.4	110.1	111.0	111.1	111.5
Containers	116.6	114.4	116.2	116.6	116.9	117.2	117.5	117.6	117.6	117.6	117.6	117.8	119.5	120.0
Supplies	110.9	111.3	110.7	110.9	111.9	111.9	111.3	110.3	109.6	110.1	111.1	111.0	111.4	112.8
Manufacturing industries	113.1	112.7	113.0	113.4	113.5	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.9	114.2
Nonmanufacturing industries	[c] 109.9	110.7	109.7	109.7	111.2	111.3	110.4	109.0	107.9	108.6	110.2	110.1	110.3	112.3
Manufactured animal feeds	104.3	107.3	104.3	104.6	107.8	107.2	104.6	100.8	97.9	99.8	104.4	103.6	103.3	108.3
Other supplies	112.6	112.2	112.2	112.1	112.7	113.2	113.2	113.0	113.0	113.0	113.0	113.2	113.8	114.1
FINISHED GOODS														
Finished goods (including raw foods and fuels)	113.5	112.9	112.9	113.5	113.8	113.8	114.1	113.6	113.8	114.0	115.0	115.5	116.3	116.6
Consumer goods	112.7	112.1	112.0	112.7	113.1	113.0	113.3	112.7	112.9	113.1	114.2	114.7	115.6	115.3
Foods	115.2	114.6	114.5	115.6	116.4	115.6	116.1	114.9	115.0	115.7	117.7	118.7	120.6	119.4
Crude	115.8	118.0	116.9	117.1	121.8	109.0	115.8	109.6	112.2	116.1	121.5	117.4	117.9	115.7
Processed	115.0	113.9	114.0	115.3	115.4	116.7	116.1	115.8	115.5	115.6	117.0	118.8	121.0	120.0
Other nondurable goods	111.3	110.7	110.5	111.0	111.2	111.6	111.8	111.9	111.7	111.7	111.8	112.0	112.1	112.4
Durable goods	110.9	110.4	110.5	110.7	110.7	111.0	111.1	110.4	111.3	111.3	112.6	112.9	113.2	113.2
Producer finished goods	116.6	116.0	116.1	116.3	116.5	116.8	117.1	116.9	117.1	117.0	117.8	118.4	188.8	119.0
Manufacturing industries	117.3	116.6	116.7	117.0	117.2	117.7	117.9	117.8	117.9	117.8	118.2	[c] 118.7	119.1	119.2
Nonmanufacturing industries	116.0	115.5	115.6	115.6	115.8	116.1	116.4	116.0	116.3	116.3	117.4	118.1	118.4	118.8
SPECIAL GROUPINGS														
Crude materials for further processing, excluding crude foodstuffs and feedstuffs, plant and animal fibers oilseeds, and leaf tobacco	122.7	121.4	124.1	123.5	122.8	122.7	122.3	123.0	122.9	122.6	123.4	125.6	127.0	129.1
Intermediate materials, supplies and components excluding intermediate materials for food manufacturing and manufactured animal feeds	114.3	112.7	113.3	113.8	114.1	114.9	115.9	115.9	115.7	115.6	115.8	116.4	117.2	117.6
Consumer finished goods, excluding consumer foods	111.2	110.6	110.5	110.9	111.0	111.4	111.5	111.3	111.6	111.6	112.1	112.3	112.5	112.7

[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).

[c]=corrected.

31. Industry-sector price indexes for output of selected industries [1]

[1967 = 100 unless otherwise indicated][2]

1963 SIC code	Industry	Annual average 1971	1971											1972	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	MINING														
1111	Anthracite	144.9	146.3	146.3	146.3	144.2	140.5	144.7	144.7	145.6	144.7	144.7	144.7	146.4	146.4
1211	Bituminous coal	185.0	178.6	178.6	187.1	186.1	186.1	186.1	186.1	186.1	[c]186.2	[c]186.2	194.1	196.6	196.6
1311	Crude petroleum and natural gas	113.0	112.1	112.5	112.7	113.0	113.2	113.3	113.1	113.5	113.6	113.6	113.3	113.9	114.0
1421	Crushed and broken stone	117.7	116.0	116.3	117.1	117.1	118.3	118.5	118.5	118.5	118.5	118.8	118.8	119.1	119.4
1442	Construction sand and gravel	120.6	118.2	118.9	119.5	120.5	120.5	120.8	121.9	122.3	122.3	122.3	122.2	122.5	122.5
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	112.2	112.2	112.2	112.2	112.2	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	114.7	112.5	113.2	116.9	115.2	117.7	117.5	117.5	117.1	117.1	120.8	125.4	130.6
2013	Meat processing plants	110.7	109.7	109.7	109.7	111.0	111.0	111.6	111.4	110.2	112.0	112.4	114.9	117.4	124.5
2015	Poultry dressing plants	111.0	111.1	110.5	109.5	110.7	117.1	127.1	112.0	113.0	106.0	104.9	100.8	106.8	114.1
2021	Creamery butter	113.1	111.4	111.9	113.6	113.5	113.3	113.3	113.4	113.5	113.6	113.6	114.2	113.9	114.0
2033	Canned fruits and vegetables	111.7	109.1	109.5	110.8	111.4	113.0	113.3	113.7	113.0	112.5	112.6	113.0	113.3	112.9
2036	Fresh or frozen packaged fish	141.2	132.5	131.3	132.5	134.9	142.5	141.0	148.4	145.3	145.3	150.0	158.1	165.3	167.9
2041	Flour and other grain mill products (12/71=100)													98.4	97.8
2042	Prepared animal feeds (12/71=100)													100.5	100.2
2044	Rice milling	98.9	98.2	98.2	98.2	97.7	99.3	99.3	99.3	99.3	99.3	99.3	100.5	100.5	100.5
2052	Biscuits, crackers and cookies	119.3	116.7	120.3	120.3	120.3	120.3	119.6	119.6	119.6	119.6	119.6	119.6	119.6	120.6
2061	Raw cane sugar	116.9	116.0	115.4	113.4	116.0	117.7	117.7	119.5	116.7	116.7	118.1	121.3	126.7	123.5
2062	Cane sugar refining	118.3	116.0	117.6	117.3	117.6	117.8	119.5	119.8	119.4	119.4	119.6	120.0	120.9	123.0
2063	Beet sugar	116.8	115.8	117.6	116.5	116.8	116.7	117.1	117.3	117.0	117.0	117.0	117.3	118.0	119.7
2073	Chewing gum	123.6	113.9	120.2	126.1	126.1	126.1	126.2	126.2	126.2	126.2	126.2	126.2	125.9	125.9
2082	Malt liquors	110.2	109.6	109.9	110.2	110.2	110.2	110.2	110.2	110.2	110.2	110.9	110.6	110.7	110.9
2083	Malt	98.5	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	94.2	94.2	94.2
2084	Wines and brandy	117.0	111.0	114.8	114.8	115.4	115.4	120.4	120.4	120.4	120.5	102.5	119.4	119.7	125.0
2091	Cottonseed oil mills	111.4	115.4	110.0	111.0	108.8	110.4	113.1	120.0	118.1	105.2	104.9	108.5	106.7	106.4
2092	Soybean oil mills	111.4	108.8	109.5	103.1	107.5	112.9	120.8	120.8	109.2	110.3	110.9	111.3	109.6	112.7
2094	Animal and marine fats and oils	125.7	130.8	134.7	133.9	128.7	124.3	122.8	124.4	125.4	122.6	120.3	114.0	113.1	115.7
2096	Shortening and cooking oils	121.0	119.5	119.7	119.5	118.5	118.4	122.9	125.0	123.3	122.4	122.2	121.1	120.6	120.2
2098	Macaroni and noodle products	106.3	106.5	106.5	106.5	106.5	106.4	106.5	106.4	106.5	105.8	105.8	105.8	105.8	105.8
2111	Cigarettes	117.4	117.9	117.9	117.3	117.3	117.3	117.3	117.3	117.3	117.3	117.3	117.3	118.2	118.2
2121	Cigars	108.1	106.9	106.9	107.0	107.0	107.0	107.6	109.6	109.6	109.6	109.6	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	125.1	125.1	125.1	125.1
2254	Knit underwear mills	107.8	107.5	107.1	107.5	107.5	107.7	107.8	108.3	108.3	108.2	108.3	108.2	108.7	109.8
2272	Tufted carpets and rugs	96.0	98.4	98.2	97.6	97.7	95.5	95.2	94.2	94.2	94.2	94.2	94.5	94.8	95.1
2281	Yarn mills, except wool (12/71=100)													101.0	102.5
2311	Men's and boys' suits and coats	128.0	125.5	125.6	126.1	126.0	126.5	127.7	129.1	131.0	131.2	131.3	131.3	131.5	131.3
2321	Men's dress shirts and nightwear	111.9	111.6	111.6	111.7	111.9	112.0	112.2	112.3	112.4	112.4	111.4	111.1	111.5	111.7
2322	Men's and boys' underwear	110.3	110.3	110.0	110.1	110.2	110.2	110.2	110.6	110.6	110.6	110.5	110.5	111.0	111.7
2327	Men's and boys' separate trousers	110.6	110.1	110.2	110.2	110.2	110.2	110.7	110.9	111.0	111.0	111.0	111.0	110.7	111.0
2328	Work clothing	113.7	112.6	112.7	113.0	113.0	113.4	113.4	114.7	114.6	114.6	114.6	114.9	115.0	115.1
2337	Women's suits, coats and skirts (12/71=100)													100.0	100.0
2371	Fur goods (12/71=100)														
2381	Fabric dress and work gloves	111.8	112.1	111.7	111.7	111.7	111.7	111.7	111.7	111.8	111.8	111.5	111.5	113.2	113.6
2421	Sawmills and planing mills (12/71=100)													102.2	104.8
2426	Hardwood dimension and flooring	115.5	111.9	113.3	113.7	113.9	114.2	116.2	118.8	118.5	118.2	118.2	119.4	120.6	120.8
2431	Millwork plants (12/71=100)													100.5	100.6
2432	Veneer and plywood plants (12/71=100)													102.3	106.8
2442	Wirebound boxes and crates (12/67=100)	117.6	117.0	117.2	117.3	117.3	117.5	117.9	117.9	117.9	117.9	118.3	118.5	119.8	120.1
2511	Wood furniture, not upholstered (12/71=100)													100.7	101.4
2512	Wood furniture upholstered (12/71=100)													100.3	100.6
2515	Mattresses and bedsprings	108.8	108.3	108.8	108.8	108.9	109.1	108.9	109.0	109.0	109.0	109.0	109.0	108.9	109.6
2521	Wood office furniture	117.1	117.2	117.2	117.1	117.1	117.1	117.1	117.3	117.3	117.3	117.5	117.5	117.5	117.5
2647	Sanitary paper products	119.1	118.0	119.2	119.2	119.2	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.5	119.6
2654	Sanitary food containers	106.0	105.4	106.0	106.0	106.0	106.1	106.2	106.2	106.2	106.2	106.2	106.2	106.2	106.3
2819	Inorganic chemicals, nec. (12/71=100)													100.1	100.2
2822	Synthetic rubber	99.9	99.9	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.9	[c]99.7	[c]99.7	99.7	99.7
2823	Cellulosic man-made fibers	102.5	102.3	102.3	102.5	102.5	102.5	102.5	102.8	102.9	102.9	102.7	103.7	104.3	104.8
2824	Organic fibers, noncellulosic	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.1
2834	Pharmaceutical preparations (12/71=100)													99.9	99.8
2841	Soap and other detergents (12/71=100)													100.0	100.0
2844	Toilet preparations (12/71=100)													100.0	100.1
2871	Fertilizers	91.8	91.7	94.0	94.0	94.1	94.1	93.7	89.7	89.7	89.8	89.8	89.7	89.7	89.5

See footnotes at end of table.

31. Continued—Industry-sector price indexes for output of selected industries [1]

[1967 = 100 unless otherwise indicated][2]

1963 SIC code	Industry	Annual average 1971	1971											1972	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
	MANUFACTURING—Continued														
2872	Fertilizers, mixing only	102.5	101.4	103.2	103.3	103.5	103.5	102.8	102.3	102.4	102.5	102.4	102.3	102.3	101.5
2892	Explosives	112.8	112.9	112.9	112.9	112.9	112.9	112.9	112.8	112.8	112.8	112.8	112.7	112.7	112.7
2911	Petroleum refining	105.7	105.8	104.9	104.4	106.4	106.3	106.2	106.2	106.3	105.3	105.2	105.0	105.1	104.5
3021	Rubber footwear (12/71=100)													102.9	106.7
3111	Leather tanning and finishing	113.0	109.2	109.1	111.5	113.5	114.7	114.7	114.7	113.9	114.0	114.0	117.5	120.4	121.1
3121	Industrial leather belting	125.5	125.9	125.4	124.8	126.0	125.3	125.5	126.0	125.6	125.6	126.3	126.3	125.6	126.6
3141	Shoes, except rubber (12/71=100)													100.7	101.1
3211	Flat glass (12/71=100)													100.0	100.0
3221	Glass containers	131.5	131.8	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4	131.4
3241	Cement, hydraulic	124.6	117.3	123.6	123.6	123.6	123.6	126.7	127.6	127.8	127.8	127.8	127.8	127.8	128.1
3251	Brick and structural clay tile	119.1	117.9	118.8	119.1	119.1	119.1	119.1	120.0	120.0	120.0	120.0	120.0	119.9	122.5
3255	Clay refractories	128.7	128.5	128.5	128.5	128.5	128.7	128.7	128.7	128.7	128.9	128.9	128.9	128.9	128.9
3259	Structural clay products nec	109.2	107.2	107.1	110.0	110.0	109.9	109.9	109.9	110.0	110.0	109.9	109.9	109.9	109.9
3261	Vitreous plumbing fixtures	112.1	108.3	108.3	109.3	110.7	113.2	114.0	114.3	114.6	114.8	114.4	114.7	113.9	114.4
3262	Vitreous china food utensils	132.4	130.6	130.6	133.4	133.4	133.4	133.4	133.4	133.4	133.4	133.4	133.4	133.4	135.8
3263	Fine earthenware food utensils	125.5	120.2	120.2	120.3	120.3	120.3	129.7	131.1	131.1	131.1	131.1	131.1	134.6	134.8
3271	Concrete block and brick	118.4	117.4	118.4	118.2	118.3	118.3	118.4	118.9	119.1	119.1	119.1	119.1	120.0	120.5
3273	Ready mixed concrete	122.5	119.7	120.4	120.8	121.0	121.8	123.3	124.8	124.6	124.6	124.6	124.9	125.3	125.8
3275	Gypsum products	107.0	98.3	99.3	101.3	101.6	104.2	112.7	114.4	114.5	113.7	112.3	114.1	113.4	113.0
3291	Abrasive products (12/71=100)													100.0	100.3
3312	Blast furnace and steel mills	123.4	117.6	118.5	118.9	121.0	121.6	124.0	128.2	128.3	128.3	128.3	128.3	129.6	130.9
3315	Steel wire drawing, etc	120.2	114.9	115.1	115.5	117.9	119.1	119.2	124.3	125.3	125.2	125.7	125.7	127.1	127.6
3316	Cold finishing of steel shapes	124.1	118.7	118.9	118.9	121.2	122.4	126.2	128.5	128.9	128.9	128.9	128.9	127.9	132.4
3317	Steel pipe and tube	121.9	115.2	115.2	116.8	119.9	120.3	120.7	128.4	128.4	128.2	128.2	128.2	128.6	128.5
3321	Gray iron foundries (12/68=100)	115.1	112.8	113.4	114.4	115.2	115.8	116.0	116.1	116.2	116.3	116.4	116.4	116.1	116.7
3333	Primary zinc	113.3	107.4	107.0	109.1	110.3	112.0	112.8	118.8	118.8	118.8	118.8	118.8	119.0	119.1
3334	Primary aluminum	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	115.9	101.5	99.2
3339	Primary nonferrous metals, nec	112.8	119.1	116.8	119.1	115.9	114.1	111.2	111.8	106.5	104.9	105.1	107.2	110.4	112.2
3341	Secondary nonferrous metals (12/71=100)													96.3	96.0
3351	Copper rolling and drawing	119.0	114.6	114.2	120.2	123.1	120.4	120.5	120.5	120.0	120.0	119.7	118.3	120.3	122.2
3352	Aluminum rolling and drawing (12/68=100)	108.2	108.2	107.9	108.0	108.0	108.2	108.3	108.4	108.3	108.4	108.3	108.3	108.3	108.2
3356	Nonferrous rolling and drawing, nec. (12/71=100)													100.1	101.1
3411	Metal cans	121.9	115.5	115.6	124.1	124.1	123.9	124.0	124.0	124.0	124.0	124.0	124.0	124.0	127.5
3423	Hand and edge tools (12/67=100)	120.8	118.7	118.8	118.9	118.9	119.6	121.3	123.1	123.1	123.0	123.2	123.2	124.4	125.0
3431	Metal plumbing fixtures	114.0	109.2	109.2	110.1	111.5	114.2	116.2	117.7	117.7	117.6	117.8	117.8	116.9	116.9
3493	Steel springs	111.9	110.3	110.3	110.8	110.7	111.7	110.2	111.5	113.3	113.1	114.3	115.9	116.6	118.7
3494	Valves and pipe fittings (12/71=100)													100.3	100.6
3496	Collapsible tubes	118.4	114.8	117.1	117.1	117.0	119.8	119.9	120.0	120.0	119.9	119.9	119.9	119.9	120.5
3498	Fabricated pipe and fittings	133.0	128.1	128.1	128.2	129.7	135.6	135.6	135.6	136.7	136.7	136.7	136.7	136.7	136.7
3519	Internal combustion engines	117.4	116.4	116.5	116.7	116.7	116.6	116.8	118.4	118.5	118.5	118.5	119.3	120.2	120.9
3533	Oil field machinery	123.3	121.8	122.2	123.4	123.5	123.8	123.8	124.0	123.9	123.9	123.9	123.9	125.3	125.6
3534	Elevators and moving stairways	121.0	119.4	119.4	120.5	120.6	120.6	102.6	122.2	122.2	122.2	122.2	122.2	122.3	122.3
3535	Conveyors and conveying equipment (12/71=100)													100.2	101.1
3537	Industrial trucks and tractors	120.4	118.4	118.5	118.5	118.5	118.6	121.6	123.5	121.7	121.7	121.7	124.2	124.2	123.3
3541	Machine tools, metal cutting types (12/71=100)													100.2	100.7
3542	Machine tools, metal forming types (12/71=100)													100.3	100.7
3552	Textile machinery (12/69=100)	108.9	107.2	107.2	107.5	108.0	109.4	109.7	109.8	110.1	110.4	110.4	110.4	111.0	111.3
3562	Ball and roller bearings	114.2	113.9	113.9	113.9	113.9	113.9	114.0	114.6	114.6	114.6	114.6	114.6	115.0	115.7
3572	Typewriters	103.4	103.3	103.3	103.4	103.4	103.4	103.4	103.5	103.5	103.5	103.5	103.5	103.5	104.0
3576	Scales and balances	114.3	114.3	114.3	114.6	113.9	113.9	114.1	114.1	114.1	114.5	114.5	114.5	116.5	116.5
3611	Electric measuring instruments (12/71=100)													100.5	100.7
3612	Transformers	97.3	100.5	101.0	100.7	99.1	96.9	96.7	95.6	95.5	94.8	92.4	93.0	94.4	94.1
3613	Switchgear and switchboards	113.3	113.8	114.1	114.0	114.1	113.5	113.1	113.1	112.7	113.0	112.5	112.3	112.0	112.1
3624	Carbon and graphite products (12/67=100)	113.1	112.5	113.1	113.3	113.3	113.3	113.3	113.3	113.3	113.3	113.3	113.3	113.4	113.4
3634	Electric housewares and fans (12/71=100)													99.7	99.9
3635	Household vacuum cleaners	100.4	100.3	100.2	100.2	100.2	100.2	100.5	100.5	100.5	100.5	100.5	100.4	100.4	100.4
3641	Electric lamps	113.6	113.7	113.7	113.7	113.3	113.3	113.3	113.8	113.8	114.3	114.0	114.2	114.2	114.5
3642	Lighting fixtures (12/71=100)													100.3	101.1
3652	Phonograph records	106.8	110.2	110.2	110.2	105.4	105.4	105.4	105.4	105.4	105.4	105.4	105.4	113.2	113.2
3671	Electron tubes, receiving type	132.0	131.6	131.6	132.2	132.1	132.2	132.2	132.2	132.2	132.2	132.2	132.2	132.1	139.8
3672	Cathode ray picture tubes	86.4	88.9	89.0	87.7	87.7	87.7	87.7	87.7	83.3	83.0	83.0	83.0	83.0	82.9
3673	Electron tubes, transmitting	111.4	111.6	111.8	111.9	111.9	111.7	111.7	111.7	111.6	111.6	111.6	111.4	111.4	111.2
3674	Semiconductors	93.9	95.0	94.9	93.7	93.5	93.5	93.3	93.7	93.5	93.5	93.5	93.0	93.0	93.1
3692	Primary batteries, dry and wet	118.9	111.3	116.5	116.6	119.2	120.5	121.8	123.0	123.0	123.0	123.0	123.0	123.0	123.0
3693	X-ray apparatus and tubes (12/67=100)	128.5	124.5	127.3	129.6	129.7	129.6	129.5	129.5	129.5	129.5	129.5	129.5	132.1	132.1
3861	**Photographic equipment (12/71=100)**													100.0	100.3
3941	**Games and toys**	112.9	112.4	113.5	113.3	113.0	113.0	113.0	113.0	113.0	113.0	113.0	113.1	113.3	114.3

[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.

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
1969: January	342	511	184.9	264.3	3,173.3	.21
February	385	578	177.1	339.9	2,565.8	.18
March	436	651	158.1	386.3	2,412.5	.16
April	578	831	309.7	462.3	3,755.0	.24
May	723	1,054	286.3	507.7	4,744.7	.32
June	565	911	214.6	500.0	4,722.7	.31
July	528	883	255.0	461.5	4,311.0	.27
August	538	915	191.2	394.8	3,634.3	.24
September	554	904	185.6	274.5	2,193.4	.15
October	531	850	337.0	420.9	3,167.5	.19
November	324	611	131.0	367.6	4,307.6	.31
December	196	446	50.8	276.0	3,881.8	.24
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 p	280	440	222	286	2,709	.19
February p	330	490	114	169	1,771	.13
March p	410	590	116	200	2,292	.14
April p	540	750	174	254	2,184	.14
May p	580	790	702	774	3,437	.24
June p	610	850	272	384	3,923	.25
July p	410	670	820	967	7,906	.52
August p	390	660	166	472	4,505	.28
September p	280	540	88	286	2,841	.19
October p	300	540	210	300	4,507	.29
November p	260	490	249	455	4,229	.28
December p	150	360	27	243	4,444	.29
1972: January p	300	460	79	154	2,284	.15
February p	290	455	58	137	1,597	.11

[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.

33. 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
1968: 1st	102.6	102.8	100.8	100.9	101.8	101.9	104.4	104.6	102.0	102.2	102.5	102.6	101.5	101.3	102.1	102.1
2d	104.6	104.9	101.8	102.0	102.7	102.9	106.3	106.1	102.7	102.5	103.5	103.1	102.5	102.7	103.1	103.0
3d	105.6	105.9	102.2	102.7	103.3	103.2	108.6	108.0	103.6	103.1	105.1	104.7	102.2	102.6	104.0	103.9
4th	106.3	106.6	102.5	103.0	103.7	103.5	110.9	110.3	104.6	104.1	106.9	106.6	102.2	102.4	105.1	105.0
Annual average	104.8	105.1	101.8	102.1	102.9	102.9	107.6	107.3	103.2	102.9	104.6	104.3	102.0	102.3	103.6	103.5
1969: 1st	107.1	107.2	103.4	104.0	103.6	103.1	112.6	111.9	104.9	104.3	108.7	108.6	102.5	102.4	106.3	106.3
2d	107.5	107.9	104.2	104.9	103.1	102.8	114.4	113.7	104.8	104.2	110.9	110.6	102.6	102.2	107.7	107.4
3d	108.0	108.3	104.5	105.4	103.4	102.7	116.6	115.5	105.4	104.4	112.8	112.5	102.9	102.8	109.0	108.8
4th	107.6	107.8	104.0	105.2	103.4	102.4	118.9	117.5	105.9	104.7	115.0	114.7	102.6	102.2	110.2	110.0
Annual average	107.5	107.8	104.0	104.9	103.4	102.7	115.6	114.7	105.3	104.5	111.9	111.6	106.2	102.3	108.3	108.1
1970: 1st	106.7	107.1	103.7	104.9	103.0	102.1	121.1	119.7	106.3	105.0	117.7	117.2	102.1	101.3	111.6	111.2
2d	106.9	107.2	103.1	104.0	103.7	103.1	122.5	121.5	105.9	105.0	118.1	117.8	104.4	104.0	112.8	112.6
3d	107.3	107.7	102.0	103.1	105.3	104.6	125.3	124.1	107.1	106.0	119.0	118.7	106.4	106.6	114.1	114.1
4th	106.1	106.2	100.8	102.0	105.3	104.1	127.2	125.7	107.2	106.0	120.7	120.7	108.1	108.8	115.9	116.2
Annual average	106.8	107.1	102.4	103.5	104.3	103.5	124.0	122.7	106.6	105.5	118.9	118.6	105.3	105.2	113.6	113.5
1971: 1st	108.3	108.5	101.3	102.5	106.9	105.8	129.8	128.4	108.6	107.4	121.4	121.3	110.4	110.9	117.1	117.4
2d	109.3	109.5	101.7	102.8	107.4	106.5	131.7	130.4	109.0	108.0	122.6	122.4	111.7	112.2	118.4	118.6
3d	110.0	110.0	101.4	102.6	108.5	107.1	133.7	r 132.2	109.6	108.3	123.3	r 123.4	112.6	112.8	119.1	119.4
4th	111.7	111.9	102.2	103.3	109.3	108.3	135.1	133.8	110.1	109.0	123.6	123.5	113.0	112.6	119.5	119.4
Annual average	109.8	110.0	101.7	102.8	108.1	107.0	132.6	131.2	109.3	108.1	122.7	122.7	111.9	112.1	118.5	118.7
	Percent change over previous quarter at annual rate [4]															
1968: 1st	5.6	6.1	0.9	1.4	4.6	4.7	9.3	9.9	4.9	5.5	4.5	4.9	1.5	0.5	3.3	3.3
2d	7.7	8.6	3.9	4.3	3.7	4.1	7.6	6.2	2.7	1.3	3.8	2.0	3.7	5.7	3.7	3.4
3d	4.2	3.8	1.9	2.7	2.2	1.0	8.9	7.4	3.6	2.2	6.6	6.3	−1.1	−0.4	3.6	3.7
4th	2.7	2.4	1.1	1.2	1.5	1.3	8.8	8.8	3.9	4.0	7.1	7.5	0.2	−0.9	4.4	4.3
1969: 1st	3.0	2.5	3.4	4.2	−0.4	−1.7	6.4	5.8	1.4	0.8	6.8	7.7	1.0	0.0	4.6	4.7
2d	1.4	2.4	3.3	3.6	−1.8	−1.1	6.5	6.4	−0.4	−0.5	8.4	7.6	0.4	−0.9	5.4	4.4
3d	1.8	1.6	0.9	1.9	0.9	−0.3	7.9	6.7	2.0	0.9	7.0	7.1	1.3	2.4	4.8	5.3
4th	−1.5	−1.7	−1.6	−0.7	0.1	−1.0	8.0	7.1	2.2	1.3	7.8	8.2	−1.1	−2.3	4.5	4.4
1970: 1st	−3.0	−2.7	−1.4	−1.2	−1.6	−1.5	7.9	7.5	1.5	1.1	9.7	9.1	−1.9	−3.4	5.4	4.5
2d	0.8	0.6	−2.2	−3.6	3.1	4.3	4.7	6.3	−1.7	−0.2	1.6	1.9	9.0	11.2	4.2	5.1
3d	1.5	2.0	−4.3	−3.5	6.1	5.6	9.4	8.7	4.6	4.0	3.1	2.9	8.2	10.4	4.9	5.5
4th	−4.4	−5.6	−4.5	−4.0	0.2	−1.6	6.1	5.5	0.7	0.1	6.0	7.2	6.6	8.2	6.2	7.6
1971: 1st	8.5	8.8	2.1	2.1	6.2	6.6	8.5	8.6	5.1	5.2	2.1	1.9	8.7	8.1	4.4	4.1
2d	3.6	3.7	1.7	1.0	1.9	2.7	6.2	6.6	1.7	2.1	4.1	3.8	4.6	4.6	4.3	4.1
3d	2.7	1.8	−1.2	−0.5	4.0	2.3	6.2	5.4	2.1	1.3	2.2	3.0	3.3	2.4	2.5	2.8
4th	6.3	7.2	3.0	2.6	3.2	4.5	4.4	5.0	1.9	2.7	1.0	0.5	1.4	−0.9	1.2	−0.1
	Percent change over previous year [5]															
1970: 1st	−0.3	−0.1	0.3	0.9	−0.6	−1.0	7.6	6.9	1.3	0.7	8.2	8.0	−0.3	−1.1	5.0	4.7
2d	−0.5	−0.6	−1.1	−0.9	0.6	0.4	7.1	6.9	1.0	0.8	6.5	6.5	1.7	1.8	4.7	4.8
3d	−0.6	−0.5	−2.4	−2.3	1.9	1.8	7.5	7.4	1.6	1.5	5.5	5.5	3.4	3.7	4.7	4.9
4th	−1.3	−1.5	−3.1	−3.1	1.9	1.7	7.0	7.0	1.2	1.2	5.0	5.2	5.4	6.4	5.2	5.7
1971: 1st	1.5	1.3	−2.3	−2.3	3.8	3.7	7.1	7.3	2.1	2.2	3.2	3.5	8.1	9.5	4.9	5.5
2d	2.2	2.1	−1.3	−1.2	3.6	3.3	7.5	7.3	3.0	2.8	3.8	3.9	7.0	7.8	5.0	5.3
3d	2.5	2.0	−0.5	−0.4	3.0	2.5	6.7	6.5	2.4	2.2	3.6	4.0	5.8	5.8	4.4	4.6
4th	5.2	5.3	1.4	1.3	3.9	4.1	6.3	6.5	2.7	2.8	2.3	2.3	4.5	3.5	3.1	2.7

[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.

NOTE: Data for 1968, 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.

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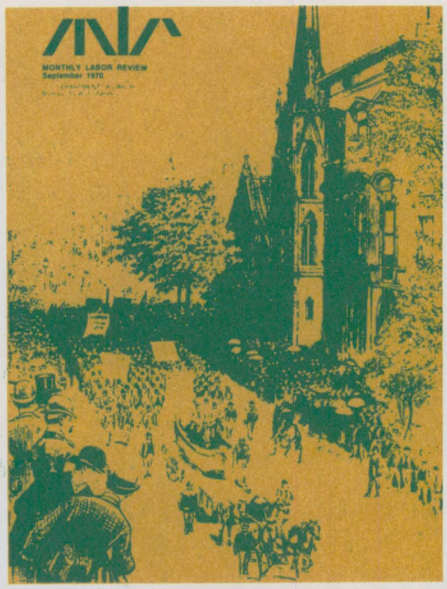

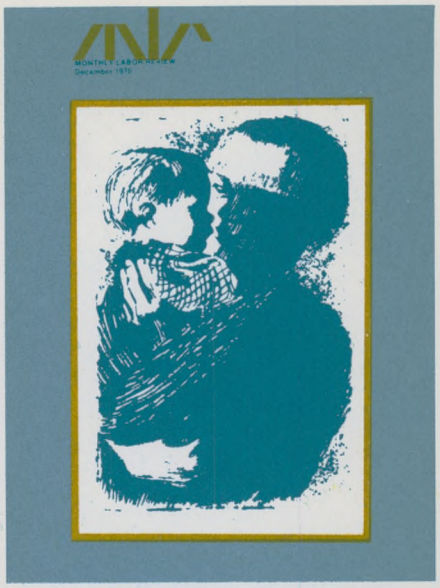

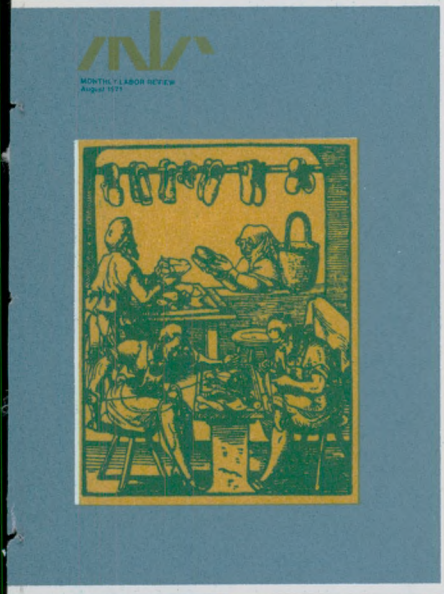

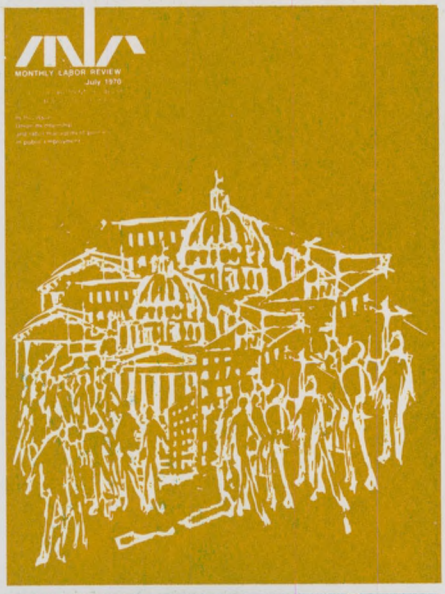

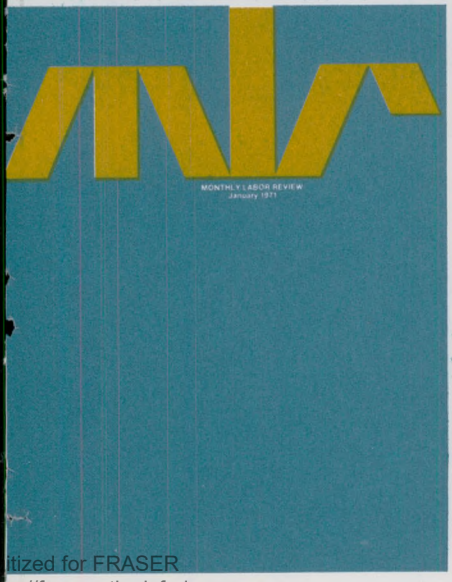

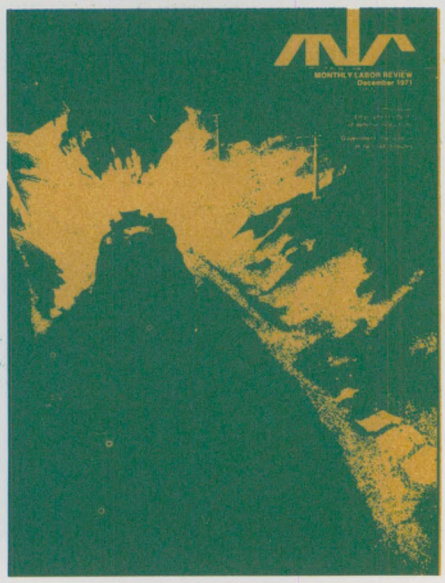

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