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# Monthly Labor Review

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6

**Manpower Needs in Teaching**

**Labor Force and Employment, 1963**

**The National Apprenticeship Program**

**Personnel in the Atomic Energy Field**

UNITED STATES DEPARTMENT OF LABOR

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# Monthly Labor Review

UNITED STATES DEPARTMENT OF LABOR • BUREAU OF LABOR STATISTICS

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LAWRENCE R. KLEIN, *Editor-in-Chief*

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# This Issue in Brief . . .

AN AGGLOMERATION OF ACTIVITIES cutting across various industrial classifications, the atomic energy field at present is largely occupied by work in three types of facilities—laboratory and research, defense production, and reactor and component design and manufacture. These and other areas of activity, and their personnel requirements, are analyzed by Harold S. Liebling and Allan Katz in *Scientific and Technical Personnel in Atomic Energy* (p. 633). Nearly 40 percent of persons in nuclear research in 1963 were scientists, engineers, and technicians. Demand for workers in these occupations will grow rapidly with the anticipated increase in nuclear research over the next few years.

DESPITE continued economic expansion in 1963, the seasonally adjusted U.S. unemployment rate averaged 5.7 percent, practically unchanged from 1962. However, Susan S. Holland's study of the *Labor Force and Employment in 1963* (p. 645) reveals some improvement in the employment situation of adult men, especially those who are married. In addition to current labor force and employment data, the study makes meaningful comparisons of current developments with those of other recent periods, particularly the 1956-57 expansion, and with long-term projections.

ARTICLES appearing in the January, February, and April issues of the *Review* have appraised existing apprenticeship programs, evaluated the measures of their effectiveness, and traced out the network of regulations governing them. To cap the series, David Christian (*The National Apprenticeship Program: Unfinished Business*, p. 625) engages the policy questions raised by the previous writers and sets out some methods for expanding apprenticeship's scope and power in the occupations "showing potential for expansion."

THE NATION'S primary and secondary schools have suffered from a shortage of qualified teachers since World War II, but the future holds a promise of improvement, says Maxine G. Stewart in *A New Look at Manpower Needs in Teaching* (p. 639). The 1964-65 school year will mark the peak in teacher demand, necessitating recruitment of about 210,000 teachers to take care of the rapid enrollment increase caused by the baby boom of mid-1940's. The steadily diminishing overall deficit in teacher supply may be wiped out by 1975, when the persistent shortage of elementary teachers is expected to be offset by a more-than-adequate number of secondary school teachers.

Following are some recent key statistics from continuing BLS series. See *Current Labor Statistics*, pp. 711-748.

	1964	1963
<i>May</i>		
Total civilian labor force (in thousands)-----	74,742	73,127
Employment-----	71,101	69,061
Unemployment-----	3,640	4,066
Unemployment rate (seasonally adjusted) (percent)-----	5.1	5.9
<i>Earnings of production workers in manufacturing (preliminary):</i>		
Average hourly earnings-----	\$2.53	\$2.45
Average weekly hours-----	40.7	40.5
Average overtime hours-----	3.0	2.8
<i>April</i>		
<i>Index of average hourly earnings of production workers in manufacturing (excluding overtime and interindustry shifts) (1957-59=100)</i>		
-----	118.1	114.9
<i>Consumer Price Index (1957-59=100)</i>		
Revised series (including single workers)-----	107.8	-----
Revised series (excluding single workers)-----	107.8	-----
Old series (excluding single workers)-----	108.0	106.2

*Five Case Studies of Displaced Workers* (p. 663), based on recent Bureau of Labor Statistics studies and summarized by Herbert Hammerman, shows that of nearly 3,000 displaced workers only 2 out of 3 were reemployed at the study dates. Furthermore, very few of these workers—previously employed in petroleum refining, automotive equipment, glass jar, and floor covering plants and iron foundries—were able to secure jobs in the same industry and a majority received lower hourly earnings. Also scrutinized in the studies were the obstacles to mobility, measures employed by the plants to prevent displacement or help workers obtain new jobs, characteristics of those displaced, and the far-reaching effects of these displacements.

# The Labor Month in Review

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## Comprehensive Manpower and Employment Planning

MANPOWER AND EMPLOYMENT PROBLEMS draw sizeable attention during this period of fast labor force growth and a high rate of unemployment, which coexists with persistent shortages of certain highly skilled manpower. Since the discussions which attended the passage of the Employment Act of 1946, there has been increasing concern with questions of policy on these matters. Late in April, the Senate Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare issued a 148-page report, following a year's study of what it terms the Manpower Revolution, which has two themes: how to go about developing coordinated manpower and employment policies and what those policies should be. Plagued by such questions as the following,

... Was the U.S. economy experiencing a manpower revolution which demanded further and even more imaginative action? A coherent manpower policy was in its infancy, but was manpower policy alone sufficient? Had the Employment Act of 1946 established an adequate employment policy for the Nation? The Area Redevelopment Act and the Public Works Acceleration Act had been more directly related to employment levels than to manpower considerations. Yet they had not been proposed explicitly as amplifications of employment policy. Had the time arrived to reappraise the Employment Act of 1946, defining and providing measures for realization of its goals? Must further steps be taken to integrate employment and manpower policies as twin elements of overall economic policy?

the subcommittee, headed by Senator Joseph S. Clark, ended up with a clearly written examination of the issues and some thoughtful proposals. A minority report, approving of many of the committee's recommendations, sounds "a note of caution, however, lest an active labor market policy becomes a means of coercion and control of freedom of choice of America's working men and women and its employers."

THAT A WORK-ORIENTED SOCIETY will continue to exist in the foreseeable future is one of the postulates from which the report examines manpower and employment issues. The majority was not convinced of the validity of the views of those witnesses who believe the economy is on the verge of a breakthrough in automation and data processing that would make reliance on present trends misleading. Some of these witnesses thought not only blue-collar workers but white-collar workers and middle management would be replaced by electronic and mechanical devices. While in such a situation the "mass of people . . . would be furnished income and activity as a substitute for employment," this view also envisions an opportunity for wide expansion of creative activity in the humanities and the sciences.

Nor was the committee persuaded by those who held a somewhat more sanguine view concerning problems posed by automation, but who believe that demands for goods and services are so near satiation that only the public sector of the economy offers hope for sufficient expansion to adequately employ the labor force now and in the future.

The report takes the view that we are creative and imaginative enough to successfully deal with the problems of the new technology and the opportunities offered by it, and makes clear that the choices involved should be decided upon on "the needs of humanity and not merely the economic search for an outlet for surplus resources."

RECOGNIZING that "the establishment of overall economic goals and projections have been advocated in this country at least since 1945 with little effect," the majority report argues that European experience has shown that setting policy on rates of employment growth and price stability without involving government in the market process may result in more rather than less economic freedom. It asserts that once assured of full employment and production, labor and management in these countries have been less given to restrictive practices or monopolistic tendencies in their own defense and thus have required a lesser degree of government control.

It recommends that the President's economic report estimate the size of the labor force, the GNP necessary for full employment, and the likely GNP without a change in government policies. The Council of Economic Advisors should take the

lead "along with other agencies" in preparing longer range projections. Finding that primary responsibility was placed with the Secretary of Labor by Title I of the Manpower Development and Training Act, the subcommittee majority urges that the leadership for manpower policy formulation and program formulation reside there even more firmly than now.

Generally, the committee supports and makes recommendations for strengthening the Administration's poverty program and other current and proposed policies on employment and manpower. Both the majority and minority members recommend, for example, the development of more flexible methods of varying tax levels and improvement of unemployment insurance, listing several alternatives which have been put forth in recent years. Some of the committee recommendations that have had less mention, but which would repay exposure and argument, are briefly stated below.

IN APPROACHING EMPLOYMENT POLICY, the committee asserts that "traditionally, we have taken the structure of the demand for labor as given, and required the labor supply to adjust to the demand. With rapid technological change and our present accumulation of hard-core unemployment, sensible policy requires that we seek to create some jobs which fit the more disadvantaged portions of the labor force."

The subcommittee concludes that both area redevelopment and accelerated public works are inadequate in such chronically disadvantaged areas as Appalachia and the forest and mining areas of Minnesota, Wisconsin, and Michigan, and that they require a regional approach to a major developmental program as contemplated by the recommendations made by the President's Appalachian Regional Commission. Stating that local leadership is one of the most critical resources lacking in these areas, the report urges the cultivation and encouragement of local talent in order to make planning effective.

A paper presented at the May meeting of the Industrial Relations Research Association on "Factors Affecting Retraining in West Virginia" (where retraining antedated Federal retraining legislation) stresses the significance of local leadership in this field. But so far, little is known of the actual workings of the local manpower committees set up under the Area Redevelopment Act and the Manpower Development and Training Act

and the first regional committee, in the Far West, was set up early in May.

Believing that even after optimum programs for meeting the employment needs of older workers some will remain permanently unemployed, the subcommittee members recommend older worker allowances to bridge the gap between employment and retirement. Allowances would be available to those over 55 who have had a substantial attachment to the labor force, have exhausted their unemployment insurance benefits, or have been unemployed at least a year and are not yet eligible for social security benefits.

THE SUBCOMMITTEE RECOMMENDATIONS for developing our manpower for full employment proceed from the premise that "a truly free economy will offer freedom of occupational choice as well as freedom for investors and consumers." The report's proposals on broadening educational opportunities include providing "superior schools capable of compensating for environmental deficiencies" in deprived neighborhoods and work-study and loan programs for college students.

The subcommittee suggests that since vocational school graduates are trained without cost to their employers, the Department of Labor should explore possibilities of subsidizing apprenticeship and on-the-job training.

An article beginning on page 625 of this issue, which discusses the role of the Federal Government in apprenticeship, adds some background to the subcommittee recommendations for augmenting the staff and the budget of the Bureau of Apprenticeship and Training to enable it to fulfill its newly assigned Manpower Development and Training Act role in addition to its more traditional responsibility, and for studying apprenticeship recruiting methods, comparative costs of alternative methods of skill acquirement, the appropriate length of apprenticeship by craft, and methods of expanding apprenticeship and on-the-job training.

Among its recommendations for broadening the adaptability of the labor force and improving our ability to meet potential worker displacement before it occurs, the subcommittee proposes that "the U.S. Employment Service be given funds to make tuition grants for part-time vocational and technical education to employees in danger of unemployment or who could profit vocationally from upgraded skills.

# An Assessment of Apprenticeship

EDITOR'S NOTE.—*The preceding articles in this series have described and evaluated the current condition of apprenticeship. This concluding article discusses governmental approaches to the apprenticeship system of training.*

## IV. The National Apprenticeship Program: Unfinished Business

DAVID E. CHRISTIAN\*

IMPLICITLY MORE THAN EXPLICITLY the preceding articles in this series have left an image of an apprenticeship program largely moribund, declining in size and importance in an epoch in which public interest in skill development and public appropriations for training have soared to new heights.

Is this a fair picture? Is it the whole story? What is the governmental program? To round out the series, this article presents an insider's view of the answer to these questions. Where decisions remain to be made, the key choices are discussed.

These evaluations and interpretations are based upon certain premises:

First, skill development which combines instruction in theory with actual practice and controlled experience on the job is the best means of skill development for occupations beyond the routinely manipulative. For this and other reasons we seek to refine, improve, and extend apprenticeship concepts rather than scuttle them.

Second, in the range of skills normally considered apprenticeable, the essence of apprenticeship is employment. It is through actual employment that most of the craft is learned, and without employment opportunities there can be few apprenticeship opportunities. Thus, trends in apprenticeship must be interpreted in terms of trends in employment. Most importantly, this means that although trade schools can train for future needs—without knowing exactly when the jobs will materialize—apprenticeship often cannot. There must be a job before the apprentice can be put on.

Finally, the following discussion treats as axiomatic the proposition that apprenticeship shall be open to all, without discrimination. While there may yet remain some pockets of resistance to this concept, the national consensus has been reached and the national decision has been made.<sup>1</sup>

As interpreted by the Department of Labor, the national apprenticeship program has a double objective. It seeks a major expansion in the total volume of apprenticeship training, restoring it to a major place in the total skill-development process, and it seeks equality of opportunity among all young people to gain access to apprentice training. Neither of these ends is subordinate to the other, and neither is likely to be attained without major progress in the other.

Debate, however, revolves not so much around these objectives as around the means by which they should be sought. To understand the means, we must first reach some common understanding as to the character of the need for expansion.

### The Need for Expansion

In important respects the need for expanding apprenticeship is not so much a question of size of employer requirements as it is a question of optimum development of the individual worker. The young man starting his working life has much

\*Assistant Manpower Administrator, now on leave to serve as consultant to the Ford Foundation in Malaysia.

<sup>1</sup> John F. Henning, "Expanding Apprenticeship for all Americans," *The American Federationist*, July 1963.

to gain by being prepared broadly and certified as a craftsman rather than as a single-function operative. Possession of a recognized craft is an asset of considerable psychological as well as economic value to the individual—the more so as technological change accelerates. This may well be true even if the supply of craftsmen should moderately outrun the jobs in which possession of the skill is a minimum requirement. Similarly, from the employers' and the consumers' points of view, it may often seem desirable to use craftsmen in a materially higher proportion of jobs than is absolutely essential.

Where there is a margin of doubt as to the appropriate volume of training, therefore, a case can be made for resolving it in favor of the higher alternative. For most trades, this case is buttressed by considerations of quality of craftsmanship. Recent studies confirm that only a minority of journeymen—averaging 40 percent in the case of construction trades—have learned their skill through formal training programs.<sup>2</sup> The others have developed varying degrees of skill by less systematic methods, and the variation in the quality of craftsmanship is widely believed to reflect inadequacy of the haphazard skill-development methods.

On balance, however, there are better reasons—rooted in established wage differentials, preservation of valuable craft institutions, and the individual frustrations involved in redundancy—for following the course of caution in developing craftsmen beyond reasonable estimates of the number that can be employed as craftsmen.<sup>3</sup> This need for caution is increased by the acceleration of technological developments, some of which threaten to reduce the need for entire crafts.

Where then are the potentials for apprenticeship expansion? Although a full answer requires that each craft be analyzed individually, certain generalizations are useful.

The first possibility for expansion is among the skilled trades of persistent labor shortage. There have been a number of shortage crafts recently. The "tool room skills" are an example, appearing consistently on the USES list of occupations in interstate recruitment. In this case, the national apprenticeship program has apparently not proven quantitatively adequate. In these crafts showing stringency of supply, there is strong presumption

in favor of expanding the output of apprentices through program expansion or acceleration.

A second group of crafts showing potential for expansion are those in which apprenticeship has never become solidly established. Department of Labor analyses indicate that, although there are 90 trades regarded as apprenticeable, 80 percent of the registered apprentices are found in just 21 of them. In the other 69, barely 30,000 registered apprentices are reported in the entire Nation.

The precise reasons for this failure of the apprenticeship system to expand laterally are not known. It may often be simply because there was no craft union—or other organization with appropriate jurisdiction and authority—to define, organize, and enforce craft standards. In these occupations, including most of the repair trades, shortages and common deficiencies in quality of workmanship attest to the need for major expansion both in apprenticeship and in skill improvement training. These must be primary targets of a revitalized and expanded apprenticeship effort.

A third group of jobs offering potential for expansion is the group ranging vertically around those occupations in which the apprenticeship principle is applied. Need for such extensions has recently been expressed regarding both the highly skilled specialists in fields not as broad as the recognized crafts and members of the broader "technician" band of occupations.

Another group of skilled trades requiring special mention are those with persistent higher-than-normal unemployment. Many of the construction trades fall in this category. In these trades there have been few labor shortages arguing for apprenticeship expansion; and the weight of unemployed journeymen demanding jobs exerts substantial pressure for contracting the number of apprentice jobs.

The fact of unemployment brings about a combination of circumstances in which an apprenticeship system finds it most difficult to expand or even to maintain present levels of apprentice em-

<sup>2</sup> See *Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training*, by the U.S. Department of Labor, Transmitted to the Congress March 1964 (pp. 71, 257). Some part of the high proportion not formally trained may still represent the craft unions' positive response to war emergency expansion requirements.

<sup>3</sup> As suggested earlier, the number that can be employed as craftsmen may well be materially higher than minimum requirements for craftsmen.

ployment. Furthermore, it is not all clear that future productivity trends among the construction crafts will leave justification for expansion of the volume of apprenticeship in all of these trades.

For this group of trades, pressures for expansion must be particularly selective, based on the most careful analysis and projection of each occupation. Where future employment requirements appear too unpredictable to form a basis for judgment, program sponsors may find useful guidance in available data on journeyman retirement rates. The rate at which apprentices are replacing withdrawing journeymen forms a useful baseline for future planning although the comparisons must be interpreted carefully, since the ranks of present journeymen contain many who achieved craftsman status without completing formal apprenticeship programs. Although subject to wide variation from locality to locality and from one time to another, the following summary tabulation of apprentice completion rates compared with journeyman retirement rates in metropolitan areas in 1963 reveals the extent to which the various construction trades are succeeding in maintaining their numerical strength through apprenticeship programs.<sup>4</sup>

Construction trade	Apprentice completions per 1,000 journeymen	Journeyman retirement per 1,000 journeymen <sup>1</sup>
Bricklayers.....	15	26
Carpenters.....	4	13
Electricians.....	24	26
Ironworkers.....	16	26
Painters, paperhangers, and glaziers.....	7	22
Plasterers and cement masons.....	13	23
Plumbers and pipefitters.....	17	33
Roofers.....	22	33
Sheet-metal workers.....	24	17

<sup>1</sup> Includes journeymen who died or became unavailable for work because of permanent disability, or retirement.

In view of the population and economic growth confronting the Nation, most crafts must plan to at least hold their own, in terms of numerical

strength, if not to expand significantly. But as the tabulation shows, many of the construction trades need to increase their programs markedly just to maintain their strength nationally through apprenticeship.

Compilation of such data can be made readily by local craft unions and should prove of considerable use to local apprenticeship program sponsors and to local manpower advisory bodies in their own appraisals of community manpower needs and prospects.

The question of the need for expansion of apprenticeship may be approached also in terms of the need for employing establishments to develop the skill upon which they are dependent. The first nationwide survey of training in industry indicates that only 1 out of each 5 employing establishments maintains any formal training program. And among those who do maintain such programs, only about one-third involve skilled trades. In short, only 58,000 training programs for skilled trades were reported among the 711,000 establishments represented in the survey.<sup>5</sup>

### Promotion and Assistance

The Federal Government's program to match the need for craftsmen with an expanded supply has several elements, but the basic and proven method used heretofore to obtain establishment of systematic apprenticeship programs is to promote and offer technical assistance.

These activities are pursued at two separate but interrelated levels: (1) Among national employer associations and international trade unions, where the objective is to establish nationwide training standards and promotional programs for those trades, and (2) in communities, where the governmental apprenticeship field representative works with individual employers and unions in the development of apprenticeship and training programs. By interchange of information, the national and the local efforts for a given craft are mutually reinforced. There is persuasive evidence that the volume of apprenticeship varies directly with the volume of these promotional efforts, although the relationship is sometimes obscured by indications that unemployment also exerts a powerful influence on the volume of apprenticeship.<sup>6</sup>

<sup>4</sup> Computed by the Bureau of Apprenticeship and Training from data collected by BLS from 52 cities with 1950 populations of 100,000 or more.

<sup>5</sup> *Training of Workers in American Industry* (U.S. Department of Labor, Manpower Administration).

<sup>6</sup> *Apprenticeship and Economic Change* (Bureau of Apprenticeship and Training, 1964).

## Incentives to Expansion

The vast expansion of apprenticeship under the stimulus of the GI Bill when Government subsidization was used liberally for this purpose has suggested to many that such subsidization provides a basic answer to our need for expanded apprenticeship. Since public funds support the classroom type of skill development, it is argued that there is nothing intrinsically wrong with providing the same governmental stimulus to skill development via apprenticeship. In fact, the proponents argue, it can be demonstrated that on-the-job skill development with Government subsidies would be much less expensive for the taxpayer than obtaining comparable skill development through educational institutions.

For many reasons, the analogy with the GI Bill experience is not conclusive. Through the Manpower Development and Training Act, however, the Government can now assist experimental and demonstration projects involving use of Government funds. In fact, several apprenticeship programs have already been initiated with MDTA funds carrying part of the employers' cost burden during the first year of the apprenticeship term, by various methods, and this process of experimentation will no doubt continue and expand.

There is, however, a strong current of thought among craft union leaders in apprenticeship that Government intervention via financial inducements is neither desirable nor needed. Generally this view has been expressed by the construction crafts that have developed very respectable training systems without such inducements and by those in which the need for expansion is minimal.

Practically, therefore, the subsidization experimentation must take place in the occupations and trades in which this view is not dominant and in which there is a consensus that new measures are needed to expand apprenticeship. As we have seen, there is a broad spectrum of occupations to which these conditions apply and in which there is no danger that Government funds will merely serve to finance programs that would have operated without them.<sup>7</sup>

Out of this experimentation we may hope for a new consensus not just on whether Government funds should be used for this purpose but, equally

important, on the methods, the occupations, and the safeguards that should be a part of such a system.

Where Government funds are involved, either directly in the employment of skilled workers by the Government or indirectly by Government contractors, governmental authorities are in a position to influence the amount and nature of training programs. Although this is already done to a limited degree in the Civil Service, in the Government contracts field, the governmental efforts to influence training decisions have been confined largely to types of skill development other than apprenticeship.

This clearly is an area in which the Federal Government has a particular responsibility. With the participation and support of State apprenticeship agencies, the Federal Committee on Apprenticeship last year established a special task force to consult with the appropriate Federal Agencies and to propose the governmental policies and requirements that will achieve this purpose. While the nature of the final product of the task force efforts is not yet clear, the governmental responsibility is now established and appropriate measures will no doubt be established.

## Journeyman Training

Interpreted narrowly, training programs for workmen already accepted as journeymen may not be considered part of an apprenticeship program. Considered broadly, however, such training is a vital part of the national system of developing craftsmanship and is thus, at the very least, a close adjunct of apprenticeship. This fact has long been recognized by craft union leaders and some of the mechanical and printing trades have pioneered in providing such training and giving it recognition and shape. The Bureau of Apprenticeship and Training is devoting significant and increasing effort to assisting in the development of journeyman training programs.

Journeyman training is needed increasingly to perfect the skills of those who have attained journeyman status through informal means and who

<sup>7</sup> The proponents of subsidization of apprenticeship have not addressed themselves convincingly to the real problems of how this can be done (with equity) without shifting the burden of much of existing industry training costs to the governmental budget.

do not possess the full range of craft skills. As we have seen, a majority of journeymen are potential candidates for this type of training. A second need which calls for increasing concentration on journeyman training is the rapid pace of technical development in many of the crafts. More and more frequently, the fully qualified craftsman of 10 years ago is not able to use modern techniques unless he has systematically updated his skills. Finally, there is the need for the accelerated upgrading of partially qualified workmen in response to skill shortages. Training for this reason is particularly needed in the metal worker occupations, for which a systematic effort is being initiated to meet specific plant shortages through development of Government-assisted upgrading training programs.

For most skilled trades the journeyman training program requirement is not merely for more of the same, but rather for the development of more systematic programs with incentives (or assistance) for workmen to participate and with appropriate recognition and benefits for those who thus bring themselves up to modern standards of craftsmanship. This effort is now being stimulated to a limited degree through use of MDTA resources in trades which have not succeeded in developing their own comprehensive journeyman training programs.

In the national perspective, however, the journeyman training efforts today must be described as scattered and fragmentary; a major emphasis of the apprenticeship system in the years immediately ahead must be on a further development and systematization of these corollary programs.

### **Integrating Government Programs**

Governmental effort in apprenticeship promotion is divided between the Federal and State Governments as follows: 30 States have apprenticeship agencies (SAC) with a total staff of approximately 170 field representatives, virtually all of whom are concentrated in 13 States. The Federal Government employs 230 field representatives. These representatives do the promotion and technical assistance work in States which have no State law and share the workload in those which do maintain agencies.

<sup>8</sup> The Federal Government seeks to preserve a minimal degree of incentive by retaining Federal staff in the States that establish and maintain State apprenticeship organizations.

This division of responsibilities between Federal and State apprenticeship agencies is haphazard and unplanned. In 20 States, the Federal treasury pays all the governmental cost of apprenticeship promotion, under Federal standards; in 17 States, the Federal Government pays for the field work which is performed under standards and procedures established by a State Apprenticeship Council; in the other 13 States, the field work is split between Federal and State representatives and performed under SAC standards and procedures and under some State supervision.

The regulations and procedures established by the States differ among themselves and from the Federal practice, thus causing difficulty for multi-State enterprises, which must be registered in each SAC State, and placing Federal apprenticeship representatives in some SAC States in the position of applying regulations which the Federal agency considers unwise.

Other effects should be mentioned:

1. The total governmental resources devoted to apprenticeship are less than if all States contributed; yet the Federal willingness to provide staff without regard for State contribution removes most of the incentive for the States to appropriate for this purpose,<sup>8</sup> and places a double burden on the taxpayers of States that do appropriate.

2. The distribution of Federal and State staff for apprenticeship purposes is not closely related to need. Because they have no State agency staff, such heavily industrial States as Ohio, Illinois, Pennsylvania, New Jersey, and Michigan are among the States most poorly staffed in relation to training potential. (See table.)

3. In the States in which Federal and State personnel perform the same function, overall responsibility is diffused and cumbersome efforts are required to prevent overlapping and wasteful competition between Federal and State organizations.

The evident need to work out a more rational, progressive pattern of Federal-State relations in this field has led to a variety of responses. About 2 years ago, the Department of Labor reestablished a liaison group of State agency representatives with whom BAT could consult regularly in the interest of coordination and mutual reinforcement. A contractual arrangement by which some State apprenticeship agencies perform on-the-job training functions under the

MDTA with funds, staff, and program standards provided by the Federal Government has been initiated and is continuing to develop. The National Association of State and Territorial Apprenticeship Directors' meeting in March 1964 called for Federal matching funds to stimulate State activity in apprenticeship.

Clearly, we are still very early in the process of developing a rational and satisfactory Federal-State relationship in the apprenticeship field. This is urgent unfinished business because in the absence of such a relationship, we are most unlikely to achieve a strongly expanding national apprenticeship system fully responsive to today's needs.

We cannot realistically look to either level of government to withdraw from the apprenticeship area, and the Federal authority must be expected to continue and broaden the dialogue out of which the necessary consensus can be developed.

### Equal Opportunity

The Department of Labor's equal opportunity program for apprenticeship has two facets. First, it requires and enforces a ban on discrimination in the selection of apprentices and operation of apprenticeship programs.

Late last year, comprehensive standards were adopted which are now a prerequisite to con-

tinued program registration by the Federal Government.<sup>9</sup> Although binding directly only those apprenticeship programs which seek to be registered with the Federal Bureau, the regulation also indicates that State apprentice agencies which do not adopt regulations consistent with the Federal regulations may no longer receive Federal recognition and cooperation.

A number of State agencies have already indicated their intention to adopt standards consistent with the Federal requirements; the issue remains in doubt in a few other States.

The Department is also making widely known to minority group members the existence of opportunities for properly qualified individuals and is counseling and helping potential applicants to qualify themselves.

These more positive approaches to equal opportunity are of several types. The nondiscrimination regulation itself lays upon each apprenticeship program the obligation to notify the public schools and the public employment service of future apprenticeship opportunities, the minimum qualifications required, and the procedure for making application.

In addition, the Department of Labor's Manpower Administration has undertaken to estab-

<sup>9</sup> 29 Code of Federal Regulations, Subtitle A, pt. 30.

### APPRENTICESHIP AGENCY STAFFING AND ACCOMPLISHMENT

State	Registered apprentices per 100,000 nonfarm workers	Rank	Field staff per 100,000 nonfarm workers <sup>1</sup>	Rank	State	Registered apprentices per 100,000 nonfarm workers	Rank	Field staff per 100,000 nonfarm workers <sup>1</sup>	Rank
Arizona.....	721	1	0.91	26	South Dakota.....	273	27.5	1.43	11
Nevada.....	552	2	1.92	6	Idaho.....	261	19	1.97	4
Hawaii.....	510	3	2.20	2	Arkansas.....	258	30	.56	33
Vermont.....	505	4	1.96	5	Kentucky.....	254	31	.43	42
Montana.....	493	5	1.89	7	Raw average.....	294		.84	
Washington.....	485	6	1.29	14	Alabama.....	250	32	.54	38
Alaska.....	457	7	1.85	8	Virginia.....	244	33	1.22	15
Minnesota.....	443	8	1.21	16	Oklahoma.....	241	34	.54	38
California.....	425	9	1.64	10	North Carolina.....	238	35	1.12	19.5
Connecticut.....	419	10	1.04	23	Missouri.....	231	36	.56	33
Raw average.....	501		1.59		Indiana.....	230	37	.45	46
Rhode Island.....	416	11	1.08	21	Nebraska.....	222	38	.55	35.5
Colorado.....	392	13	.79	27.5	Mississippi.....	221	39.5	.51	40
Oregon.....	378	14	2.47	1	New Jersey.....	221	39.5	.37	51
Wisconsin.....	350	15	.97	24	Iowa.....	215	41	.46	44.5
Utah.....	342	16	1.15	18	Raw average.....	231		.63	
Wyoming.....	341	17	2.15	3	Louisiana.....	207	42	.94	25
Delaware.....	331	18	1.38	12	Pennsylvania.....	205	43	.43	48
Florida.....	330	19	.79	27.5	Texas.....	204	44	1.59	31
New Mexico.....	327	20	1.34	13	Massachusetts.....	203	45	.20	17
New York.....	325	21	.55	35.5	Georgia.....	199	46	.50	41
Raw average.....	353		1.27		Kansas.....	192	47	.75	29
North Dakota.....	323	22	1.67	9	West Virginia.....	190	48	.70	30
Michigan.....	317	23	.47	43	Maine.....	181	49	1.12	19.5
Tennessee.....	308	24	.56	33	South Carolina.....	180	50	.54	38
Maryland.....	292	25	.46	44.5	New Hampshire.....	109	51	1.05	22
Illinois.....	283	26	.39	49.5	Raw average.....	187		.78	
Ohio.....	273	27.5	.44	47					

<sup>1</sup> Combined Federal and State field representatives.

SOURCE: Bureau of Apprenticeship and Training.

lish special Apprenticeship Information Centers in the urban areas where discrimination has proven most troublesome. These centers, located and manned in connection with employment service operations, provide a central source of information on apprenticeship opportunities and the methods of qualifying for them, a counseling service for potential applicants, and a testing and screening program which results in the referral of promising applicants to apprentice program sponsors. These services with the full support of labor, management, and the relevant community organizations provide a central continuing focal point for factfinding, followup, appraisal, and authoritative public information. At this writing, centers of this character are operating in Washington, Boston, Chicago, Cincinnati, and (State developed and operated) San Francisco. Some 15 additional centers are now projected.

### **New Apprenticeable Occupations**

Exploration of the possibilities for expansion—both laterally and vertically—was endorsed last year by the Federal Committee on Apprenticeship, which has since established a subcommittee to study and advise on development of a formally recognizable program of on-the-job training for skills closely related to but narrower in scope than an apprenticeable craft. Assurance unquestionably will be sought and provided against undesirable fragmentation of the basic crafts.

As noted earlier, however, efforts to expand apprenticeship are needed most in occupations in which it is not now used prominently, and which do not involve the highly organized crafts. Here the problem is one of locating or developing organizations that can do for such occupations what the craft union has accomplished for their crafts: to make effective through a wide area, preferably nationwide, a definition of occupational content (with the necessary training schedules and required achievement levels) which will give wide marketability to the skills.

For skills for which private organizations with the authority and prestige needed to accomplish this do not exist, achievement of expanded apprenticeship may require use of governmental initiative. Thus, elements of the Manpower Administration in the Department of Labor may be

expected to become more active in convening ad hoc conferences of the parties at interest in a specific field—labor, management associations, and education in particular—for the purpose of establishing trade definitions, training content, and occupational ladder agreements. Such agreements, buttressed by commitment of MDTA and vocational education funds for projects consistent with them, can provide systematic skill development in some of the service trades and in some of the newly emerging skills.

The foregoing approaches to extending apprenticeship are frankly experimental. They will provide the opportunity, also, to develop the optimum mix between learning on the job and in related classroom instruction and to reconsider the length of time needed to develop competent craftsmen. To whatever extent such reassessment may lead to acceptance of shorter overall training terms and speedier development of craftsmen, it is fitting that it take place in these occupations where the need for accelerated development of craftsmen is widely accepted.

### **Research Needs**

Through the expanded manpower research effort authorized and stimulated by the Manpower Development and Training Act, our knowledge and understanding of occupational requirements will be improved and we will develop increasing knowledge of all aspects of the skill development process. This accumulating knowledge and understanding does not exclude apprenticeship and the apprenticeable trades.

There are many needs, however, for research specific to the field of apprenticeship, and a specialized research focal point dealing with apprenticeship will continue to be needed. Its specialized mission includes the development of information on characteristics of apprentices (we now know much more about the characteristics of each 6-week MDTA trainee) and on the skill development programs of industry. Studies which have been done so far only scratch the surface of what must be a continuing and broadening inquiry into private industry responses to skill development needs.

## Apprenticeship Resources

The Federal and State apprenticeship and vocational education agencies spent approximately \$14,000,000 in 1963 for the development of apprenticeship programs and for the related classroom training of apprentices. This is roughly \$90 for each apprentice registered at the end of the year. All other costs associated with apprenticeship—wages, supervision, recordkeeping—were borne by the unions and the employers involved.

Is this allocation of governmental resources for apprenticeship sufficient? A basic reassessment of this question is now underway within the Department of Labor. At present, the number of registered apprentices is closely related to the number of field representatives. The highest performance States, the first 10 in terms of relative numbers of apprentices, also have the highest average

staff density. The following tabulation shows how closely related these two factors are.

	Registered apprentices per 100,000 workers	Apprenticeship field staff per 100,000 workers
Ten highest States.....	501	1.59
Second 10 States.....	353	1.27
Third 10 States.....	294	.84
Fourth 10 States.....	231	.63
Lowest 10 States.....	187	.78

The odds against this close correlation's being accidental are prohibitive. Which is cause and which is effect? Other more fragmentary evidence<sup>10</sup> lends support for the view that demonstrated relationship is what it seems: The more staff devoted to apprenticeship promotion, the more apprentices are employed and registered.

Additional analysis suggests that, while additional staff increments result in progressively smaller increments to the apprenticeship program, the marginal costs may work out in such a way as to make a doubling or redoubling of scale a good bargain in terms of cost per additional apprentice completion.

<sup>10</sup>The statistical data thus summarized are supported by a demonstration conducted in New Jersey in 1960. Temporary concentration of staff effort there resulted in a dramatic increase in the number of new apprenticeship programs developed. However, after the temporary staff increment was removed, most of the new programs became dormant. In other words, continued stimulation and assistance by apprenticeship agency staff is often necessary to maintenance of private apprenticeship efforts.

In Babylonia, contracts for the apprenticeship of slaves provided for the compensation of the owner if the master failed to teach them the trade. In Greece of the fifth and fourth centuries B.C., formal contracts of apprenticeship—indentures, as we would call them—were drawn up, and high premiums were paid to sculptors and painters, though we are told that the treatment of apprentices was harsh and they were not always allowed to learn trade secrets. In Japan, the first apprentices were bought, and were bound for life, and this variant of slavery continued until after 1600, when an endeavor was made to limit the contract to 3 years in the crafts and 10 in commerce . . . . In Europe of the eleventh and twelfth centuries, apprenticeship, we are told, was thorough and effective. . . . In China, until recent years, apprenticeship to a trade was a prerequisite for any employment in the towns except as a coolie. In a word, apprenticeship seems to be found wherever the craftsman had a status, for there it seems to have met the needs both of the parent and of the craftsman himself. The parent who could not endow a boy with land could still set him up with a stock in trade if he could enable his son to become a craftsman. The craftsman got some useful work out of the apprentice before his time was out, and as a member of a guild he himself had an interest both in maintaining the numbers and skill of journeymen and in restricting competition by insisting that only those who had served their apprenticeship might practice the trade.

—E. H. Phelps Brown, *The Economics of Labor* (New Haven, Conn., Yale University Press, 1962), pp. 65–66.

# Scientific and Technical Personnel in Atomic Energy

HAROLD S. LIEBLING AND ALLAN KATZ\*

CONTINUING PROGRESS in the development of atomic energy has generated a new industrial sector that in January 1963 employed about 135,700 workers in more than 500 establishments. The newness and highly complex and technical character of the field result in an occupational distribution heavily weighted with scientific and technical personnel. Nearly 40 percent (52,400) of the persons engaged in industrial nuclear activities in 1963 were scientists, engineers, and technicians. This contrasts with an average of only 5 percent of such personnel in private industry as a whole. Further reflecting the developmental nature of the field are the nearly two-thirds of the scientists and engineers in atomic energy work found to be engaged primarily in research and development activities, compared with only about one-third in all private industry.<sup>1</sup>

Growth in the industrial sector of the atomic energy field has taken place chiefly since 1954 when Congress amended the Atomic Energy Act to permit private patents and rights of discovery in the field of nuclear power. Industry was thus stimulated to undertake the design and production of nuclear power equipment and was permitted to own and operate atomic installations subject to AEC regulation. As a result, the Nation has succeeded in developing a program of activities aimed at exploitation of atomic energy's enormous potential for peaceful service to mankind as well as its tremendous destructive capability. One of the more widely known areas of private development is the generation of electricity by nuclear power reactors. Several power reactors are now in operation and more will be operational in the near future. Radioisotopes, a product of reactor operation, have many peace-related uses. For example,

they are used in industry to measure the thickness and density of materials, locate leaks in pipelines and tanks, and polymerize chemicals; in medicine, they are used in diagnosing and treating certain kinds of disease, and in research on body functions; and in space activities, they are used as a heat source for auxiliary power applications.

## Employment by Occupation

Activities in the atomic energy field have required an unusually high proportion of nonproduction workers. In January 1963, white-collar workers—professional, technical, administrative, clerical, and office personnel—accounted for slightly more than 60 percent of all employment in the atomic energy field. Of this broad group, scientists, engineers, and technicians accounted for 2 out of every 3 workers. Their employment in that month in 1963 was distributed as follows:

	Number	Percent
Total.....	52,411	100.0
Scientists.....	10,899	20.8
Engineers.....	19,687	37.6
Technicians.....	21,825	41.6

*Scientists.* Scientists, who constituted 8 percent of all atomic energy employment in January 1963, performed the exacting scientific work involved in the research, development, use, and control of atomic energy (table 1). Approximately one-third of the scientists were physicists (excluding health physicists), and of these about 90 percent were engaged in research and development work—some in abstract areas such as the structure of the atomic nucleus, and solid state physics; others in more immediately practical areas such as reactor

\*Of the Division of Occupational Employment Statistics, Bureau of Labor Statistics.

<sup>1</sup>This article is based mainly on a 1963 survey conducted for the Atomic Energy Commission by the Bureau of Labor Statistics. The survey, similar to those made for the AEC in 1960, 1961, and 1962, covered nearly all industrial establishments engaged in atomic energy activities. Not covered were university employees other than those in university-operated, AEC-owned laboratories such as Argonne and Brookhaven; employees engaged in the construction of nuclear facilities; the small number of uranium ore miners; and the 9,000 directly employed by the Federal Government in activities related to atomic energy. The atomic energy field, as defined in this survey, is not an industry in the generally accepted sense but cuts across usual industry classifications.

For the earlier studies, see *Employment in the Atomic Energy Field: A 1960 Occupational Survey* (BLS Bulletin 1297, 1961); and reports under the same title for 1961 (obtainable from the Atomic Energy Commission, Division of Technical Information Extension, Oak Ridge, Tenn.) and 1962 (an AEC report).

control and safety, shielding requirements for reactors, and reactor-generated heat intensities.

Chemists constituted another third of the scientists. About three-fourths of them were engaged in research on such projects as the nature of chemical reactions produced by radiation, and methods of processing irradiated reactor fuels.

The remaining scientists included mathematicians, who were engaged primarily in applying mathematical approaches to problems in other scientific fields; metallurgists, who did research on the development and improvement of materials capable of withstanding the radiation and extremely high temperatures produced by nuclear reactors; biological scientists, who were largely engaged in research on both the beneficial and the harmful effects of radiation on living beings; and health physicists, a group of workers in an occupation unique to the atomic energy field who were concerned with protecting personnel from the hazards of radiation.

*Engineers.* About 19,700 engineers were employed in the atomic energy field in January 1963, accounting for 14.5 percent of the total employment. Many of the engineers were concerned with the development and operation of nuclear reactors, the fabrication of fuel elements and special feed materials for use in reactors, the development of electronic instruments and measuring devices, and the design of remote handling equipment used to manipulate nuclear fuels and other radioactive materials. About three-fifths of the engineers were engaged in research and development work. This is a much higher proportion in this type of work than is found among engineers in industrial establishments as a whole.

Nearly one-third of all employees in engineering were mechanical engineers, most of them engaged in research and development activities in connection with reactor components such as heat transfer equipment and pressure vessels. Electrical and electronics engineers formed the second largest category, contributing slightly more than one-fifth of the total; most of these were engaged in the design and development of control circuitry and instrumentation for use in reactors, particle accelerators, and radiation detection instruments. Chemical engineers—about one-seventh of all atomic energy engineers—were primarily engaged

in the development and direction of the chemical processes involved in the recovery of nuclear materials from reactor fuel, and in other aspects of reactor fuel technology. Reactor engineers, though constituting less than one-tenth of the total engineering group, were important members of engineering and scientific teams; proficient in basic sciences and skilled in techniques involved in nuclear reactor design, manufacture, and operation, they developed and evaluated new and modified concepts in these activities and provided guidance in reactor technology to other scientific and technical personnel. Civil and metallurgical engineering were other significant specialties in the field.

*Technicians.* In the atomic energy field, technicians engage in tasks ranging from inspection or routine analytical work to assisting engineers and scientists in the conduct of complex experiments. About 60 percent of the approximately 21,800 technicians were engaged in research and development work—preparing scale drawings of new equipment, operating experimental apparatus and machinery, and conducting certain phases of experiments. The approximately 35 percent who

TABLE 1. EMPLOYMENT IN THE ATOMIC ENERGY FIELD, BY OCCUPATION, JANUARY 1963

Occupation	Employment distribution <sup>1</sup>
Total: Number.....	135,653
Percent.....	100.0
All scientific and technical personnel.....	38.6
Scientists.....	8.0
Physicists.....	2.7
Chemists.....	2.7
Mathematicians.....	.8
Metallurgists.....	.5
Other scientists.....	1.3
Engineers.....	14.5
Mechanical.....	4.5
Electrical and electronic.....	3.3
Chemical.....	2.1
Reactor.....	1.2
Other engineers.....	3.4
Technicians.....	16.1
Draftsmen.....	2.6
Electronic technicians.....	2.2
Instrument technicians.....	1.2
Health physics technicians.....	1.0
Other technician specialties.....	9.1
All personnel other than scientific and technical.....	61.4
Professional and administrative.....	8.8
Clerical and office.....	13.7
Skilled.....	18.8
Production, maintenance, and service.....	20.1

<sup>1</sup> The figures for the total and for broad occupational groups are based on the 1963 data. The percent distribution for detailed occupations is estimated on the basis of the 1962 data.

were in production and operations performed or supervised such activities as production planning, quality control, training, and machine installation and maintenance.

Some key technicians in atomic energy activities are draftsmen, who convert the notes and sketches of engineers into detailed drawings; electronics technicians and instrument technicians, who aid engineers and physical scientists in the design, testing, and maintenance of electronic devices and instruments; health physics technicians, who assist health physicists by collecting air samples, taking smear tests of areas suspected of contamination, and performing other tasks in connection with protecting personnel from radiation hazards; and radiographers, who use radiation sources to take radiographs of metal castings, weldments, and machinery in order to detect common flaws. Other technicians operate remote control equipment, record photographs of collisions of atomic particles, or operate high-energy atom smashers.

Many technicians are recruited from the ranks of young skilled workers. Instrument makers and instrument mechanics, for example, are often retrained as instrument technicians; and electricians often advance to electrical and electronic technician positions. In moving to the technical level, these workers must acquire some basic scientific and engineering knowledge, usually through specialized education or training programs provided by the company.

*Other Occupations.* About 19 percent of the workers in the atomic energy field perform skilled functions in production and research work, which compares with approximately 13 percent for

skilled workers in all industries. Chemical process operators, a group of skilled workers numbering about 5,000 in 1963, are unique to the atomic energy field. They operate a variety of chemical equipment such as dissolvers, agitators, pulse columns, and distillation towers to separate, concentrate, and extract uranium, plutonium, and other radioactive materials from solution.

Nuclear reactor operators, who numbered slightly more than 1,000 in 1963, are also unique to the atomic energy field. Many are engaged in operating reactors and auxiliary equipment in connection with the production of plutonium and other radioisotopes and the generation of heat and power. In these areas, the reactor operator performs at the skilled or possibly the technician level. However, if he works in research-connected activities, he must have a scientific or engineering background in order to evaluate the results of experiments and tests performed with reactors.

About 9 percent of the employees in the atomic energy field were nontechnical professional and administrative personnel, including accountants, statisticians, and lawyers. These people were concerned mainly with formulating and implementing policy on a wide range of activities. The clerical force supporting professional and administrative personnel constituted about 14 percent of the total atomic energy employment.

Nontechnical production, maintenance, and service workers accounted for the remainder of the personnel in the field—about 20 percent of the total. Most of the workers in this group were maintenance helpers and unskilled and semiskilled production workers engaged in repetitive machine operations.

TABLE 2. EMPLOYMENT IN THE ATOMIC ENERGY FIELD, BY BROAD OCCUPATIONAL GROUP AND SEGMENT, JANUARY 1963

Segment	Total employment		Percent distribution, by occupation			
	Number	Percent	Scientists	Engineers	Technicians	All other
All segments.....	135,653	100.0	8.0	14.5	16.1	61.4
Commission laboratory and research facilities.....	44,505	100.0	14.1	16.5	23.5	45.9
Atomic energy defense production facilities.....	40,663	100.0	3.8	8.8	8.7	78.7
Reactor and reactor component design and manufacture.....	14,279	100.0	7.7	29.9	19.5	42.9
Production of feed materials.....	8,854	100.0	5.8	7.1	7.5	79.6
Nuclear instrument manufacturing.....	4,745	100.0	4.2	17.5	17.6	60.7
Design and engineering of nuclear facilities.....	3,599	100.0	1.2	19.9	10.7	68.2
Uranium milling.....	2,579	100.0	1.9	5.8	4.6	87.7
Private research laboratories.....	2,103	100.0	31.2	17.2	28.4	23.2
Fuel element fabrication and recovery activities.....	1,819	100.0	1.9	9.6	23.6	64.9
Production of special materials for use in reactors.....	1,507	100.0	5.8	15.5	23.2	55.5
Particle accelerator manufacturing.....	1,238	100.0	5.7	21.4	28.3	44.6
Power operation and maintenance.....	1,091	100.0	2.6	21.1	24.1	52.2
Industrial radiography.....	436	100.0	.9	7.8	85.3	6.0
Processing and packaging of radioisotopes.....	365	100.0	27.9	6.9	27.9	37.3
Radioactive waste disposal.....	86	100.0	-----	17.4	48.9	33.7
Miscellaneous.....	7,784	100.0	2.4	10.9	7.0	79.7

## Employment by Segment

Because the scope of the survey here reported includes all activities directed toward the development and use of atomic energy, it cuts across many different industries and, therefore, across various industry classifications.<sup>2</sup> These areas of activity, which have been identified for survey purposes as "segments" of the atomic energy field, have been classified into 16 relatively homogeneous groups (shown in table 2). Three of these segments—Commission laboratory and research facilities, defense production facilities, and reactor and reactor component design and manufacture—accounted for almost three-fourths of the total employment in January 1963. These segments employed 82 percent of the scientists, 77 percent of the engineers, and 77 percent of the technicians.

Among the segments, there were some noteworthy variations in the distribution of employment by occupation. For example, scientists and engineers constituted a relatively large proportion of the total employment in private research laboratories (48 percent) and in Commission laboratory and research facilities (31 percent); technicians made up a rather large group in the total employment in industrial radiography (85 percent) and in radioactive waste disposal (49 percent); and the defense production facilities, production of feed materials, and uranium milling segments used very large proportions of their employees in other than scientific and technical occupations.

*Commission Laboratory and Research Facilities.* Some facilities owned by the Atomic Energy Commission are operated for the Commission by industrial firms and educational institutions under contract. Among the most widely known are the Argonne National Laboratory near Chicago and the Oak Ridge National Laboratory at Oak Ridge, Tenn. Altogether these facilities employed approximately 44,500 workers in January 1963—about a third of all workers in the atomic energy field. Employing nearly 6,300 scientists and about 7,300 engineers (chart 1), these facilities

<sup>2</sup> *The Standard Industrial Classification Manual* (U.S. Bureau of the Budget, 1957, p. 431), defines an industry as "a grouping of establishments primarily engaged in the same or similar lines of economic activity." An activity, in manufacturing industries, "is generally defined in terms of the product made, materials consumed, or process of manufacture used."

were responsible for the major share of research and development work in all aspects of the nuclear energy complex.

*Atomic Energy Defense Production Facilities.* Operated for the AEC by contractors are also facilities concerned with the development and production of atomic weapons systems, initial cores for nuclear-powered vessels, and reactors and reactor fuel elements used in the generation of heat and electrical power at isolated defense installations.

The establishments in this segment employed over 1,500 scientists and almost 3,600 engineers in January 1963. However, because of the essentially production-type activities of the segment, the proportion of its workers in scientific and technical work was small compared with the proportion in the atomic energy field as a whole. Scientists and engineers constituted only 13 percent of the total; technicians, 9 percent.

*Reactor and Reactor Component Design and Manufacture.* The energy created by fissioning atoms in nuclear reactors may be used to produce electric power, to propel vehicles, to produce radioisotopes, and for testing and research purposes. The employees in the establishments in this segment were engaged in the design and manufacture of reactors to serve these different purposes.

These facilities, which employed 11 percent of the total workers in the field in January 1963, utilized the services of almost 4,300 engineers and about 1,100 scientists—22 percent and 10 percent, respectively, of the total number of such personnel employed in the atomic energy field.

*Production of Feed Materials.* The segment of production of feed materials encompasses the establishments engaged in converting uranium, plutonium, and thorium to reactor fuel. In January 1963, it employed almost 8,900 workers—7 percent of the total employment in the field—including slightly more than 500 scientists and 600 engineers, and almost 700 technicians. Because the segment's activities are essentially operational, these approximately 1,800 scientists, engineers, and technicians constituted only 20 percent of the total employment in the segment.

*Nuclear Instrument Manufacturing.* In January 1963, more than 4,700 workers—3 percent of the

total atomic energy employment—were engaged in manufacturing the control instrumentation used in nuclear reactors, radiation counters, and other detection and measuring instruments. Slightly more than one-third of these workers were engineers or technicians, most of whom were specialists in the electrical and electronic systems

of nuclear instruments and in the problems connected with their manufacture.

*Design and Engineering of Nuclear Facilities.* Workers in the establishments in this segment design and engineer the housing and containment facilities for reactor power stations, atomic-

Chart 1. Employment of Scientists and Engineers in Selected Segments of the Atomic Energy Field, January 1963

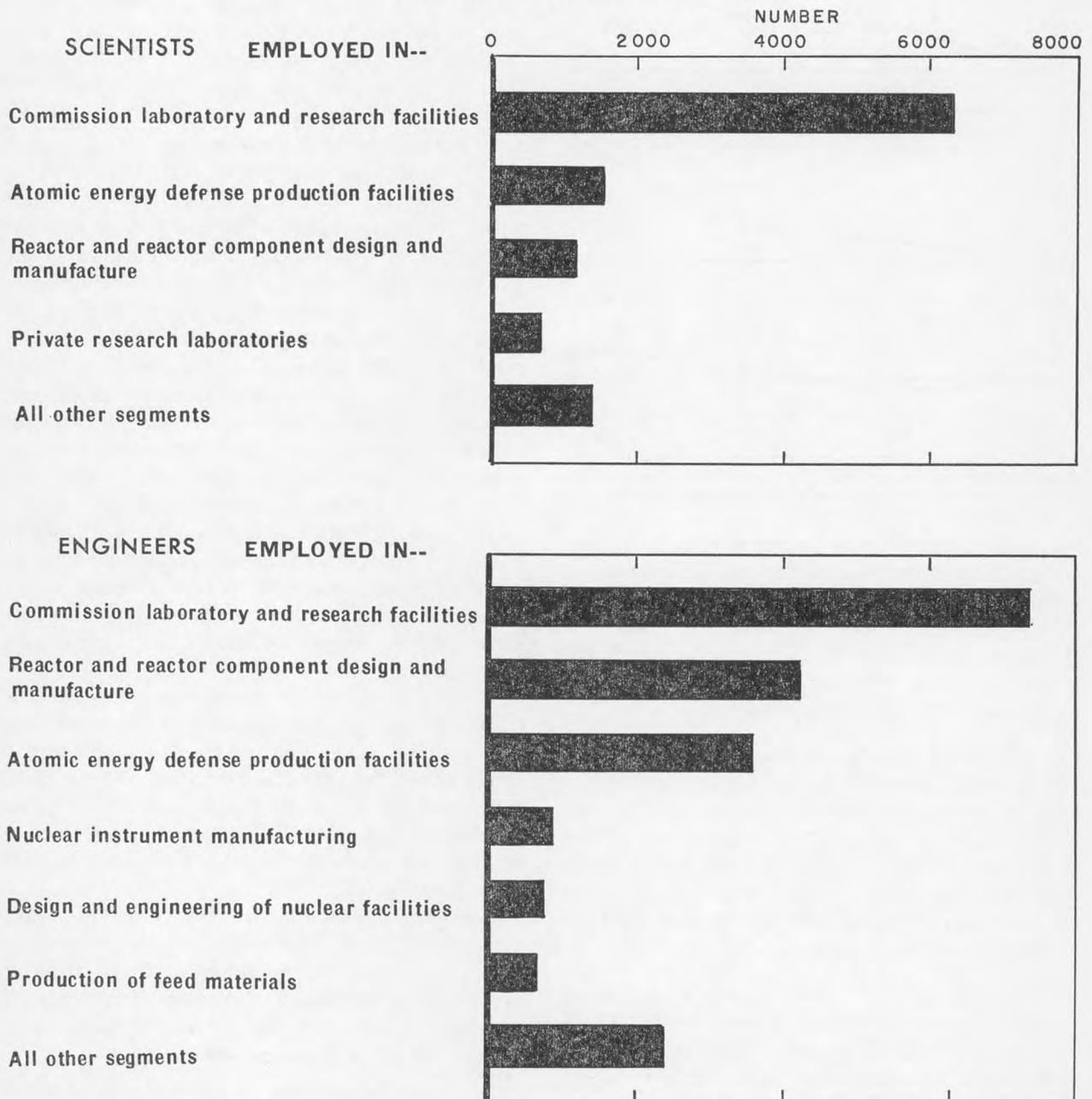
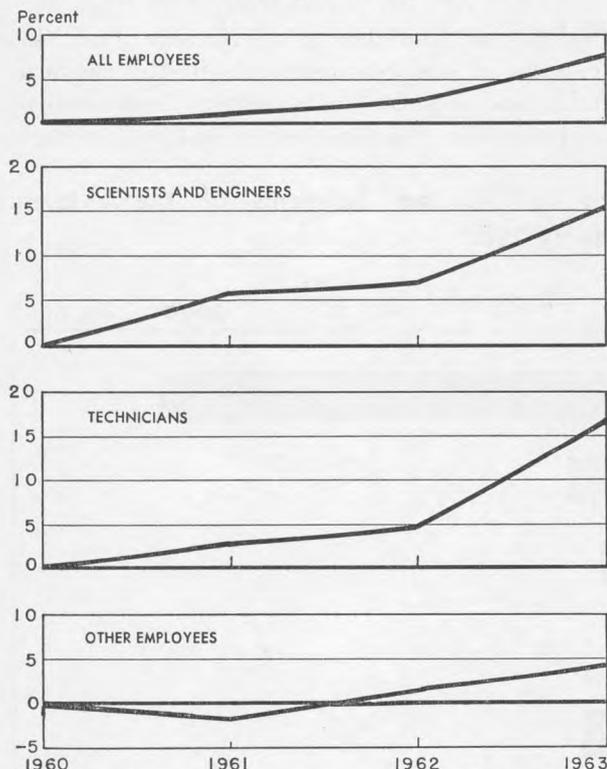


Chart 2. Percent Change in Employment in the Atomic Energy Field, 1960-63



NOTE: Data from one survey to another are not strictly comparable. The changes indicated are based, therefore, not upon comparisons between the separate surveys, but on the percentage changes reflected by the year-to-year variations as indicated within each survey.

powered submarines and surface vessels, atomic energy laboratories, reactor component and reactor manufacturing plants, reactor fuel processing plants, and other nuclear facilities. The segment employed about 3,600 workers in January 1963, including about 700 engineers and almost 400 technicians, but very few scientists.

*Private Research Laboratories.* Privately owned and operated laboratories complement the activities of Commission-owned laboratory and research facilities operated by contractors. More than three-fourths of the approximately 2,100 employees of these private laboratories were scientific and technical personnel engaged chiefly in research and development work.

*Other Segments.* The remaining segments of activity employed a total of about 16,900 workers in January 1963, or 12 percent of the total employment in the atomic energy field. This included about 600 scientists or 5 percent of all scientists in

the field; about 2,000 engineers, 10 percent of all atomic energy engineers; and about 2,600 technicians, or 12 percent of the total number of technicians in the field.<sup>3</sup>

### Employment Changes, 1960-63

Employment in the atomic energy field rose at an increasing rate each year from 1960 to 1963 (chart 2). Because of the nature of development of the field, the employment changes for the three major occupational groups have shown considerable variation. From 1960 to 1961 and from 1962 to 1963, employment increased sharply for scientists, engineers, and technicians. Only from 1961 to 1962 did the employment of scientific and technical personnel rise at a slower rate than did total employment. This deviation is attributable to an increase in activities at the Nevada Test Site which, in 1961, required the addition of a large number of skilled, maintenance, and other personnel in nonscientific and nontechnical occupations.

The very steep rise in the number of scientists, engineers, and technicians from 1962 to 1963 is related in large measure to an increase of about 2,100 in their employment in Commission laboratory and research facilities. Scientific research activities in these facilities have risen at an increasingly rapid rate along with the steady upturn in all fields of research. High energy physics and investigations of qualities of metals and other materials to determine their capacity to withstand reactor-generated heat intensities are among the areas of investigation requiring increasing numbers of scientists, engineers, and technicians.

In another important segment—reactor component design and manufacture—substantial employment increases occurred in all major occupational categories over the year from 1962 to 1963, reflecting growing developmental activities. The employment of scientific and technical personnel in these activities during the year increased by more than 1,300.

It appears likely that over the next few years research in atomic energy will continue to grow as additional areas for development breed rapidly from each new finding. A demand for increased numbers of scientists, engineers, and technicians is expected to parallel these advances.

<sup>3</sup> For further details on these segments, see published reports listed in footnote 1.

# A New Look at Manpower Needs in Teaching

MAXINE G. STEWART\*

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SINCE THE CLOSE OF WORLD WAR II, the United States has had persistent shortages of qualified personnel in one of its most vital professions—teaching. The future, however, holds promise of improvement in this situation, according to a re-evaluation of the demand-supply relationship in teaching recently completed by the Bureau of Labor Statistics.

The Nation's demand for classroom teachers for elementary and secondary schools will peak in the forthcoming school year, reflecting the accommodation of the schools to the baby boom of the mid-1940's. The schools will have to recruit about 210,000 teachers in 1964-65 to take care of growth and replacement needs and the retirement of some emergency teachers. This would be the all-time high in requirements for a single year's classroom staffing. In the years following this recordbreaking need, however, the number of teachers needed each year is expected to fall well below the peak level, reflecting the drop in the number of births for a few years after 1947 and the slowdown in their rate of increase during the 1950's. The projections to 1975 indicate that during this period of lower annual requirements the supply of trained teachers will increase steadily, along with the accompanying steady increase in college graduations.

In the past, the shortage of fully trained teachers has been concentrated in the elementary schools and in certain subject fields in the secondary schools. The new projections indicate that the supply situation in the elementary schools will improve significantly by 1975, although shortages

may persist in some areas of the country. In the secondary schools, if the projections materialize, an adequate supply of teachers will be forthcoming, although shortages may continue to prevail in some locations and in some subject areas such as mathematics, physical sciences, and foreign languages. Overall, it seems likely that by 1975 the number of secondary school teachers available will be sufficient to satisfy not only the secondary school requirements in most fields but also to help staff the elementary schools and other programs requiring the services of teachers.

These new projections are based on the following assumptions: School attendance rates will continue to increase, particularly at the secondary level; college seniors preparing to teach will continue to represent about one-third of all the recipients of bachelor of arts degrees; college graduations will continue to increase as projected by the U.S. Office of Education;<sup>1</sup> the required minimum entrance qualifications for the certification of teachers will not be raised significantly; teachers' salaries will maintain roughly the same position relative to salaries in other professional occupations as now obtains; and finally, the new educational legislation will not change the total numbers enrolled in the regular public and private day schools beyond the increases already reflected in the U.S. Office of Education projections.

## Teaching Requirements to 1975

Each year, demand for new teachers arises mainly from two sources: The need to staff additional classrooms created to take care of the increasing public and private school enrollments, which reflect our rising population and the young people's tendency to stay in school longer; and the necessity to replace teachers who leave classrooms because of promotion to nonteaching positions, change to another type of work, decision to leave the labor force, retirement, or death. The need for replacement is a much more important factor in creating demand for teachers than the growing enrollments.

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<sup>1</sup>*Projections of Earned Degrees by Level of Degree and Sex to 1975-76* (U.S. Department of Health, Education, and Welfare, Office of Education, 1963).

*Rising Enrollment.* To take care of increased enrollment, the need for elementary and secondary teachers in public and private schools, estimated at 1.8 million for the school year 1963-64,<sup>2</sup> is projected to increase to 2.2 million by 1975—an increase of about 400,000, or 23 percent.

Staffing projections that reflect school enrollment increases by 1975 involve a minimum of uncertainties. This country is not only committed to the idea that all persons desiring to be educated should have that opportunity, but has accepted the more mandatory concept that all its citizens should be literate. To facilitate literacy, most States now require school attendance at least from age 7 to 16, and several require attendance for longer periods—some from 6 through 18 years.<sup>3</sup>

When classes opened in the fall of 1963, an estimated 47 million students were enrolled in public and private schools from kindergarten through high school;<sup>4</sup> projections indicate that these enrollments will increase, on the average, by a million annually to reach more than 57 million by 1975.<sup>5</sup> When this was written, new population estimates had just been released by the U.S. Bureau of the Census (Series P-25, No. 279, February 4, 1964). The U.S. Office of Education has not yet revised its school enrollment projections, but their preliminary analysis suggests that the revised projections will not be markedly different from those used in this article.

The rate of school attendance, which is already at 97 percent of all children of the elementary school age, is expected to continue to increase slightly to 1975. Since nearly all children of elementary school age are now required to attend school (only a small allowance must be made for children who are uneducable for one reason or another), the number of elementary school enrollments nearly match the number of children in the comparable age group. In the secondary schools, the present attendance rate is about 91 percent of all children in that age group (14-17 years) and, based on past trends, is expected to increase moderately.

The demand for teachers must be related not only to population growth but also to the number of children assigned each classroom teacher. This pupil-teacher ratio in the years ahead may be affected in diverse ways by current trends. For example, increasing urbanization may tend to in-

crease the ratio by eliminating some schools in rural areas where small enrollments make for a lower pupil-teacher ratio than that prevailing in cities. Curriculum developments, on the other hand, may result in new or advanced courses with small classes (such as advanced mathematics, advanced biology, Russian, and other subjects) that would have the effect of decreasing the pupil-teacher ratio. Recent experiments with team teaching, the use of television, the addition of teaching assistants to the staff—all may affect the pupil-teacher ratio in the future. Consideration of these varying and countervailing pressures on the pupil-teacher ratio, as well as the past trends in the public-private school ratios, suggest that no great change is likely to occur in the ratio by 1975.

In the past few years, the pupil-teacher ratio has shown no significant change; for example, from 1958 to 1962, the ratio in the public elementary schools declined only from 28.7 to 28.5 to 1, while the secondary ratio remained at 21.7 to 1.<sup>6</sup> Even if some change occurs by 1975, the effect on the total number of teachers needed will be negligible as long as the change is minor. For example, if the elementary school ratio were to decline from 28.5 to 28.0 to 1 by 1975, only 23,000

<sup>2</sup> U.S. Department of Health, Education, and Welfare, Office of Education (Press release HEW-Y24, Aug. 25, 1963).

<sup>3</sup> Every State in the Union had a compulsory school attendance law between 1918 and 1955. Following the Supreme Court decision requiring integration in the public schools, however, three States—Mississippi, South Carolina, and Virginia—repealed their compulsory school attendance laws and five States—Alabama, Arkansas, Georgia, Louisiana, and North Carolina—provided for waivers of the compulsory provisions under certain specified conditions. See *State Legislation on School Attendance and Related Matters—School Census and Child Labor* (U.S. Office of Education, 1960), Circular 615.

<sup>4</sup> See U.S. Office of Education press release HEW-Y24, Aug. 23, 1963.

<sup>5</sup> Kenneth A. Simon, *Enrollment in Public and Nonpublic Elementary and Secondary Schools, 1950-80* (U.S. Department of Health, Education, and Welfare, Office of Education, 1962), p. 7. These projections of school enrollments are based on the school-age population and the proportion of those who go to school. Most children who will be in the elementary-secondary school-age group by 1975 have already been born and were reported in the 1960 *Census of Population*. The only estimate to be made involves the children yet to be born through 1970 who will reach kindergarten or elementary school age by 1975. This group has been projected by the United States Bureau of the Census on the assumption that births will continue at about the same rate as prevailed in the 1955-57 period.

<sup>6</sup> *Enrollment, Teachers, and Schoolhousing, Fall 1962* (U.S. Office of Education, 1963), p. 32. The ratios for the years 1958 through 1962 were as follows:

	<i>Elementary</i>	<i>Secondary</i>
1958.....	28.7	21.7
1959.....	28.7	21.5
1960.....	28.4	21.7
1961.....	28.3	21.7
1962.....	28.5	21.7

more teachers (less than 2 percent of the total estimated demand) would be needed by 1975. For these various reasons, the projections presented in this article are based on a constant pupil-teacher ratio through 1975.

Thus, to take care of expanding enrollments, assuming no change in the pupil-teacher ratio in the years ahead, the number of elementary school teachers must increase from the present 1.1 million to 1.3 million by 1975—an increase of 20 percent. In the secondary schools, the number of teachers will need to be expanded from the present 0.7 million to 0.9 million, or 26 percent.

*Replacement Needs.* The number of teachers needed for replacement will be four times that required to fill the new jobs resulting from expanding enrollments. The projections indicate that about 1.0 million elementary and 0.7 million secondary school teachers must be hired between 1964 and 1975 to replace those who leave the profession. The number leaving the profession undoubtedly varies somewhat from year to year, but two recent surveys made by different organizations have both reported an annual separation rate of close to 8 percent for classroom teachers.<sup>7</sup> On the basis of these surveys and an analysis of other available information, for purposes of these projections, an assumption of an 8-percent annual separation rate has been made as representing the most likely rate for the years ahead. This separation rate is higher than that for many other professional occupations

and is due, in part, to the preponderance of women in elementary and secondary teaching. There is also some evidence that many beginning teachers use their teaching jobs as a steppingstone to other occupations.<sup>8</sup>

The separation rates were found to be the same in both the elementary and secondary schools, despite the preponderance of women teachers at the elementary level. Women represented nearly three-fourths of all classroom teachers in 1960—86 percent of all elementary teachers but only 47 percent of the secondary.<sup>9</sup> The separation rates for women in both levels exceed the rate for men, as one would expect, but in the secondary schools, the rate for women noticeably exceeds the rate for women in the elementary phase. This higher rate is probably due, in part at least, to the fact that the job mobility of secondary teachers is greater. They leave not only for reasons of homemaking but also for other jobs for which their training may fit them.

The average annual separation rates in elementary and secondary schools are 6.0 and 6.5, respectively, for men teachers and 8.4 and 9.9, respectively, for women. The higher separation rate for women in secondary schools tends to counteract the lower rate for men.

The need to replace teachers increases gradually in both school groups as total staff continues to grow larger (table 1); the need for teachers to accommodate growth, however, shows different trends in each group. Average teacher requirements to take care of the enrollment growth in the elementary schools show moderate increases to 1975, while in the secondary schools average requirements for new positions in the 1965-70 and 1970-75 periods are markedly below average requirements in the 1960-65 period. After the peak school year of 1964-65, when an estimated 105,000 secondary teachers must be recruited to satisfy growth and replacement needs (including the replacement of some of the uncertified teachers), annual requirements drop by nearly one-half in the 1965-66 period, reflecting the decline in the number of births following the 1947 record-breaking year.<sup>10</sup> Even though an upward trend in secondary school teacher requirements is evident throughout the rest of the period to 1975, the annual needs remain more than 10 percent below the peak year. Combined requirements of both

<sup>7</sup> "Teacher Turnover in the Public Schools, 1959-60," *School Life*, U.S. Office of Education, January-February 1962; *Teacher Supply and Demand in Public Schools* (Washington, National Education Association, 1962), Research Report 1962-RS, p. 19.

<sup>8</sup> "Turnover Among Beginning Teachers," *School Life*, April 1962, p. 24.

<sup>9</sup> *United States Census of Population, 1960, PC-(2)7A, Occupational Characteristics* (U.S. Bureau of the Census), table 1, p. 2.

<sup>10</sup> For 3 years following 1947, the number of births were below the 1947 level and then increased at a slow rate in subsequent years, as shown below:

	Total live births (in millions)	Percent change
1945.....	2.9	-----
1946.....	3.4	+19.3
1947.....	3.8	+11.9
1948.....	3.6	-0.7
1949.....	3.6	+0.3
1950.....	3.6	-0.5
1951.....	3.8	+5.2
1952.....	3.9	+2.4

Secondary teacher requirements will reflect this decline in births particularly in the school years 1965-66 and 1966-67. SOURCE: *Health, Education and Welfare Trends* (U.S. Department of Health, Education, and Welfare, Office of the Secretary, 1960), p. 4.

TABLE 1. AVERAGE ANNUAL REQUIREMENTS FOR GROWTH AND REPLACEMENT NEEDS IN ELEMENTARY AND SECONDARY SCHOOLS, 1960-75  
[In thousands]

Type of school and need	1960-65	1965-70	1970-75
Total.....	190	186	206
Growth.....	55	32	38
Replacement.....	134	154	167
Elementary.....	97	108	119
Growth.....	15	18	22
Replacement.....	81	89	97
Secondary.....	93	78	87
Growth.....	40	14	16
Replacement.....	53	64	71

NOTE: Detail may not add to total due to rounding.

primary and secondary schools to accommodate growth in the 1965-70 and 1970-75 periods are well below the 1960-65 average while needs for teacher replacement show a moderate increase.

One additional factor must be given attention in projecting the demand for teachers: The number of teachers holding so-called "emergency certificates." A recent count of teachers holding such certificates indicates that about 27,000 secondary and 56,000 elementary teachers cannot now meet State certification requirements and must be presumed to be less than fully prepared for teaching.<sup>11</sup> Theoretically, the positions held by such teachers should be counted as unfilled demand, yet the teachers are filling these jobs—some certainly with high competence. These teachers present an anomaly in that many of them are without college degrees and will be included in future "supply" counts as they acquire degrees and meet certification requirements.

No easy resolution of this problem is apparent; in this analysis it has been assumed that this group of teachers represents unfilled demand for qualified teachers.

The following tabulation depicts the teaching requirements for the period 1964-75:

	Elementary	Secondary	Total
	(in thousands)		
Growth:			
1975 projected employment.....	1,275	933	2,208
Less 1964 employment.....	1,058	742	1,800
	217	191	408
Replacement (retirements, deaths, transfers, and other separations).....	1,015	734	1,749
Requirements to fill positions held by teachers with less than standard qualifications.....	56	27	83
All requirements: Total.....	1,288	953	2,240
Average annual.....	117	87	204

NOTE: Detail does not add to total due to rounding.

## Sources of Teacher Supply

Elementary and secondary school teachers are recruited mainly from college graduates with bachelor's degrees, although schools in some States may hire applicants with no more than 2 years of college education.

Among each year's recipients of bachelor's degrees, there are those who majored in education and those who specialized in other fields but can meet certification requirements for teaching, though many in each group never go into the profession. Neither of the two groups is the sole source of teacher supply. Other sources include persons with higher degrees (M.A. or Ph. D.) who can meet qualifying requirements; students below the senior year of college who meet certification requirements in States where those requirements do not include the B.A. degree; teachers already trained, who reenter the profession; and those who do not meet certification requirements but who may take a job in a private school in which those requirements are not applicable. A recent study reported that "the number of persons in teaching positions was almost double the number of those who had obtained a degree in education."<sup>12</sup> Most of those teaching in secondary schools had not majored in education, according to the study, but in the elementary schools, majors in education predominated.

*Assumptions.* The number of college graduates meeting certification requirements would presumably include all those intending to teach without regard to the field of their academic specialization. Therefore, the data on those meeting certification requirements, used in this article, were considered to represent the best available indication of the new supply of teachers and probably include most of the newcomers. In order to project to 1975 the number who will meet certification requirements, the assumptions have been made that: (1) college enrollment and graduations will increase as projected by the U.S. Office of Education; (2) college graduates trained for teaching<sup>13</sup> will

<sup>11</sup> *Enrollment, Teachers, and Schoolhousing, 1962* (U.S. Office of Education, 1963), p. 32.

<sup>12</sup> *Two Years After the College Degree—Work and Further Study Patterns* (National Science Foundation, 1963), NSF 63-26, p. 49.

<sup>13</sup> See *Teacher Supply and Demand in Public Schools* (Washington, National Education Association, annual issues).

continue to bear the same relationship to total bachelor of arts degrees granted each year as has prevailed in recent years; (3) the proportion of graduates preparing to teach in the elementary and in secondary schools will continue to be about the same as in the past; (4) a bachelor's degree with some special courses in education will continue to be the generally accepted minimum qualification for most positions in elementary and secondary level teaching;<sup>14</sup> and (5) teaching salaries will continue to maintain roughly the same position relative to the salaries of other professional occupations.

*Supply Projections.* Under these assumptions, the total number of new elementary teachers who may be trained between 1964 and 1975 would be about 1.0 million, or about 94,000 annually. Of these, however, only an estimated 843,000 (82 percent) would actually enter the field during the 11-year period involved—about 77,000 annually.<sup>15</sup> To this estimated new supply must be added an estimate of reentering teachers. Reentries to the teaching field comprise, in large part, women whose homemaking responsibilities have diminished as their children grew older and who find time to take up their teaching careers again. Other reentries may be men and women who attended school to obtain additional training after a few years of teaching; some undoubtedly are men whose careers were interrupted by military service, and a few may have tried other fields only to return to teaching again. But for the most part, the supply of reentering teachers represents women taking up their careers after a period of absence from the labor force.

The number of reentries is higher in the elementary schools than in high schools because more

TABLE 2. AVERAGE ANNUAL BALANCE (REQUIREMENTS MINUS SUPPLY) OF ELEMENTARY AND SECONDARY TEACHERS, 1960-75

[In thousands]

Period	Total	Elementary	Secondary
1960-65.....	-33	-22	-11
1965-70.....	+21	-12	+33
1970-75.....	+41	-6	+47

women are working in this area and they are more likely to return to teaching rather than to enter some other field. In secondary schools, both men and women may move on to other fields and not return to teaching. The number of reentries to teaching will also be affected by the overall demand for teachers, the availability of trained teachers who are out of the labor force, salaries, the condition of the job market in other fields, and other factors. Two recent U.S. Office of Education surveys of turnover among public school teachers in 1957-58 and 1959-60 indicate that close to one-fourth of the new elementary hires were reentering teachers.<sup>16</sup>

A projection based on this proportion (one-fourth) for reentries, and on the assumption that reentries will continue to meet their present share in the annual requirements (stated in table 2), brings the total available supply of elementary teachers (including both the newly graduated and reentering teachers) during the 1964-74 period to about 1.2 million. The total demand for the period ending in 1975 is estimated to be roughly 1.3 million, which leaves an average annual deficit of close to 10,000 for the next 11 years.

In evaluating these illustrative supply-demand relationships, it should be remembered that they were based on a series of assumptions; for example, only 82 percent of the newly trained teachers will actually enter the field, reentries will remain at about one-quarter of new hires annually, and (perhaps most importantly) the numbers being trained for elementary school teaching will continue to remain only a little more than 13 percent of the total bachelor's degree recipients each year. A small increase in any of these relationships could eliminate the deficit. For example, if the number being trained to teach in the elementary schools were to increase to 20 percent of all graduates, the shortage would be met; or if the number of reentries to elementary school teaching were to increase as a result of declining

<sup>14</sup> In view of the current widespread charges that the quality of the teaching staff needs improvement, a longrun trend of rising requirements in some form seems likely, but these changes are expected to be accomplished slowly as has been the case in the past. No sharp increase in standards, such as requiring a master's degree of all secondary teachers, is expected by 1975. If standards are increased significantly without a corresponding increase in salaries, a severe curtailment of available supply of new teachers might well ensue.

<sup>15</sup> See *Teacher Supply and Demand in Public Schools* (Washington, National Education Association, annual issues for 1958-62). In recent years, the number of newly trained elementary teachers entering the field has been at or very close to 82 percent.

<sup>16</sup> *Teacher Turnover in the Public Schools, 1957-58* (1959), p. 4 and *Teacher Turnover in Public Elementary and Secondary Schools, 1959-60* (1963), p. 9 (U.S. Office of Education).

opportunities in other fields, the possible deficit would be eliminated. On the other hand, the demand estimates may be understated to the extent that they do not provide for increasing the pupil-teacher ratio to eliminate overcrowding in the classrooms or to end part-time class sessions.

Based on these and other assumptions, the total number of new teachers that may be trained for secondary schools between 1964 and 1975 will be about 1.7 million; an estimated 1.2 million—69 percent<sup>17</sup>—of these will actually enter the field; and about 191,000—or 20 percent of new hires—will reenter.<sup>18</sup> The total supply—new entries plus reentries—of secondary teachers in 1975 is expected to number 1.3 million; the estimated demand will be around 953,000.

This estimate of a more than adequate number of secondary teachers is not unexpected if one looks carefully at the whole picture at the present time. One fifth (20.1 percent) of all bachelor's degree recipients today are meeting certification requirements for secondary school teaching, and this proportion has shown a generally upward trend since 1955. Projections presented in this article are based on a continuation of a slight upward trend (to 22.4 percent) in this relationship during a period when the number of bachelor's degrees will nearly double. Hence, graduates meeting certification requirements for this kind of teaching will more than double during a period when the need for teachers is below the peak levels of 1964–65. Even if the proportion of graduates meeting secondary teaching requirements to the total of graduates were held constant (at the present 20 percent) in the illustrative projection, a numerical abundance of secondary teachers would result.<sup>19</sup>

As table 2 indicates, a substantial improvement in the supply of teachers by 1975 is to be expected, with the greatest change occurring in the numbers of secondary school teachers. But even though the total supply of secondary school teachers appears abundant, according to this illustrative pro-

jection, shortages may occur in particular subject fields. Initially, high school teachers are hired to teach subjects in which they have had extensive training, and it is difficult to discuss the total supply of such teachers without differentiating by subject field. It is quite possible, even with an abundance of new college graduates meeting certification requirements for secondary school teaching, that shortages will continue in those fields in which demand from other sources is strong—such as mathematics and physical sciences.

The demand-supply projections presented here indicate a likelihood that a sufficient number of secondary school teachers will be available in 1975 to satisfy not only the secondary school requirements in most fields but to help staff the elementary schools as well. Sufficient numbers should also be available to staff many other programs (outside of the regular school system) requiring the services of teachers, particularly the new and proposed programs providing for additional training for youth, the unemployed, Army rejects, the poverty-stricken, and the physically and mentally handicapped. Some of those competent to teach on the secondary level may also be able to help with the newly proposed Job Corps and the domestic version of the Peace Corps if these proposals are approved by Congress. With further specialized training, many secondary school teachers may qualify for positions in junior colleges, where demand for teachers is expected to be especially great in the years to come.

<sup>17</sup> See *Teacher Supply and Demand in Public Schools* (Washington, National Education Association, annual issues for 1954–62). The number of those entering secondary school teaching has been close to 69 percent for several years.

<sup>18</sup> *Teacher Turnover in Public Schools* for school years 1957–58 and 1959–60 (U.S. Office of Education—1959, p. 2, and 1963, p. 9, respectively). The number of teachers entering secondary school teaching was close to 20 percent in both school years.

<sup>19</sup> If the proportion of graduates meeting secondary school certification requirements is projected at a constant 20 percent of the number of bachelor's degrees, the total supply projected to enter the field would be about 1.2 million, in contrast with requirements projected at about 953,000.

# Special Labor Force Report

## Labor Force and Employment in 1963

SUSAN S. HOLLAND\*

A SUBSTANTIAL INCREASE IN EMPLOYMENT accompanied the continuous expansion in economic activity in 1963. Total employment exceeded 70 million during the summer and averaged nearly 69 million for the year as a whole, a million more than in 1962.<sup>1</sup> The growth in jobs, however, did not quite keep pace with the increase in the labor force, and unemployment—averaging 4.2 million—was about 150,000 above the 1962 level.

The seasonally adjusted rate of unemployment which fluctuated between 5½ and 6 percent throughout most of 1962 and 1963, averaged 5.7 percent in 1963. As in 1962, about 45 percent of the unemployed had been seeking work less than 5 weeks while a little over 25 percent had been out of work 15 weeks or longer.

On the average, nearly half of the 4.2 million jobless in 1963 were adult men, more than 20 percent were teenagers, and 30 percent were adult women. Slightly fewer married men and more teenagers were among the unemployed, compared with 1962. The job situation for married men as well as all adult men showed some improvement after the winter of 1963. The teenage unemployment rate rose early in 1963 and remained high throughout the year. About 15 percent of all unemployed persons, including one-third of the teenage jobseekers were looking for part-time work in 1963.

Nonfarm employment advanced steadily throughout most of the year, while farm employment continued its long-term downtrend. The more than 57 million workers on nonfarm payrolls in 1963 had increased by 1½ million since 1962. During the first half of the year, a strong uptrend in manufacturing employment occurred, led by

gains in the steel and automobile industries. These increases were accompanied by continued expansion in State and local government, trade, finance, and other services. However, gains in the second half of the year were primarily confined to the service sector.

The factory workweek and overtime hours continued at the same relatively high levels recorded in 1962—weekly hours averaged 40.4, including nearly 3 hours of overtime. Average weekly earnings of factory production workers passed the \$100 mark for the first time in June 1963, and averaged \$99.38 for the year, 3 percent above 1962. With no change in hours of work, the larger paycheck resulted from fairly steady increases in hourly earnings throughout the year. The gain in the factory worker's spendable earnings (gross earnings less taxes, adjusted for changes in price levels), however, was less than 1 percent.

Part-time employment resulting from slack work periods or other economic causes was unchanged from 1962, and accounted for about one-fourth of the man-hours lost to the economy, which could have been worked by the labor force if there were no unemployment or part-time employment due to economic causes. As in 1962, the great majority of man-hours lost resulted from total unemployment.

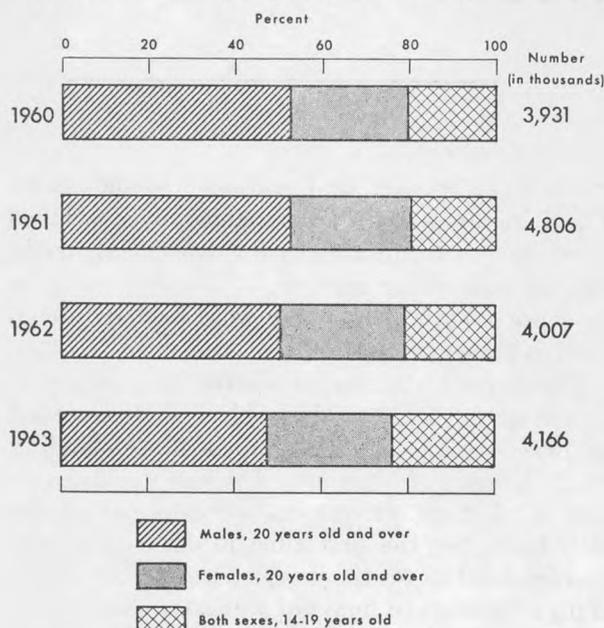
The total labor force, including the Armed Forces, averaged over 75½ million during 1963. The growth of over a million in the labor force between 1962 and 1963 was larger than that recorded the previous year, and expansion was generally about in line with long-term projections.<sup>2</sup>

\*Of the Division of Employment and Unemployment Analysis, Bureau of Labor Statistics. Reprints, including additional detailed tables and an explanatory note, will be available at a later date upon request to the Bureau or to any of its regional offices (listed on the inside front cover of this issue).

<sup>1</sup>All comparisons with 1962 take into account the relatively small effect of the introduction in April 1962 of 1960 Census data into the estimation procedure for the labor force data.

<sup>2</sup>For projections of the labor force to 1975 and an analysis of longrun developments, see "Interim Revised Projections of U.S. Labor Force, 1965-75," *Monthly Labor Review*, October 1962, pp. 1089-1099, reprinted as Special Labor Force Report No. 24.

Percent Distribution of Unemployed Persons 14 Years Old and Over, by Age Group and Sex, 1960-63



## Unemployment

Despite a lengthy period of expansion in economic activity, the 1962-63 unemployment rates stubbornly remained between 5½ and 6 percent.<sup>3</sup> Monthly changes during the 2 years were almost entirely the result of seasonal or other temporary developments and failed to show any consistent upward or downward trend. On the average, unemployment rates in 1962 and 1963 were about one-third higher than those recorded during the 1955-57 expansion period. The year 1963 marked the sixth consecutive year in which unemployment rates failed to return to the 4-percent level which prevailed during most of the 1955-57 period.

This paradox of continued high unemployment rates while most other economic indicators are rising was also evident in the recovery periods following previous business downturns. For example, in April 1959, 1 full year after the trough of the 1958 recession, the seasonally adjusted unemployment rate was 5.3 percent. Although this represented a substantial drop from the 7.4 percent recorded at the trough, the rate remained more than 1 full point or about 25 percent higher than the 4.2 rate of July 1957, the peak month before the recession. The pattern of the 1960-61 downturn was similar to that of 1958, although the unemployment rate rose less in the more recent cycle.

## Teenage and Adult Unemployment

While the overall level and rate of unemployment were practically unchanged from 1962 to 1963, there was some improvement for men 20 years old and over. After averaging 4.6 percent in 1962 and 4.8 percent during the first quarter of 1963, the seasonally adjusted jobless rate for adult men began to decline. For the second half of 1963, it averaged 4.3 percent. Unemployment rates of married men, which are always lower than those of other workers, similarly improved. Throughout 1962 and early 1963, their seasonally adjusted jobless rate averaged 3.6 percent; it began to decline in April 1963 and averaged 3.2 percent for the last 6 months of the year.

In contrast to these improvements, teenage unemployment rose in 1963. An average of nearly 1 million 14 to 19 yearolds were unemployed during 1963, compared with 800,000 during 1962. At 15½ percent, the 1963 teenage unemployment rate was close to those recorded in the recession years of 1958 and 1961, and higher than in any other postwar year.

Nearly half of the teenage unemployment increase between 1962 and 1963 was attributable to 16 yearolds, the first large age group born immediately after World War II. Even with the typically low labor force participation rate of younger teenagers, there were not enough job opportunities to absorb the additional work seekers in this age group. However, the rest of the increase was among older teenagers, none of which was directly attributable to population growth. The number of 17 to 19 yearolds in the work force was unchanged over the year, but the increase in those unemployed pushed their jobless rate from 14.5 to 16.4 percent.

While the 1962-63 data point up an immediate serious problem, the implications for the future may be even more important. Many of the jobless 16 yearolds were still in school and, therefore, were not able to hold down full-time jobs. However, in the next few years as these same youngsters and those in the age groups just behind them complete school (or drop out), they will be entering the labor force in increasingly large numbers and on a full-time basis.

<sup>3</sup> December 1963 marked the 34th month of sustained growth since the recession low of February 1961.

Among adult women, the unemployment rate remained within the range of 5.2-5.7 percent during 1963. It averaged 5½ percent for the year, identical to the 1962 rate, and very similar to the average unemployment rate for the Nation. The jobless rate for adult women remained over one-fourth higher than that of the 1956-57 expansion period.

The accompanying table shows the proportion of total unemployment accounted for by adult men declined from 52.4 percent in 1960 to 47.3 percent in 1963. This trend in part reflects the fact that in the early 1960's proportionately fewer men 20 years old and older were added to the labor force than adult women and teenagers. Furthermore, in these 2 years, there was a larger decline in unemployment among adult men than among adult women and no decline at all among teenagers. (See chart.)

*Unemployment Among Nonwhite Workers.* The job situation of adult nonwhite workers improved slightly in 1963 but remained substantially worse than that of white workers. Compared with 5 percent for white workers, the unemployment rate for nonwhite workers averaged 11 percent. The comparative disadvantage of nonwhite workers in the search for jobs was about the same in 1963 as in other years in the past decade. In large part, the higher unemployment rates for nonwhite workers reflected their disadvantage in education, training, and skill, and their resulting concentration in occupations most subject to unemployment.

The nonwhite worker in 1963 continued to carry double his proportionate share of the burden of unemployment. While nonwhites represented 11 percent of the labor force in 1963, they accounted for 21 percent of the unemployed. The situation was particularly severe for nonwhite youths; teenagers had an unemployment rate of 28½ percent and 20 to 24 yearolds, 17 percent. The jobless rate for nonwhite teenagers was up significantly from 23½ percent in 1962; in both years their rate was double that for white teenagers. The problem was most serious among nonwhite teenage girls—1 out of every 3 was unemployed in 1963.

On the other hand, the unemployment rate among nonwhite men 25 years old and over fell from 9½ percent in 1962 to slightly above 8 percent in 1963, but was still more than twice as high as for white workers in the same age group.

UNEMPLOYED PERSONS, BY AGE AND SEX, ANNUAL AVERAGES, 1960-63

[Percent distribution]

Age and sex	1960	1961	1962	1963
Total: 14 years and over (in thousands)	3,931	4,806	4,007	4,166
Percent distribution	100.0	100.0	100.0	100.0
Males, 20 years and over	52.4	52.4	50.3	47.3
Females, 20 years and over	27.5	28.5	29.3	29.3
Both sexes, 14-19	20.1	19.2	20.4	23.5

Although the gradual upgrading of nonwhite jobs continued in 1963, in line with long-term trends, no major breakthrough was evident. The proportion of nonwhites employed in white-collar and skilled craftsmen jobs moved up from 22½ percent in 1962 to 24 percent in 1963, while the proportion employed as unskilled laborers edged down from 22 to 20 percent. Although these data indicate a small improvement, comparison with the data for white workers shows that a substantial gap remains. In 1963, 60 percent of the employed white workers were in white-collar or skilled jobs, and only 7 percent worked as unskilled laborers.

*Job Skills of the Unemployed.* In terms of skill levels, the unemployment picture for experienced workers changed very little between 1962 and 1963. The jobless rate for nonfarm laborers was high in 1963 and—at 12 percent—was unchanged from 1962. Similarly, for semiskilled operatives, the unemployment rate was a comparatively high 7½ percent in both 1962 and 1963. Other occupational groups with unemployment rates higher than the overall 5 percent were service workers (6 percent) and farm laborers (5½ percent). Unskilled laborers, service workers (both private household and other), and semiskilled operatives together represented more than three-fifths of the experienced unemployed in 1963, while they accounted for only two-fifths of all employed persons.

*Duration of Unemployment.* About 1.1 million, or 26 percent, of the unemployed in 1963 had been seeking work 15 weeks or longer; half of these had been unemployed for 6 months or longer. These totals were almost identical with those recorded for 1962. There has been no consistent trend in long-term unemployment for nearly 2

years. On a seasonally adjusted basis, long-term unemployment fluctuated within the narrow range of 1.4 to 1.6 percent of the civilian labor force from March 1962 through December 1963. However, this rate was about twice that registered during 1956 and most of 1957. Like the total unemployment rate, the long-term rate failed to fall to its prerecession levels after the 1958 business downturn and, at the end of 1963, had not returned to rates registered at the 1960 cyclical peak.

Unemployment of less than 5 weeks, which reflects the rate at which new spells of unemployment are developing, accounted for 44 percent of total unemployment in 1963—about the same as in 1962. This proportion was somewhat lower than in 1956 and 1957, when short-term unemployment was just over half the jobless total. On the other hand, long-term unemployment as a proportion of total unemployment rose from about one-fifth in 1956–57 to slightly more than one-quarter in 1962–63.

*Characteristics of the Long-Term Unemployed.* Little change occurred between 1962 and 1963 in the age-sex distribution of the long-term unemployed. As in the past, rates of long-term unemployment increased with age. Only 19 out of every 100 jobless teenage boys and 22 out of every 100 unemployed men in their early twenties had been seeking work 15 weeks or longer. These proportions climbed to 38 per 100 for men 45 to 64 years old and 46 per 100 for those 65 years old and over. The pattern was similar for women, although their rates were lower in each age group. In 1963, 23 percent of the unemployed women had been seeking work 15 weeks or longer, compared with 28 percent of the jobless men.

Long-term joblessness continued to be a disproportionately heavy burden on the nonwhite worker. While nonwhites represented 11 percent of the labor force and 21 percent of the unemployed in 1963, they accounted for 26 percent of those unemployed 15 weeks or longer and 28 percent of those jobless for more than 6 months. The proportion of long-term joblessness borne by the nonwhite worker in 1963—at 26 percent—was virtually unchanged from 1962. However, it was significantly higher than the 22 percent registered in 1956–57.

## Nonfarm Payroll Employment

Between the peak and trough of the 1960–61 recession, total nonfarm payroll employment declined by 1 million (seasonally adjusted). Following the February 1961 low point, employment rose steadily and by December 1961 was nearly 400,000 above its prerecession peak. The pickup continued in 1962 when an over-the-year gain of 1.6 million brought total nonfarm employment close to 56 million. The 1963 increase of 1½ million brought the number of employees on nonagricultural payrolls to 57.2 million.

In 1962, the expansion in nonagricultural employment was greatest during the first half of the year. However, the strong growth in 1963 was more evenly spread throughout the year. Another significant difference between the increases in 1962 and 1963 was the amount of growth in the manufacturing sector. As would be expected in a recovery year, one-third, or more than 500,000, of the 1962 employment increase took place in manufacturing—most of it in the hard-goods sector. In 1963, on the other hand, manufacturing employment rose by less than 200,000, or 13 percent of the total job increase. In both 1962 and 1963, there was a continuation of the postwar trend toward more rapid expansion in the service-producing industries than in the goods-producing sector.

*Goods-Producing Industries.* Employment in contract construction and manufacturing rose strongly during the first half of the year, recovering from the sluggishness exhibited in the latter half of 1962, but showed only moderate gains for the rest of the year. Employment in mining continued its long-term decline, dropping by 20,000 between 1962 and 1963; the same decline took place between 1961 and 1962.

The over-the-year gains in manufacturing employment were almost entirely concentrated within the durable goods sector, where employment reached its highest annual level since the growth years of 1956–57. There was a large expansion in the transportation equipment industry, which was primarily attributable to automobile production and sales. Fabricated metals and machinery also showed significant employment advances over the year. Together, these three industries

accounted for nearly three-fourths of the total job gains in manufacturing between 1962 and 1963. In both fabricated metals and machinery, employment was at its highest levels since 1957. The number of employees in the transportation equipment industry in 1963 was last exceeded in 1960.

Primary metals showed considerable strength during the first half of 1963, in response to a buildup of steel-users' inventories. After the contract settlement in June, steel production and employment were cut back. However, even after midyear, steel production exceeded the late 1962 output, and employment in primary metals averaged 40,000 above the same period in 1962. Employment in electrical equipment also turned downward after mid-1963. Both of these industries showed job strength in December, but were still below midyear levels and unchanged from 1962 on an annual average basis.

In soft goods, employment remained virtually the same as in 1962, although there were several offsetting movements within the industry. Jobs in food processing declined by 20,000 between 1962 and 1963. In addition, there were small curtailments in the textile, petroleum, and leather industries. Countering these cutbacks were gains in chemicals (20,000) and apparel (30,000).

Despite an actual over-the-year increase in the number of production workers, the ratio of production workers to all employees continued its gradual decline.

Employment in contract construction rose by 120,000 in 1963, the most substantial year-to-year increase in the industry since 1959. This was also the first year on record that the annual average number of workers exceeded 3 million.

*Service-Producing Industries.* All the major service-producing industry groups (transportation and public utilities; trade; finance, insurance, and real estate; services; and government) registered nearly identical over-the-year employment changes in 1962 and 1963. Government, services, and trade together accounted for employment gains of close to 1 million in both years. As was true in 1962, services and State and local government each registered employment gains of 300,000 or more. In 1963, as in other recent years, both groups recorded annual job increases of 4 percent, in line with the average change during recent

years. Employment in trade rose by almost 300,000, or 2 percent, from a year earlier (slightly more than from 1961 to 1962), with nearly all of the growth occurring in the first half of the year.

Transportation and public utilities which had declined gradually from 1956 to 1962 showed a slight employment increase in 1963. The number of workers in finance, insurance, and real estate rose by 70,000 in both 1962 and 1963, generally in line with the industry's annual employment increase of 2 percent registered since 1956.

*Factory Hours and Earnings.* Average weekly hours of production workers in manufacturing remained at very high levels in 1963, averaging 40.4 hours for the second consecutive year. With the exception of seasonal and other short-run variations, average weekly hours showed little change throughout the year. Hours in 1962 and 1963 were the highest recorded since 1956. The workweek in durable goods averaged 41.1 hours in 1963, a level not exceeded since 1955. Long hours were especially prevalent in transportation equipment, paced by near record production in automobiles.

The workweek for nondurable goods averaged 39.6 hours—the same as in 1962—with little change recorded among the major industry components. Increases in hours of work occurred only in the paper and petroleum industries while the rubber, leather, and apparel industries were the only soft-goods industries to show declines.

Overtime for production workers in manufacturing averaged 2.8 hours a week in both 1962 and 1963. This level had not been attained on an annual basis since 1956. In the hard-goods sector, overtime was also at near record levels, averaging 2.9 hours per week for the year, about the same as in 1962. In nondurables, weekly overtime in both 1962 and 1963 averaged 2.7 hours; the only recent year in which this was equalled in the soft-goods sector was 1959.

Hourly earnings of production workers in manufacturing averaged \$2.46 in 1963, an increase of 7 cents per hour or 3 percent, over the 1962 level. The same increases were registered between 1961 and 1962. Hourly earnings in durable goods averaged \$2.63 (up 7 cents over the year) and in nondurables, earnings increased 6 cents to \$2.22. Among the durables, transporta-

tion equipment recording the largest gain—10 cents in hourly earnings—averaged \$3.01 for the year.

Average weekly earnings in manufacturing reached the \$100 mark for the first time in June 1963, and in the September to December period, they ranged from \$100.50 to \$102.40. For the year as a whole, production worker average weekly earnings were \$99.38, an increase of \$2.80, or 3 percent, over 1962. The earnings level in durable goods averaged \$108 in 1963, a gain of \$3.40, or 3 percent, over the year. In this sector, earnings ranged from a high of \$126.40 in transportation equipment to \$80.40 in miscellaneous manufacturing. Earnings increases of 4 percent were recorded in stone, clay, and glass and primary metals, while weekly earnings in transportation equipment rose 3½ percent. In the soft-goods sector, average weekly earnings rose \$2.40 over the year (almost 3 percent) and averaged almost \$88. Weekly earnings ranged from a high of \$131.77 in petroleum to \$62.09 in apparel, showing gains of 4 percent and 1½ percent, respectively.

### Total Employment

Total civilian employment averaged 68.8 million in 1963, up 1.0 million from the 1962 level. This gain, although not as large as the 1.2 million increase recorded in the recovery year of 1962, was significantly greater than the average annual employment gain of 700,000 registered between 1955 and 1962. As has been the case throughout the postwar period, all of the increase was in the nonfarm sector; agricultural employment continued its long-term decline.

Farm employment dropped by one-quarter million in 1963 to average 4.9 million for the year. In the 15 years from 1948 to 1963, agricultural employment fell steadily from almost 8 million to just below 5 million. The employment decrease from 1962 to 1963 was about the same as the amount of decline recorded in the 2 previous years. In line with long-term trend, the largest part of the over-the-year decline took place among self-employed farmers.

Total nonagricultural employment rose 1¼ million in 1963 to a record level of 63.9 million. The 1963 increase was almost as large as the annual gain in 1962, although the latter year was one of recovery. On a seasonally adjusted basis, non-

agricultural employment rose most rapidly during the first half of 1963, although smaller increases continued throughout the June–December period.

*Age and Sex of Employed Persons.* Adult women accounted for 600,000, or 60 percent, of the 1963 job increase. Their share of the annual employment increase was twice their proportionate share (30 percent) of total employment. All of the 1963 employment gains for adult women were in nonfarm jobs. Some 20.5 million women were employed during the year in such jobs; this accounted for 1 out of every 3 nonfarm workers.

Total employment for adult men rose by about 400,000 in 1963. The number of adult men in farm employment dropped, while the number in nonfarm jobs rose by 650,000 to an average of 38.8 million for the year. The 1963 increase in adult male nonagricultural employment was about the same as in 1962.

Teenage employment—at 5.3 million—remained virtually unchanged between 1962 and 1963. In the nonfarm sector, the number of employed 14 to 19 yearolds was 4.6 million in both years. For the first year since 1958, teenage employment did not expand.

*Occupations of Employed Persons.* For the major occupational groups, most of the dominant postwar employment trends continued in 1963. The number of professional, clerical, and service workers (other than private household workers) advanced further and farm occupations continued to decline. The number of unskilled nonfarm laborers remained unchanged, while farm laborers registered a small decline.

White-collar employment in 1963 increased by 300,000, with all of the increase among professional, technical, and clerical workers. Sales workers, an occupational group which has leveled off since 1959, continued unchanged in 1963, while the managers, officials, and proprietors group decreased by 100,000, as a decline in the number of self-employed proprietors more than offset an increase in the number of salaried managers and officials.

Service workers, excluding private household workers, rose by 250,000 or 4 percent in 1963, with the major part of this gain occurring among women. On the other hand, the number of private household workers has remained virtually un-

changed since 1958 and has shown a drop in its proportion of the employed total.

Blue-collar employment increased 700,000 between 1962 and 1963, with all of the gain occurring among skilled craftsmen (up 250,000) and semi-skilled operatives (up 450,000). These increases are rather large in comparison with trends for recent years. In the past, gains of this size took place only in recovery years. Thus, part of the 1963 employment increases for craftsmen and operatives may be attributable to a continuing upswing from the 1961 recession.

An average of 8.5 million craftsmen were employed during the first half of 1960, the peak period before the downturn began; operatives numbered 12.1 million in the same period. As indicated in the following tabulation, the employment of both craftsmen and operatives during the first half of 1961 was below the levels of the first 6 months of 1960.

	1960	1961	1962	1963
<i>Craftsmen</i>				
Annual average.....	8.6	8.6	8.7	8.9
January-June average.....	8.5	8.4	8.5	8.7
July-December average.....	8.6	8.9	8.9	9.2
<i>Operatives</i>				
Annual average.....	12.0	11.8	12.0	12.5
January-June average.....	12.1	11.4	11.8	12.3
July-December average.....	11.9	12.1	12.3	12.7

By the first half of 1962, employment of craftsmen had recovered to its prerecession level, but employment of operatives at 11.8 million was still below the first half level of 1960. The weakness of the initial recovery is apparent in the small employment increases, especially for operatives, that were registered 1 year after the recession trough.

It is too soon to tell whether the 1962 to 1963 employment increase among craftsmen and operatives was merely a delayed extension of the recovery from the 1961 recession or the start of a new trend toward expansion in these occupations. Blue-collar jobs are most strongly affected by the ups and downs of business cycles. Consequently, year-to-year employment changes in the blue-collar occupations may reflect cyclical developments more than longrun trends.

Employment in the farm occupations dropped by one-quarter million between 1962 and 1963, with almost all of the decrease taking place among

farmers and farm managers. There were 2.4 million farmers and farm managers in 1963, or just about half the number in this occupation group 15 years earlier. Unskilled farm laborers numbered 2.2 million in 1963, down only slightly over the year, but 1.0 million below the number employed in 1948.

*Full- and Part-Time Employment.* Included among the employed total in 1963 were an average of 2.3 million nonfarm workers employed part time for economic reasons. This included 1.1 million who usually worked full time but whose hours were cut to less than 35 because of slack work, material shortages, or other economic reasons. Another 1.2 million usually worked part time because they could not find full-time employment. The total working part time for economic reasons represented 3.8 percent of all those at work in nonagricultural industries. The average number, as well as the rates, were virtually unchanged from 1962.

Voluntary part-time employment, which is concentrated among women and teenagers in trade and service industries, continued its long-term upward trend in 1963. Averaging 6.8 million for the year as a whole, the number of voluntary part-time workers in nonfarm jobs increased by 200,000 since 1962. This gain, however, was only about half the amount recorded a year earlier.

## Labor Force

The total labor force, including the Armed Forces, averaged 75.7 million in 1963, an increase of 1.1 million over the 1962 level. This increase was significantly greater than the 700,000 gain registered between 1961 and 1962 and was also larger than the average annual labor force increase of 850,000 recorded from 1955 to 1962.

The expansion during 1963 was about in line with long-term projections of labor force growth for the period 1960-65, but was not sufficient to make up for the smaller than expected gain recorded in 1962. As a result, the labor force remained about 600,000 below the level projected for 1963. However, this difference should be interpreted with caution in view of the record of very uneven labor force growth in the past and the inherently imprecise nature of labor force projections.

In line with postwar trends, women accounted for the greatest part of the labor force growth in 1963. Women 20 years old and over constituted about 650,000 or three-fifths of the over-the-year increase, though they represented only 30 percent of the total labor force. Adult men accounted for 300,000 or about one-fourth of the 1963 labor force growth. The teenage labor force increased by approximately 150,000 over the year, with three-fourths of the increase occurring among teenage boys.

*Participation Rates by Age and Sex.* The most significant labor force trend in the postwar period, the entry of more adult women into the labor market, continued throughout 1962 and 1963. During the same period, the trend toward declining participation rates for men at both extremes of the working age scale also continued, but at a somewhat slower pace than in the earlier 1960's.

The labor force participation of adult women failed to increase as rapidly as expected between 1961 and 1962. However, the 1963 rise in the participation rates of women 25 to 64 indicates that the preceding year's slowdown was only a temporary interruption in the upward trend. For all age groups except those 45 to 54 (among whom the labor force rate is already over 50 percent), the increase in adult women's work rates in 1963 was faster than that projected on the basis of long-term trends.

Labor force rates for teenage girls and for women 65 and over edged down gradually between 1961 and 1963. Among 14 to 19 year-old girls, the participation rate declined from 30 percent in 1961 to 28½ percent in 1963, as large numbers of youngsters 14 to 16—with lower work rates—were added to the teenage population. For women 65 years old and over, work rates of 10 to 11 percent were maintained from 1956 to 1961. By 1963, however, the participation rate for this group declined to 9½ percent.

Labor force rates for men in the central age groups, 25 to 54 years, are always higher than for any other age-sex group in the population. Participation rates for men in these prime working years have remained about 95 percent since the end of World War II. For men 55 to 64, work rates had declined slightly in recent years, but showed no further change in 1963. Labor

force activity of men 65 and over has been declining throughout the postwar period and the trend continued in both 1962 and 1963, it fell from 40 percent in 1956 to 28½ percent in 1963.

Another group that has shown a declining labor force participation rate in recent years is young men under 25. For 20 to 24 yearolds, the participation rate has gradually edged downward from the 91 percent level recorded during 1955 and 1956. By 1962, the rate had declined to 89 percent, and a further small decline to 88.3 percent was registered in 1963. The major factor affecting the labor force rates of teenagers and men 20 to 24 years old is the later age of labor force entry for young persons resulting from lengthening school attendance.

In the last several years, labor force rates for some teenage groups have dropped more rapidly than was anticipated on the basis of long-term trends. Between 1956 and 1962, the work rate for young men 14 to 19 dropped from 51½ to 43½ percent. However, no further decline was registered for this age group in 1963.

All of the increase in the number of teenagers in the labor force in 1963 took place among 16 yearolds, the first age group to reflect the "baby boom" immediately after World War II. Sixteen yearolds in the civilian population in 1963 had increased by ¾ million since 1962. Although their worker rate showed little over-the-year change, this marked increase in the population resulted in an increase of ¼ million in the number of 16 yearolds in the labor force in 1963. However, during the school year, most of the younger teenagers were in school and therefore were primarily interested in part-time employment.

*Nonwhite Labor Force Developments.* Historically, the proportion of nonwhite adult men in the labor force has been slightly lower than that of white men.<sup>4</sup> On the other hand, nonwhite women have a history of substantially higher labor force participation rates than white women, because many nonwhite women are sole wage earners in a family, or they frequently need to supplement the low incomes of other wage earners in the family.

<sup>4</sup> Labor force participation rates for white and nonwhite workers are based on the civilian population, excluding the Armed Forces.

Since World War II, the gap between the work rates of adult white and nonwhite women narrowed markedly. While participation rates for all adult women rose sharply throughout the postwar period, the rate of increase was more rapid for whites than nonwhites. In 1948, labor force rates for nonwhite women were 50 percent or more above the rates for white women in all age groups from 25 to 64. By 1963, the differential had fallen to about 25 percent for all age groups except 25 to 34 yearolds, where rates for nonwhite women remained 50 percent above those for white women.

Participation rates for white women increased faster than nonwhite rates over the last 15 years, partly because white females had much lower rates at the start of the period. In 1948, rates for white women in the central ages of 25 to 54 ranged from 31 to 35 percent, and rates for nonwhite women were between 51 and 53 percent. Thus there was considerably less room for an increase in rates for nonwhites.

Another reason for the slower rate of increase in nonwhite female participation during the postwar period is that historically more nonwhite than white women have worked because of financial need. These women who must work to support themselves and their families have been less affected by the changing socioeconomic scene than white women whose employment in many cases is not attributable solely to financial necessity.

While the gap between white and nonwhite female labor force rates narrowed markedly in the postwar period, no similar trend was evident in

male participation rates. Rather, there has been a slight widening in the differential between white and nonwhite male work rates in the last 15 years. Ninety-five percent or more white and nonwhite men in the central age group 25 to 54 were in the civilian labor force in 1948. The first change occurred among nonwhite men 45 to 54 in 1953 and 1954, when worker rates declined to 94 and 93 percent, respectively. The rate rebounded to 94½ percent in 1956, a year of full employment and generally high labor force participation. However, the decline resumed in 1957 and continued after the 1958 recession. Although the rate held steady at 92 percent from 1960 to 1962, a further decline to 91 percent from 1960 was registered in 1963. Among nonwhite men age 25 to 44, work rates remained at the 95-percent level in 1963 and rates for white men in the central ages were 96 percent or higher. Even for nonwhite men 55 to 64, participation rates did not decline significantly between 1956 and 1962.

Thus, the downtrend between 1956 and 1963 was small, sporadic, and affected only nonwhite men in the 45 to 54 age group. For the entire central age group—men 25 to 64—the differential between white and nonwhite labor force rates rose from about 2 percent in 1956 to 3½ percent in 1963—white work rates exceeding nonwhite work rates in both years. The increased divergence between participation rates by color in the 1956–63 period was too small to indicate a definite longrun trend. However, labor force rates for men in these prime working years, especially nonwhites 45 to 54, warrant careful study in the coming years.

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The reduction of unemployment to a more acceptable level requires substantially greater increases in output and employment than have recently been achieved by our economy. Merely keeping unemployment from rising above its currently high level of over 5½ percent will require a rise in real GNP of about \$25 billion in 1964 (assuming normal labor force growth and continuation of recent trends in productivity). A reduction in unemployment to a more acceptable level will require substantially greater increases. The extra GNP necessary to reduce unemployment below the current rate would total in excess of \$17 billion for each percentage point reduction in the unemployment rate.

—From *Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training by the U.S. Department of Labor, 1964* (p. 18).

# The UAW's 19th Constitutional Convention

L. A. O'DONNELL\*

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IMPROVED WORKING CONDITIONS, creation of job opportunities—especially through early retirement—and protection from automation and plant relocation were the major goals adopted for 1964 negotiations by the 19th constitutional convention of the United Auto Workers held in Atlantic City, March 20-26. The 2,375 delegates from 842 local unions resolved to accept no less than the equity due members and their families in bargaining during what UAW President Walter Reuther called “a year of great opportunity” when “the most favorable economic circumstances ever enjoyed” prevail. Civil rights and the war on poverty were the subjects of other significant resolutions and were important themes in major addresses by President Lyndon B. Johnson and AFL-CIO President George Meany. These two speeches also called attention to the wage-price guideposts, but from somewhat different points of view.

## Collective Bargaining Issues

The principal work of the convention, Mr. Reuther announced in his keynote address, was framing policy for upcoming negotiations. Recognizing that bargaining cannot bear “the full burden of dealing with unemployment” and “adjustment to technological change,” the delegates accepted a comprehensive program noticeably lacking in major innovations, but containing elements as varied as paid time off for deaths in family and scholarships for members' children. Most demands were deliberately expressed in broad terms to permit flexibility in negotiations, a continuing policy of the union reaffirmed at this convention. President Reuther amplified the policy during the 5-hour discussion of the program when he said that some variation in emphasis was per-

missible from one corporation to another—particularly in the matter of how to approach the early retirement issue.

The stand for “civilizing and humanizing” working conditions generated militant support from the convention floor. Guaranteed rest periods in addition to personal relief time, a more effective approach to production standards problems, and added safeguards for the privacy and dignity of workers were the main elements in this issue. Observing that office workers and executives honor fully the great American “coffee break,” one resolution complained that breaks and rest periods are denied those subject to the “grinding monotony of production work.”

Its determination to take further steps to eliminate “production standard abuses” were inspired, the UAW claimed, by management efforts to increase line speeds, tighten standards, and generally erode existing protections against these hazards. Beyond endorsing an attempt of Canadian locals to surmount their legal inability to strike over production standards, because of Provincial labor laws which prohibit strikes during the term of the agreement, the specific steps to be taken against such abuses were not detailed.

Attainment of dignity and privacy of the worker was conceived in terms of such basic considerations as requiring doors on toilet stalls as well as protection from surveillance by electronic devices such as closed circuit television cameras, listening and recording instruments, and motion picture cameras. The union vowed instant exposure and direct action to prevent or eliminate the use of these and similar devices.

Another resolution instructed the leaders of the international union to exert its full power in behalf of legitimate local demands in multiplant corporations, particularly on questions of working conditions.

Much of the bargaining program was aimed at creation of job opportunities and preservation of existing ones. Early retirement, based on age or service or a combination of both as well as on a program of phased retirement, is fundamental to the plan. This emphasis was sufficient to mollify a movement called “25-30-60 Now” which had insisted on retirement at half pay after 25 years, at two-thirds pay after 30 years, and at double the present pension at age 60.

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To make early retirement attractive to senior workers and better conditions for those already retired, higher pension benefits, a cost-of-living adjustment feature for pension benefits, and other improvements were called for, notably company payment of full hospital-surgical-medical care premiums for retirees. In a related action, the union asked for investment of pension funds in housing and community facilities where workers covered by funds live. Investment should not be made in companies which practice discrimination.

Restricting overtime as well as higher premium pay for such work, longer vacations (and extra vacation pay), additional paid holidays, and shortening the workweek were among the measures recommended for cutting down the worktime. Here again, however, the details of these demands were not spelled out.

Higher wages, the delegates agreed, also contribute to increasing job opportunities by raising demand for products of industry. Consequently, the present annual improvement factor of 2½ percent should be raised so as to correspond with the actual rate of increase in productivity in the industry. In addition, the union urged refinement of the escalator clause by (1) "modernizing" the present ratio between wages and index points, (2) providing for "automatic modernization" in the future, and (3) adapting the clause to the new BLS Consumer Price Index. The existing cost-of-living allowance should be incorporated into the basic wage rate.

To cushion the impact of automation and plant relocation, the UAW proposed company-financed but jointly administered training and retraining programs, liberalized relocation allowances, reduction of the work force by attrition only, and preference for blue-collar workers in filling white-collar job openings. In cases of plant shutdown, introduction of new machinery, or removal of work to other locations, the union asked for advance notice and consultation developing into union-management planning to minimize resulting dislocations.

Income security was the object of demands for salaries for blue-collar employees and parity between their fringe benefits and those presently enjoyed by salaried employees. But even with salaries, the union recognized, there can be layoffs and thus SUB benefits must be improved, their

duration lengthened to a full year, and eligibility for them divorced from eligibility for State unemployment benefits. In addition, SUB funds should be strengthened, and separation allowances, to be liberalized, should not depend on the level of the fund. Pooling arrangements were suggested for strengthening SUB plans in smaller companies.

Finally, the union asked for comprehensive improvements in the life and health insurance programs, notably payment of full premiums by employers, enlarged benefits, increased coverage, and sick leave benefits similar to those generally granted salaried workers.

### Guidepost Policy

In his report to the convention, President Reuther asserted that for the period 1947 to 1963, the annual average increase in productivity in the auto industry was 4.9 percent. He declared that, in view of the productivity increase and its "fabulously high profits," the Council of Economic Advisers had the industry in mind when it stated that "there will be ample room for price reductions in 1964." But the industry, Reuther said, has shown no inclination to reduce prices significantly. At a press conference prior to the convention, the UAW President indicated that 4.9 percent was the "most limited definition" of the increase sought by the union in 1964 negotiations.

President Johnson, in his speech to the delegates, also touched on the economic implications of the union's demands. "We know," he said, "it is this union's policy to seek gains at the bargaining table out of the greater abundance made possible by advancing technology and not out of the pockets of American consumers through higher prices." He emphasized the importance of the international position of the dollar and warned that a revival of the price-wage spiral would impede economic expansion. "Avoiding that spiral is the responsibility of business and it is also the responsibility of labor." The President quoted a passage from an address to the UAW's 1962 Convention by the late President John F. Kennedy which affirmed the administration's suggested wage-price guidelines and its obligation to point out the national interest and, where applicable, to enforce the law on restraints of trade and

national emergencies. "This," President Johnson said, "is the policy of this Government today."

AFL-CIO President George Meany, speaking on the last day of the convention, vigorously questioned "this whole idea of guidelines." "If you go down this road, far enough," he asserted, "it leads to the end of free collective bargaining. . . . I don't propose that labor at any time agree to going down that road." Responsibility and guidelines, in his opinion, will be provided by "a strong union in every area of activity in a democratic society." Later, in response to questions from the press, Mr. Meany indicated that he would suggest that the AFL-CIO adopt a formal policy in opposition to the Government's bargaining guidelines.<sup>1</sup>

### Other Convention Action

A Civil Rights Resolution, passed on the third day of the convention, called upon Congress to enact civil rights legislation without dilution or delay. It commended President Johnson for his dedicated action in seeking passage without weakening amendments. President Johnson, in his speech to the convention, pledged "we are going to pass a civil rights bill if it takes all summer."

A UAW Social Justice Award was accepted by Attorney General Robert F. Kennedy on behalf of the late President. Other Social Justice Awards were given to poet Carl Sandburg, Swedish labor leader Arne Geijer, and A. Philip Randolph, President of the Brotherhood of Sleeping Car Porters and leader of the Washington "March for Freedom and Jobs" last summer.

"Full Mobilization for a Total War on Poverty" was the title of a long resolution outlining the problem and calling for participation of labor, civic, fraternal, and religious groups in a national conference on poverty.

### Internal Affairs

Elections of officers provided no surprises and were uncontested in all but one instance. The sole candidate facing opposition in his bid for reelection was the director of Region 2 (Pat O'Malley) who won handily over Roy Goforth. Vice President Richard Gosser, convicted last year of conspiracy to defraud the Internal Revenue Service, declined to stand for reelection. The possibility of a contest for his office was eliminated when the convention voted a constitutional amendment reducing the number of vice presidents from three

to two. A resolution expressing the union's appreciation to Gosser for his years of dedication and service was passed unanimously.

The union reported a dues-paying membership of 1,150,672 for 1963, a modest increase of about 77,000 over 1962, partly accounted for by 329 victories in organizing drives since 1962. Present membership is substantially below the union's high water mark of 1,418,118 in 1953, although it remains the Nation's second largest union.

The union showed a net worth of \$89 million as of January 31, 1964, a gain of \$28 million over 1962. The strike fund totaled close to \$62 million.

Concern for the vitality, youth, and effectiveness of UAW leadership was evident in a number of steps taken by the union. An amendment to the constitution requires compulsory retirement for all officers, representatives, and trustees at age 65. Secretary-Treasurer Emil Mazey informed the convention that consistent with the bargaining demand for early retirement, the International Executive Board would set up a pension program enabling a staff member to retire at age 62 with full benefits and at age 57 with reduced benefits. Another constitutional amendment raised salaries to a minimum of \$10,500 for International Representatives, \$16,500 for Board Members, \$20,500 for Vice Presidents, \$22,000 for Secretary-Treasurer, and \$26,000 for President, in the first of three annual increases.

The President's report announced establishment of a leadership studies center in Detroit in the past year, under the direction of Brendan Sexton. It is designed to keep staff members abreast of developments in techniques of administration and communications as well as to provide study in more academic areas such as philosophy and contemporary civilization. One of the center's objectives is to deepen staff members' understanding of important issues of the day "so as to promote throughout the Union a generally similar political and social orientation." Practical training in time study, editing, and NLRB procedures is also incorporated in the program. Teaching and discussion leadership in the 3-week seminars has been provided by union staff as well as prominent academicians and authors.

<sup>1</sup> At its May meeting, the Executive Council declared its opposition to wage restraints without corresponding restraints on prices and profits—both of which it called "intolerable" except in "gravest national emergency"—and rejected the national productivity rate as the only factor relevant to bargained wages.

# Summaries of Studies and Reports

## Papers From the IRRA Spring Meeting

EDITOR'S NOTE.—*The following excerpts are taken from three of the papers delivered at the May 4-5, 1964, meeting of the Industrial Relations Research Association in Gatlinburg, Tenn. Space limitations prevented carrying more of the many excellent papers presented, and necessitated drastic cutting of these texts. Minor changes in wording have been made to provide transitions, and signs to denote elisions have not been used. Full texts of all the papers will be included in the July 1964 issue of the Labor Law Journal.*

## Retraining and the South

J. EARL WILLIAMS\*

A MAJORITY OF SOUTHEASTERN<sup>1</sup> STATES have had a smaller percentage of unemployment since 1957 than the national average. Further, with only 17.6 percent of the 1962 unemployment officially recorded in the Southeast, the section records 19.2 percent of the trainees approved under ARA and 18 percent of the trainees approved under MDTA through December 1963, and it was allotted 18.9 percent of the MDTA funds for fiscal year 1963. (See table 1.) Nevertheless, before considering this surface manifestation of retraining as proof that the South is doing a creditable job, a number of factors must be noted:

1. The South has more of its counties designated as redevelopment areas under the Area Redevelopment Act than any other section.

2. By almost any standard, the South has the largest percentage of underemployed in its labor

force, when an annual income of less than \$1,200 is used as the standard.<sup>2</sup> For both the total labor force and the total rural labor force, every southern State except Florida has a larger percentage of underemployed than the national average, and many are several times the national average. Nonwhite underemployment is greater than white within the area and much greater than both white and nonwhite outside the area.<sup>3</sup>

3. Negro underemployment is approximately double the rate for whites, not only in the South but nationally as well. Yet, all the southeastern States with the exception of Kentucky have a larger percentage of Negroes in their population than the national average, and half of them have considerably more. Added to this, the Negro concentration in occupations requiring little or no skill has further implications for retraining needs in the South.

4. The education level of the South is considerably below the rest of the Nation. Only Florida has a median educational level for those 25 years of age and older which surpasses the national average. Educational deficiencies also show up in the percentage of the population 25 and over with less than 4 years of high school; and Mississippi (70.2 percent), Arkansas (71.1 percent), and Kentucky (72.4 percent) are the only States in the Nation with more than 70 percent.

5. Although much is said about the industrial development of the South since the 1930's, the fact remains that, in 1960, the South had 21.7 percent of the population, only 20.4 percent of the labor

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<sup>1</sup>The Southeast for purposes of this article includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

<sup>2</sup>Inasmuch as the Manpower Act assumes that workers in farm families with less than \$1,200 annual income are unemployed, this lends some significance to the amount as a standard for underemployment. It is a conservative standard, however, and probably understates the amount of underemployed in the South.

<sup>3</sup>For a full development of this theme leading to a concept of subemployment, in which the South exceeds the rest of the Nation, see Frank T. Bachmura, "Underemployment in the South," Chapel Hill, N.C., Southern Economics Association, November 1963, unpublished paper.

TABLE 1. MDTA AND ARA AREAS AND TRAINEES APPROVED, NUMBER AND PERCENTAGE, FROM BEGINNING OF PROGRAMS THROUGH DECEMBER 1963; PERCENTAGE OF MDTA FUNDS, FISCAL 1963, UNITED STATES AND SOUTHEASTERN STATES

	MDTA, August 1962-December 1963			ARA, November 1961-December 1963			
	Trainees approved	Percentage of total	Percentage of funds fiscal 1963	Areas approved	Percentage of total	Trainees approved	Percentage of total
United States.....	119,248	100.0	100.0	233	100.0	26,895	100.0
Alabama.....	1,439	1.2	1.7	6	2.5	758	2.8
Arkansas.....	845	.7	1.1	17	7.3	1,063	3.9
Florida.....	1,950	1.6	2.3	2	.8	107	.4
Georgia.....	798	.67	2.0	3	1.3	318	1.2
Kentucky.....	5,327	4.5	2.0	15	6.8	1,378	5.0
Louisiana.....	19		1.7				
Mississippi.....	360	.3	1.2				
North Carolina.....	1,781	1.5	2.4	5	2.1	816	3.0
South Carolina.....	5,476	4.6	1.1	3	1.3	57	.2
Tennessee.....	2,000	1.7	2.0	4	1.7	641	2.4
Virginia.....	1,449	1.2	1.4	1	.4	96	.3

Source: *Manpower Report of the President*, 1964, pp. 252-253, and *Manpower Research and Training Under the Manpower Development and Training Act*,

A Report by the Secretary of Labor, March 1964, pp. 155-157; 163-164.

force, and just 16.7 percent of the manufacturing work force of the Nation.<sup>4</sup>

6. The South lags behind the Nation by 10 to 20 years in the distribution of employed persons among the different occupational groups.<sup>5</sup> Relatively few of the employed persons in the South are in professional, technical, and kindred occupations, but a relatively high percentage is in agriculture and private households. The high proportion of agricultural employment magnifies the South's problem, for this is the area of greatest displacement in recent years. In addition to the training implications for those leaving the farm, a much more highly trained and better educated farm worker will be needed.

Although it appears that the South is engaging in retraining at a rate proportionate to its offi-

cially stated unemployment figures, some of the southern States with the most unemployment have done the least in retraining.

Given these factors, a gigantic retraining effort (greater than any other section) appears to be needed. Yet, at the end of 1963, only a little more than 3.7 percent of the southern unemployment levels of 1962 had been approved for training under MDTA or ARA. Since there is a time lag from approval to actual training, the number which had actually received training by the end

<sup>4</sup> *Regional Projections to 1976: Population, Labor Force, Employment, and Income* (Washington, National Planning Association, National Economic Projections Series, 1962), Technical Supplement 8, p. vi.

<sup>5</sup> See C. E. Bishop and G. S. Tolley, "The South's Economic Future: A Challenge to Education," *Proceedings, Educational Needs for Economic Development of the South* (Raleigh, North Carolina State College, Agricultural Policy Institute, 1962), p. 5.

TABLE 2. MDTA TRAINEES APPROVED AND ENROLLED THROUGH DECEMBER 1963; PERCENTAGE POPULATION NEGRO, 1960; AND NEGRO TRAINEES AND PROJECTS TO NOVEMBER 1963, UNITED STATES AND SOUTHEASTERN STATES

	Number trainees approved	Number trainees enrolled	Percentage population Negro, 1960	Percentage trainees Negroes	Number projects	Number integrated projects	Projects with 30 percent or more Negro	
							Number	Number integrated
United States.....	112,510	(1)	10.5	<sup>2</sup> 22.6	(1)	(1)	(1)	(1)
Alabama.....	1,224	697	30.1	15.0	25	4	4	0
Arkansas.....	576	493	21.9	8.0	23	6	1	0
Florida.....	925	706	17.9	16.0	24	17	3	2
Georgia.....	415	327	28.6	16.0	16	4	1	0
Kentucky.....	1,692	1,386	7.2	10.0	61	32	5	5
Louisiana.....	0	0	32.1	0.0	0	0	0	0
Mississippi.....	<sup>3</sup> 75	(1)	42.3	(1)	2	0	1	0
North Carolina.....	1,081	704	25.4	11.5	35	26	3	3
South Carolina.....	456	312	34.9	23.0	16	1	4	0
Tennessee.....	1,051	885	16.5	9.0	36	22	2	2
Virginia.....	1,140	826	22.2	39.0	27	20	9	4

<sup>1</sup> Not available.

<sup>2</sup> Includes all nonwhite, but mostly Negro

<sup>3</sup> For calendar year 1963.

Source: *Manpower Research and Training Under the Manpower Development and Training Act*, 1964, pp. 155-6; *U.S. Census of Population, 1960*; U.S. Department of Labor, Office of Manpower, Automation and Training; *The Economic Situation of Negroes in the United States*, U.S. Department of Labor Bulletin S-3, 1962, p. 1.

of 1963 was considerably below this. In fact, only 0.8 percent of the unemployed had received training in institutional projects under MDTA, and all the ARA trainees approved would add only another 0.8 percent. In addition, Negroes with disproportionately greater training needs have been trained disproportionately less, with the exception of Kentucky and Virginia, than their percentage of the southern work force (table 2). Fin-

ally, for all practical purposes, Mississippi and Louisiana have not participated in retraining, and the remaining southern States doubtless could have increased their efforts considerably without fear of national budget limitations. Although there are variances among the States, it is clear that the Southeast as a whole has engaged in retraining to a far lesser extent than its needs indicate.

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## Federal Civil Service Bargaining

MAX S. WORTMAN, Jr.\*

IN THE PAST, several major unions have pushed for legislation which would give Government employees the right to bargain collectively with their employer. Although several unions had negotiated contracts and administered grievances with various agencies and departments of the Federal Government, collective bargaining as a guaranteed right to each employee was not available until President Kennedy signed Executive Order 10988 on January 17, 1962. Underlying this concept was the assumption that through employee participation, a more effective Federal Service would result.

Executive Order 10988 explicitly states the right of a Federal employee to join a bona fide labor organization, or to refrain from doing so. Managerial employees are prohibited from joining a labor organization if it creates a conflict of interest or is incompatible with law or the duties of the particular position. Several types of union recognition are provided including: *informal*—which allows the union to be heard on matters affecting

its members within the agency; *formal*—which permits unions representing 10 percent of the employee work force to be consulted on establishing and activating personnel policies and practices which affect its members; and *exclusive*—which entitles unions representing a majority of the employees in an appropriate bargaining unit to negotiate a written agreement covering terms and conditions of employment in the unit. The Executive order also provides for advisory arbitration in grievances. The policy denied both the union and closed shops in the Government Service. Lastly, the order provided for determination of standards of conduct and codes of fair practices for the guidance of agency heads as to whether certain unions are so corrupt or so influenced by forces opposed to a democratic society that they should be denied recognition by the Government.<sup>1</sup>

As a result of union organization drives, the membership in employee unions is growing—at a slow rate.<sup>2</sup> Most of the increases have occurred

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<sup>1</sup> EDITOR'S NOTE: See *Monthly Labor Review*, February 1962, pp. iii-iv, and July 1963, pp. 835-836.

<sup>2</sup> Letter of John W. Macy, Jr., Chairman, U.S. Civil Service Commission, to the President, January 17, 1964.

in Government installations having industrial-type functions. In some cases, decreases in membership of certain unions have occurred particularly if another union at a given location has been granted exclusive recognition. Since the member is not represented by the minority union, there is little reason for him to continue his membership and thus he drops out or becomes a member of the majority union. In still other instances, separate segregated locals of the same union have ceased to exist since they were denied recognition due to practices of racial discrimination.

### Contract Enforcement

Since determination of the appropriate bargaining unit has been quite complex and negotiations are still in their initial stages there is little concrete evidence of the path to be taken in grievance solution, arbitration, and enforcement. In many agencies, an existent grievance procedure is still in effect. In other agencies, a grievance procedure has been negotiated with no terminal arbitration step. In most of these instances, the last step in the grievance procedure is advisory arbitration—which is just an expert opinion for the head of the agency who will make the decision. Grievances will be filed on promotions, demotions, and the grade of a particular job.

In the contracts that have been signed, there has been little evidence of problems of enforcement. Once the contract is implemented, local management has adhered to the terms of the contract. Both labor and management have apparently made a unified cooperative effort to enforce the contract.

### Future Problems

Both management and labor feel<sup>3</sup> that one of the most important problems in the use of collective bargaining in the Federal Service is the inadequacy of the professional staff in the area of labor relations. The present personnel staff are poorly equipped to handle negotiations, grievances, and arbitration cases. Thus the present professional personnel staff need to be trained, and additional personnel in the area of labor relations need to be retained by the Federal Service. Sec-

ond, the rules and regulations should be amended so that a majority union may be designated the exclusive representative if it receives a majority of those eligible and voting. A provision should be established for a runoff similar to that under the Taft-Hartley Act so that ultimately a majority union would be determined if more than 50 percent of the workers stated that they wished to be represented by a union.

Third, an independent labor board reporting to the President should be established for the Government Service which would serve as a Government National Labor Relations Board with similar functions. Essentially, this would separate the quasi-judicial functions existing in collective bargaining away from those of the personnel function within the agency. Currently, the personnel function represents management in negotiations and yet attempts to solve grievances in a quasi-judicial role. This labor board would determine appropriate bargaining units, determine the exclusive representative if there is one, handle unfair labor practice cases, and other problems arising which should not be handled by either labor or management. The advisory arbitrator role could be eliminated if this board were set up.

Fourth, an impartial method of solving the "impasses" which occur during negotiations. Preferably one of the time-honored methods of mediation, conciliation, or factfinding should be used to resolve the differences.

Fifth, there is a definite problem of uniformity of interpretation and general application of the executive order by the various agencies of the Government. Although these differences are due to previous regulations existing before the executive order, some of these could be resolved by an independent labor board outside the U.S. Civil Service Commission.

Sixth, terminal, binding arbitration in the grievance procedure could be established so that a truly impartial decision may be rendered on the particular issue in question. Thus precedents would be set, and there would be no chance of overturning the decision at some higher level.

<sup>3</sup> The information for this paper was obtained from personal interviews with personnel in the Veterans' Administration and the U.S. Army, and from letters obtained from unions directly involved in collective bargaining efforts in the Government Service.

## Retraining in West Virginia

HAROLD A. GIBBARD\*

CLOSE TO 10,000 unemployed men and women have enrolled in retraining in West Virginia under either the State-sponsored Area Vocational Education Program or the Area Redevelopment Act, or the Manpower Development and Training Act. By far the largest number of these were under the State program which has operated in at least 38 of a total of 55 counties. Retraining under ARA has been offered in about a fourth of the counties, with accumulative enrollments in the spring of 1964 approaching 2,000. MDTA courses in a few communities have enrolled about 200.

At the same time, the level of unemployment in West Virginia has continued above the national average and there has been no sustained gain in total employment.

### Statewide Factors

Retraining for local jobs can succeed only if jobs are vacant because the requisite skills are not held by the available workers, or if new jobs are being created, but the persistently high rate of unemployment in West Virginia and the secular decline in the number of people in jobs, strongly suggest that no large number of jobs has stood unfilled for long. A majority of the people reside in places smaller than a thousand. They are overwhelmingly nonfarm. Many live a long way from any growing city. The highest rates of unemployment in West Virginia have persistently been in highly rural counties where the range of new job possibilities is quite limited.

Not quite a fourth of the females 14 and over were in the labor force in West Virginia in 1960. This difference from the national participation rate follows from the lack of job opportunities. Many more women would be in jobs if jobs were available. While disproportionately many of the new jobs in the United States in the past several years have been women's jobs, women's employment is more heavily concentrated in cities than is men's employment. There has been some effective retraining for women, let it be noted.

While ARA-sponsored retraining has been geared in the main to local employment opportunities, the State program has not been so limited. The combination of a population ready to move and retraining geared to employment elsewhere has produced a favorable outcome to retraining in some West Virginia localities.

The general attitude toward retraining appears to be favorable. Virtually all the retrained workers who were field-interviewed in a five-county survey of 1,397 retrained workers and two control groups indicated that their families approved of their retraining. Ninety-two percent of the trainees said that, if they had to start all over again, they would take a retraining course.

Among the members of a control group of nonapplicants for retraining, the serious problem is not so much a negative attitude toward the training programs as a lack of information about them. Of about 450 nonapplicants interviewed, as many as 200 did not know about retraining.<sup>1</sup> The consequences of this unawareness are not clear. Most courses had a full quota of enrollees assigned to them, and perhaps the only effect of more widespread knowledge would be a more rigorous selection of trainees. Tentatively, then, the discernible attitude toward retraining in West Virginia is positive, though a part of the population knows relatively little about it.

### Intrastate Variations

The various sections of the State have not participated equally in retraining. Some counties have offered a variety of courses and have repeated some of them several times. A fourth of them have offered no retraining at all. Among the reasons for the local variation, legal qualification is

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<sup>1</sup>The nonapplicant sample consisted of 453 respondents registered at the employment offices in five West Virginia counties: A southern coal county, two urban counties in the central part of the State, and two urban-rural counties in northern West Virginia. Names were drawn randomly in equal numbers from the active and inactive files, the only requirement for inclusion was that the individual be unemployed at a time when some retraining course was being set up in his area. The five counties were not equally represented in the final sample, which was strongly rural. The nonapplicants were a less favored population than our sample of trainees. Their median age was 37 as against 31 for those who completed retraining courses. Ten percent of the nonapplicants were Negro as against 6 percent who completed training. The median last school grade completed was 9 for the nonapplicants and 12 for the trainees.

not significant. The variations may be traced instead to local needs and resources and to local initiative.

With few exceptions, retraining courses have been established as a result of local efforts to participate in the State or Federal programs. Local promotion may be the most important variable in determining the scope of an area's retraining effort.

A second variable is the prospect of local employment. Some vigorous and successful retraining efforts in West Virginia have been geared to the training of workers for jobs to which workers would have to migrate. The presence of local job opportunities, though, appears to be a stronger aid to retraining.

Local jobs to which retraining has been geared appear to be of three classes. First are women's occupations in which there is a high turnover and frequent recruiting, such as waitress or nurse's aid. Second are skilled occupations for which the demand has outrun the supply, as automatic transmission mechanics. The first calls for a relatively low level of skill, and the second for an occasional

catching up with demand. The third class consists of jobs in new establishments. Training for in-State industrial employment has been geared largely to staffing new plants, including some established with Federal assistance. Thus, workers have been trained for jobs in aircraft assembly, the manufacture of military vehicles, woodworking, glass, apparel, and others. In several of these, a series of courses has been given to keep pace with the expanding staff needs. Specific training courses have also been conducted to meet the non-professional staff needs of hospitals.

A third variable in retraining is the availability of physical facilities for retraining. Some equipment can be bought with retraining funds, but unless it will be used repeatedly, expensive installations cannot be justified. A number of counties have a valuable asset in a well-equipped vocational school and much of their retraining has been conducted there. In some of the more sparsely populated counties, though, retraining facilities do not exist, and would not serve very many people if they were provided.

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Any plan to lift the plateau or to enable the plateau to lift itself must encompass a broad scheme to expand and improve its schools. No longer do its unschooled citizens constitute a drag on Kentucky alone. The family car and the American road transmit the social and economic shortcomings engendered by poor highland schools into every part of the Nation. The glitteringly attractive States of California, Hawaii, Arizona, Florida, Massachusetts, Illinois, Ohio, New York, Pennsylvania, and Michigan can ill afford the burdens imposed upon them by the influx of uneducated and untrained citizens. It is increasingly apparent that in the future there will be little place anywhere in our country for men or women who have nothing to sell except the services of unskilled minds and hands.

—Harry M. Caudill, *Night Comes to the Cumberlands: A Biography of a Depressed Area* (Boston, Little, Brown and Co., 1963), pp. 335, 390.

## Five Case Studies of Displaced Workers

IT IS GENERALLY AGREED that technological change in the United States has had long-term beneficial effects in terms of greater productivity, faster economic growth, more jobs, and higher wages and employee benefits. However, the short-term cost of such industrial progress to individual workers displaced from their jobs is not always fully recognized.

Between April 1962 and May 1963, the Bureau of Labor Statistics conducted five case studies of the effects of plant shutdowns or large-scale layoffs.<sup>1</sup> These studies reveal that even under favorable labor market conditions, many workers, once displaced, were unable to find new jobs. Others had long periods of unemployment and experienced considerable hardship. This was particularly true of older workers, women, and workers with the least education or the lowest levels of skill. In most cases, displaced workers got little help from their former employers and relied mainly on personal contacts with friends and relatives in locating work.

Sizable numbers stopped seeking employment while most of those who were reemployed earned less—substantially less in many cases—and had lower benefits; many had jobs of lower skill, and all but a small number lost their seniority protections.

Interplant transfers were offered in but two cases, and only under union contract requirements. Even in the one case where a transfer with seniority was offered, no more than 1 out of 5 accepted. Among the obstacles to mobility were the high costs of relocation, home ownership, the secondary role of the wife's job in the family, children in school, family and social ties, and fear of future layoffs.

### The Cases

These studies included plants in five manufacturing industries: petroleum refining, automotive equipment, glass jars, floor covering, and iron foundries.<sup>2</sup> The plants were located in six areas, from the East Coast to the Mountain States, most of them in the Midwest. The number of workers

displaced totaled close to 3,000 and ranged from about 100 to over 1,000.<sup>3</sup>

The layoffs took place between July 1960 and June 1962. Surveys were conducted between April 1962 and May 1963. The period elapsing between layoffs and surveys varied from 6 to 21 months.<sup>4</sup>

*Labor Market Conditions.* All areas were substantially industrialized and highly diversified. The smallest had a labor force of a little under 50,000; the largest, well over 500,000. Five of the six areas were standard metropolitan statistical areas. In five areas, unemployment rates at the time of the layoffs were in excess of or close to the "relatively substantial unemployment" level of 6 percent. Conditions improved subsequently and by the time the surveys were conducted, unemployment had declined substantially in each area.

*Role of Technological Change.* In each case, technological change was a factor—directly or indirectly—in the shutdown or layoff. One plant installed new laborsaving production processes; an-

<sup>1</sup> This article summarizes the findings in the five case studies. A more detailed report presenting the results in each case will be presented in forthcoming BLS Bulletin 1408.

<sup>2</sup> For a recent analysis of the findings in 18 previous studies of displaced workers, published between 1929 and 1962, see William Haber, Louis A. Ferman, James R. Hudson, *The Impact of Technological Change: The American Experience* (Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1963).

<sup>3</sup> The individual case studies involved: (1) about 800 workers laid off by a petroleum refinery in the Midwest in the course of a year; (2) over 1,000 workers displaced by the shutdown of an automotive equipment plant in the Midwest; (3) some 600 workers displaced upon the partial closing of a glass jar plant in the Midwest; (4) about 300 workers displaced by the closing of a floor covering plant in the East; and (5) about 100 workers displaced upon the shutdown of two iron foundries by a single employer, one in the Midwest and the other in a Mountain State. Because the small number of workers displaced by the closing of each of the iron foundries limited feasible statistical breakdowns, the data for both foundries have been combined to form a single case study.

Information about the workers was obtained from (1) employer records, (2) mail questionnaires addressed to the displaced workers, and (3) data from the U.S. Employment Service. In three cases, information was obtained from over 90 percent of the displaced workers; in a fourth, 67 percent; and, in the fifth, a sample covering 25 percent was used.

<sup>4</sup> The achievement of a uniform time interval between layoffs and surveys was not feasible. In the case of the oil refinery, for example, the layoff was carried out over a period of more than a year, and the period between layoffs and the survey varied from 6 months to over a year and a half. While variations in the time elapsing after layoff undoubtedly had some effect on the data concerning employment and unemployment, a case by case comparison reveals that it had considerably less significance than factors such as the age, sex, educational background, and skill level of the displaced workers.

other lost business because of a change in customer demand to a product using a different material. In some instances, the building and equipment were old.

In all but one case, however, other factors played a significant role as well, such as: a sharp decrease in consumer demand for a particular product; the dislocation resulting from a shift from longrun operations for one customer to short-run operations for many customers; and labor-management conflict.

The experiences of the Bureau in attempting to select cases of worker displacement due to technological change clearly indicates that such cases are difficult to isolate. In most instances, more than one factor influenced the ultimate decision to close the plant, and it was extremely difficult to determine which factor or factors were decisive.

### Measures to Prevent Displacement

Layoffs may be prevented or minimized by various means. One is attrition, where workers who quit or retire are not replaced. Early retirement of older workers, spreading available work by measures such as the elimination of overtime, and timing the layoff to take place during a period of business expansion are also sometimes possible. In only one case—the oil refinery—was any attempt made beforehand to reduce the extent of the layoff. At this company, more than half of the projected employment reduction was achieved by attrition. No new employees had been hired for over 3 years before the first group was laid off. The firm also induced workers over age 51 who were not scheduled for layoff under the seniority regulations to retire early by offering them a substantial “age allowance” separation payment in addition to their regular severance pay and annuity. A maximum “age allowance” of \$4,800 was paid at age 58, with the amount scaled down toward age 51 and age 65, respectively. Those accepting early retirement accounted for one-sixth of the displaced workers.

### Measures to Find Jobs

The nature and extent of assistance given displaced workers in their efforts to secure reemployment varied considerably from case to case, depending on employers' attitudes, the history of

labor-management relationships, and union contract provisions. In four of the cases, the majority of the workers were represented by unions affiliated with the AFL-CIO; in the fifth case, there was an independent union. Types of assistance used or attempted in one or more of the case studies included early notice of the impending layoff, placement services, interplant transfers, employer-sponsored retraining programs, and in-plant reassignments and transfers. Generally, these efforts were of limited help.

*Early Notice.* One firm ceased new hiring 3 years before the layoffs began, notified the workers well in advance of termination, and phased out the layoffs over a period of a year. In all other cases, notice was considerably shorter. The longest advance notice was 6 months; the shortest, little more than 2 months.

*Placement Services.* By far, the most effective source of assistance in locating jobs appears to have been personal contacts. “Friends or relatives” were credited with finding the jobs of from one-half to two-thirds of the reemployed workers in the five cases studied.

The only substantial assistance in securing jobs for displaced workers was given by the oil company, and in another case, by the union. The company assisted displaced workers through its own employment office, contacting about 600 firms in the area, and also entered into an agreement to pay the placement fees of two private employment agencies. The company stated that it had assisted one-third of the workers who found employment in locating their jobs, although one-half of that number were no longer working on these particular jobs at the time of the survey.

In the automotive equipment case, the union invited all displaced members to fill out a job referral form which was circulated among companies with which it had contracts. As a result of these efforts, approximately 200 of the more than 1,000 displaced workers were employed by companies under contract to the union. The largest proportion was hired by an expanding firm which accepted displaced workers up to age 55. This age limit was higher than most, but union representatives stated that this company was willing to hire older workers because of its need for workers with “instant skills,” who could adapt to new jobs with

a minimum of retraining. The union found that it was not able to place men over age 55 readily, or women at any age.

*Interplant Transfers.* Although all five companies were multiplant firms, only two offered interplant transfers, in both instances under union negotiated plans. In neither instance were relocation allowances granted. In the case of the automotive equipment firm, the contract with the major union representing production and maintenance workers provided that, if the company shut down a plant and transferred its operations to another plant, the employees would be given an opportunity to transfer to the other plant with their jobs. They would be credited with full seniority for purposes of layoffs, recall, and economic benefits such as pensions and vacation. On the basis of this agreement, about 1 out of 5 displaced workers transferred to another plant of the company in an adjacent State. The agreement also gave displaced employees preferential hiring rights at other plants. Workers exercising such rights would start as new employees for purposes of layoff, but would carry seniority with them for economic benefits. About 3 percent of all displaced workers were transferred under this provision. A craft union representing some skilled workers in the plant had not negotiated an interplant transfer provision and its members were not given an opportunity to transfer after the plant closed.

In the second case—the floor covering plant—the contract required the transfer of economic benefits, but no job security benefits. Not more than 1 out of 8 workers took advantage of this provision. The importance of job security to those displaced is indicated by the fact that a much larger proportion of workers accepted transfer in the automotive equipment case than in the floor-covering case, despite the fact that the distance was twice as far. Some effects of these provisions are discussed in the section on “mobility and re-employment” below.

*Employer Retraining Programs.* None of the five employers adopted programs to retrain displaced workers for jobs elsewhere. The automotive equipment company publicly announced establishment of a \$100,000 retraining fund shortly

after announcement of the impending shutdown. About 30 percent of the displaced workers registered for training. The program was abandoned when the company concluded that, because of age, inadequate schooling, or low scores on aptitude tests, there would have been no reasonable prospect for job placement for most trainees. It stated that many were not willing to train for service jobs paying much lower wages than they had been receiving, and few were willing to give up unemployment compensation and supplementary unemployment benefits for which they would have been disqualified under existing regulations while engaged in a full-time training program. In the case of the oil refinery, about 1 out of 10 laid-off workers reported that earlier training given by their employers for jobs in the plant helped them in getting jobs outside; all were employed at the time of the survey.

*Inplant Reassignments and Transfers.* In the only case that did not involve a plant shutdown, the layoff was on the basis of plantwide seniority. This procedure left numerous vacancies which were filled by reassignment, transfer, and retraining of the remaining employees.

### Measures to Maintain Income

*Unemployment Insurance.* The most important source of income for the displaced workers was unemployment insurance. In four cases, the proportion receiving such benefits ranged from 69 to 94 percent of the total, for an average of from 18 to 27 weeks. Even in the fifth case, with relatively low unemployment, close to half of the workers received benefits.

*Supplementary Unemployment Benefits.* In only one case—the automotive equipment plant—had supplementary unemployment benefits been negotiated. By the time of the survey, benefits had been received by two-thirds of the displaced workers of this company for an average of 22 weeks.

*Severance Pay.* Some form of severance pay was obtained by displaced workers in 4 of the 5 cases, but in only one instance was it sufficiently great to be of substantial assistance in a period of protracted unemployment. That plan provided a

"service allowance" based on the worker's wage rate and length of service. The lowest amount paid under the formula was in excess of \$600.

*Early Retirement Pay.* While all pension programs provided for early retirement at age 60 or sooner, in only two cases did more than a very small proportion of the displaced workers benefit from these provisions. The automotive equipment case involved a substantial number of older workers and, in the 14 months after the shutdown was announced, pensions were paid to 375 workers, 283 of them in the major bargaining unit. While some of these were for normal and disability retirement, the bulk of them were for early retirement. With the payment of these pensions, the fund was not sufficient to cover the vested rights of the younger workers. Therefore, in accordance with contract provisions, deferred pensions were substantially reduced for those in the 50-59 age group and were eliminated for those under 50. At the oil refinery, a contributory plan provided immediate or deferred annuities regardless of age. Ninety percent of those 55 and over received immediate annuities and another 5 percent got deferred annuities; 1 out of 3 displaced workers under 55 received immediate or deferred annuities.

In all other cases, most workers, including many with long service, lost their pension rights entirely.

### Characteristics of the Displaced Workers

The typical displaced worker was a white male in his late forties. He was married, owned his home, had two dependents, and some high school education.

Women accounted for 2 out of 5 workers in one case, 1 out of 5 in another, and insignificant proportions in all others. In no case did nonwhites exceed 7 percent of the total. While most workers were age 45 or over, the proportion in this category varied from 21 percent in one case to 94 percent in another. In all cases, a majority were married and owned their homes. The number of dependents tended to be fewer among the older groups. While in four cases a majority of the workers had some high school education, in all but one instance the proportion of graduates was relatively small.

### The Search for Employment

Job hunting was a difficult experience for many displaced workers. For a large number, it was fruitless. Most of the displaced workers had accumulated long years of service in a particular line of work and many were ill-prepared for the strenuous efforts of job hunting.

*Employment and Unemployment.* At the time of the surveys, only 2 out of 3 of all displaced workers in these case studies were employed. One out of 10 were retired or for other reasons not seeking employment, while close to 1 out of 4 were unemployed and seeking employment. The rate of unemployment varied from 8 to 39 percent. As shown in the following tabulation, it was substantially higher than the unemployment rate in the labor market areas as a whole.

	Period between layoff and survey (months)	Percent unemployed		
		In labor market area		Among displaced workers
		At time of layoff	At time of survey	at time of survey
Petroleum refinery-----	1 <sup>1</sup> 6 to 18	4.6-9.9	4.7	8
		(average 7.8)		
Automotive equipment plant.	10	6.8	4.9	27
Glass jar plant-----	8	7.5	5.1	39
Floor covering plant-----	16	5.9	3.0	17
Foundries-----	2 <sup>2</sup> 21 and 13	2.8	3.1	28
		and 6.9 and 3.6		

<sup>1</sup> Gradual layoff over a period of 12 months.

<sup>2</sup> Rate for each of the 2 areas in which a foundry was closed; areas have been combined in data for displaced workers.

In all but one case, the unemployment figures for displaced workers were at least five times greater than the unemployment rate in the labor market areas as a whole.

There was substantial long-term unemployment. (See chart 1.) In four cases, over half of the displaced workers had been unemployed at least 16 weeks; in two of these cases, the proportion was two-thirds or more. In the same four cases, those unemployed at least a half year ranged from over two-fifths to more than half.

A substantial proportion of the displaced workers had held no jobs at all after their layoff. However, a considerable number, ranging from 1 out of 8 to about 3 out of 8, had held more than one job.

*Age and Reemployment.* Reemployment was markedly higher among workers below age 45

than among older workers. In four of the cases shown in the tabulation below, the older groups contained a greater proportion of workers who were unemployed and seeking work.

Percent of workers in each age group at time of survey

	Unemployed		Not seeking employment	
	Less than 45 years	45 years and over	Less than 45 years	45 years and over
Petroleum refinery.....	8	5	1	39
Automotive equipment plant.....	10	29	12	14
Glass jar plant.....	35	41	3	16
Floor covering plant.....	12	19	0	15
Foundries.....	25	32	0	19

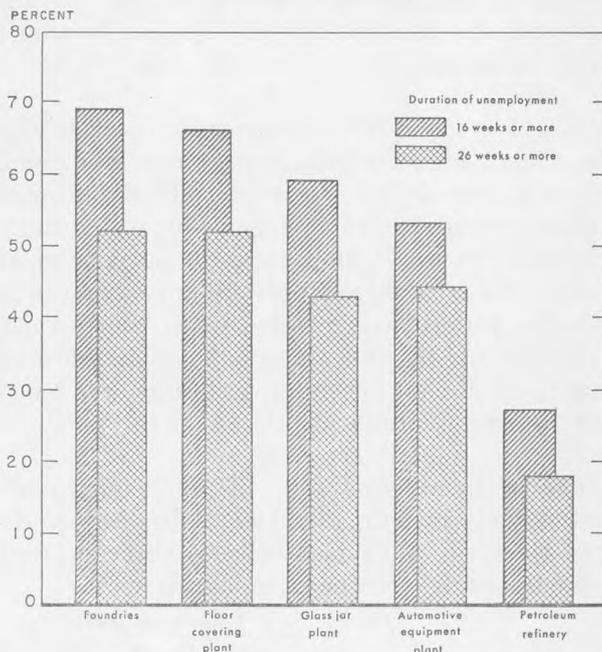
In the fifth case, the great majority of the older workers laid off had retired voluntarily, although by the time of the survey many were reemployed and a small percentage were seeking jobs. In all instances, a larger proportion of older workers were not seeking employment.

In two cases, where narrower age breakdowns were feasible, by far the highest unemployment rates were found in the 55-59 age groups. A majority of workers in the 60 and over age groups were not seeking work. Although a considerable number of these had taken early retirement benefits, many others may have been discouraged from looking for work in the face of age discrimination. More displaced workers volunteered comments on the subject of age discrimination than on any other matter. Most were workers in their fifties or above, but many were younger, a number in their early forties.

*Education and Reemployment.* Displaced workers who completed high school had substantially lower unemployment rates than those who did not. In three cases, the graduate's unemployment rate was less than half that of the nongraduate. The differences in unemployment rates between those who had no high school education and those who had some were much smaller.

The older worker with higher education was more likely to be reemployed. Among older workers, high school graduates fared better than nongraduates; and workers with some high school had lower unemployment rates than those with no high school. Workers not seeking employment were found for the most part among the less educated. Suffering from the combined handicap of inadequate education and older age, many withdrew from the labor market before they normally would have retired.

Chart 1. Long-Term Unemployed as a Percentage of Total Displaced Workers



*Women and Reemployment.* The rates of unemployment among women were 56 and 61 percent, respectively, or almost three times the rate among men in the two cases where meaningful comparisons were possible. Only one-fourth of the women were employed in each case; the others were not seeking work. In one case, almost 7 out of 8 women had been out of work a half year or more, compared with 1 out of 3 men. In the other case, the ratio was 2 out of 3 women as against 1 out of 4 men.

As shown in the following tabulation, displaced women had a much higher unemployment rate than men at each age group under 60 and at each educational level.

	Percent unemployed			
	Automotive equipment plant		Glass jar plant	
Age	Men	Women	Men	Women
Less than 35 years.....	5	22	10	58
35-44 years.....	7	25	22	63
45-54 years.....	17	67	19	70
55-59 years.....	32	62	51	71
Education				
No high school.....	26	67	32	65
Some high school.....	25	64	23	59
High school graduate.....	11	31	11	65

The impact of age discrimination would seem to have been felt earlier by women than by men. The

highest level of unemployment was reached by men at age 55-59 in both cases. However, among women, unemployment reached its peak at age 45-54 in one case, and virtually its peak (within 1 percentage point) in the other case.

*Skill Level and Reemployment.* In each case studied, a higher unemployment rate was found among less-skilled workers. Unemployment ranged from none to 33 percent for maintenance workers, from 8 to 39 percent for machine operators, and from 20 to 59 percent for laborers. A similar pattern was revealed when hourly earnings were used as an approximate measure of skill; the highest unemployment rates were found at the lowest earnings levels.

*Industries Providing Jobs.* The following tabulation showing industries in which displaced workers obtained employment reveals that few were able to find jobs in the same industry.

	Percent reemployed in—		
	Same industry	Other manufacturing	Nonmanufacturing
Petroleum refinery.....	7	57	36
Automotive equipment plant.....	147	28	25
Glass jar plant.....	21	32	47
Floor covering plant.....	17	46	37
Foundries.....	8	34	58

<sup>1</sup> Includes 33 percent who transferred under union contract provisions to another plant of the same company in another area. The remaining 14 percent were employed by other companies in the same industry.

<sup>2</sup> All 17 percent transferred under union contract provisions to another plant of the same company in another area.

In four cases, such workers constituted no more than 21 percent of the total reemployed. Of those obtaining employment in the same industry, most in two cases and all in a third had to move to other areas.

Most reemployed workers secured jobs in manufacturing industries. However, substantial proportions, ranging from 1 out of 4 to almost 3 out of 5, were employed in nonmanufacturing industries.

*Mobility and Reemployment.* The role of mobility in obtaining employment is indicated by the fact that greater proportions of employed workers than the unemployed had sought work outside their home cities. Moreover, in all but one case, more than twice the proportion of reemployed workers than workers still unemployed indicated that they had looked for work further than 50 miles from home.

The two cases involving interplant transfers cast some light on inducements and obstacles to worker mobility. Only the guarantee of transfer with full seniority rights was sufficient to induce substantial numbers of displaced workers to relocate. Even in that case, some 4 out of 5 did not accept relocation. Relatively few workers were willing to transfer with accumulated rights to pensions, vacation, and other economic benefits, but with no seniority rights on layoffs. A study of the characteristics of the transferees indicates that other inducements to relocate were the need to conserve rights to pensions and other employee benefits, fear of age discrimination, and the economic pressures of larger families.

Obstacles to mobility included the secondary role of the wife's job in the family, home ownership, family and social ties, children in school, fear of future layoffs, and the high cost of transfer. Apart from costs of relocation, many transferred workers found it necessary or expedient to maintain two homes and to commute between areas on weekends, at least in the first year after transfer. Some complained that tax laws worked in favor of the companies which could write off the cost of their move, while transferring workers received no deductions whatsoever.

*Training and Reemployment.* Only a very small number of displaced workers, ranging from 2 to 7 percent, had taken any training courses, other than on-the-job, after displacement. Nevertheless, a large majority indicated that they would be interested in taking such courses if they did not have to pay for them. Workers manifested much variety of interest. Many men were interested in learning special skills such as welding, electronics, auto mechanics, and machine repair. Women emphasized office and clerical occupations and nursing.

### Job Effects of Displacement

Besides unemployment, displaced workers suffered other job losses: lower earnings, work of lower skill, loss of employee benefits, loss of seniority protection, and premature withdrawal from the labor force. Other groups also make contributions to the social costs of displacement. Labor unions suffer a decline in membership; businesses and the community lose the income derived from

the displaced workers' wages; and governments lose tax revenues and often have to increase their relief payments.

*Effects on Earnings.* The great majority of those who were reemployed received lower hourly earnings. In each of the five cases, more than half of the reemployed workers had lower earnings, with the ratio almost as high as 4 out of 5 in one case. (See chart 2.) Moreover, many workers took a cut of 20 percent or more in earnings. These constituted at least 1 out of every 4 reemployed workers, and in one case amounted to more than half of the total. In contrast, only small proportions achieved higher earnings. In the two cases involving interplant transfers—the automotive equipment plant and the floor covering plant—relatively high proportions (32 and 18 percent, respectively) were reemployed at the same earnings levels.

When older workers obtained employment, they had to accept a much greater decline in hourly earnings than did younger workers. The following tabulation shows the percent by age group of

workers who took at least a 20-percent decrease in hourly earnings:

*Percent of workers in age group whose hourly earnings decreased at least 20 percent*

	<i>Less than 35 years</i>	<i>35-44 years</i>	<i>45-54 years</i>	<i>55 years and over</i>
Petroleum refinery.....	24	35	31	-----
Automotive equipment plant.....	17	18	30	33
Glass jar plant.....	31	35	72	74
Floor covering plant.....	11	13	35	57

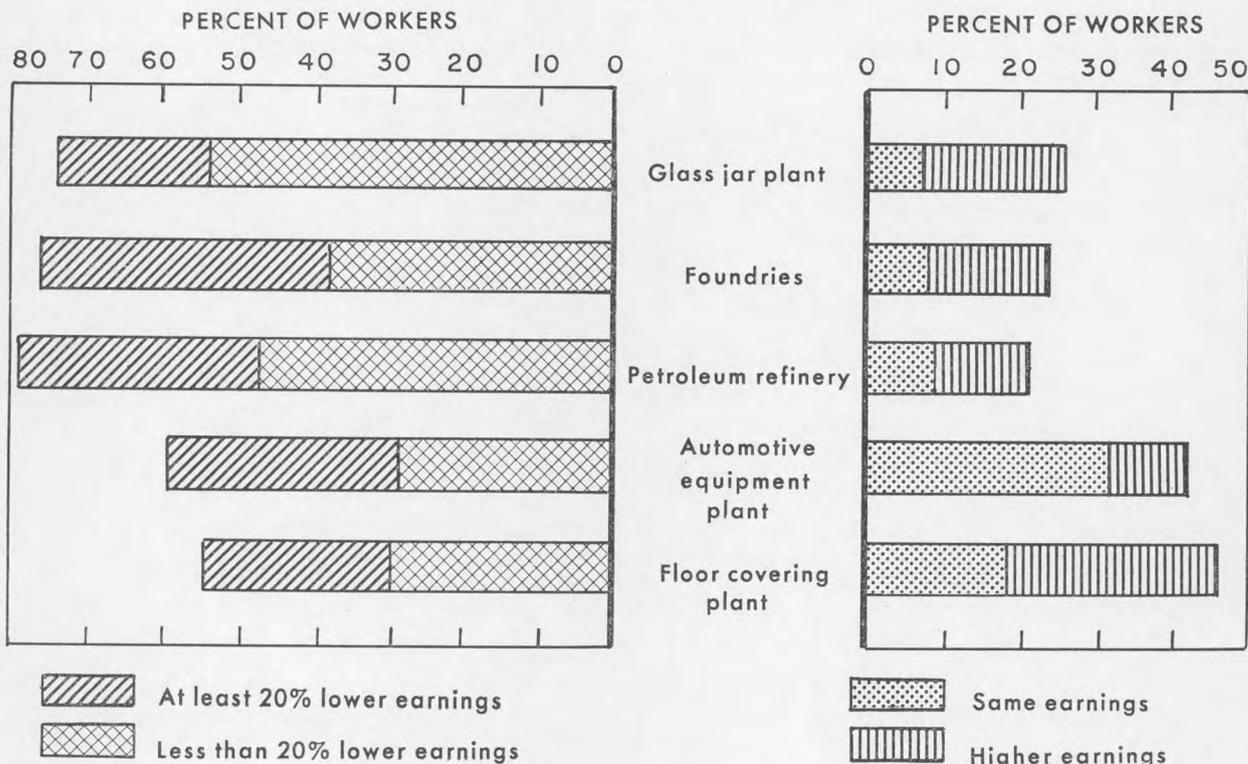
<sup>1</sup> 45 years and over.

In 3 of the 4 cases for which such tabulations were feasible, the proportion of workers whose earnings had dropped at least 20 percent increased substantially after age 45. Also by the same measure, the least educated workers took the sharpest cuts in wages:

*Percent of workers at educational level whose hourly earnings decreased at least 20 percent*

	<i>No high school</i>	<i>Some high school</i>	<i>High school graduate</i>
Petroleum refining.....	-----	43	31
Automotive equipment plant.....	39	28	23
Glass jar plant.....	70	55	32
Floor covering plant.....	31	18	22

Chart 2. Change in Earnings of Reemployed Workers



*Effects on Employee Benefits.* Displaced workers frequently complained, often bitterly, of the loss of employee benefits. This was one of the most serious hardships resulting from worker displacements since such benefits had been counted on, for greater security for themselves and their families in old age and in illness. Moreover, since many benefits are based upon length of service, workers obtaining other employment had to start anew in accumulating rights. Most of the reemployed workers indicated that fringe benefits on their current jobs were less liberal than on their previous jobs.

*Changes in Type of Job.* Many of the displaced workers experienced a downgrading of skills. This was more true of semiskilled than of skilled occupations. While the change in jobs for a majority of workers in the more skilled maintenance occupations generally meant no change in occupational group, in no case did as many as one-third of the machine operators obtain jobs in the same occupational group. Substantial proportions of the operators who were reemployed were working as laborers or custodial workers.

*Effects on Union Membership.* The layoffs had a serious effect on membership in labor unions. Prior to displacement, 9 out of 10 were union members. By the time of the surveys, membership in unions was reduced to no more than 1 out of 3 in two cases and in no event higher than 2 out of 3. The highest proportion was found among displaced workers of the automotive equipment plant where substantial numbers were either transferred to another area under union contract or obtained jobs at other unionized plants with assistance of the union. Even when consideration is limited only to those workers who had found jobs, the figures

still show a substantial drop in union membership, to a range of from two-fifths to three-fifths of the total. This decline could be accounted for in part by the fact that many new jobs were in unorganized industries or plants.

*Effect on Seniority.* In most union contracts, seniority protects the longer service worker in case of layoffs. It is often a factor in promotions, generally determines eligibility for and the size of certain employee benefits, and may confer such advantages as choice of shift. With this seniority gone, the displaced worker starts a new job as a new employee, having the least security and lowest employee benefits in the plant. The bulk of the displaced workers had over 10 years of seniority. In some plants, substantial proportions had longer service. Workers with at least 20 years of seniority accounted for 1 out of 4 in one plant, 1 out of 3 in a second, and 9 out of 10 in a third.

*Early Withdrawals from the Labor Force.* Sizeable numbers, ranging from 9 to 14 percent of the total, indicated they were no longer seeking employment. Such withdrawals from the labor force represented substantial proportions of workers in the 60-64 age group. It seemed clear that many found themselves compelled to end their careers as wage earners earlier than they had previously planned. At best, their withdrawal meant early retirement with pensions below the amount which would have been due them at normal retirement and a lower level of living than had been anticipated. In many instances, older workers without pensions withdrew because of their inability to obtain jobs; this was particularly true in the case of women.

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## The Changing Status of Negro Women Workers

EDITOR'S NOTE.—*The following article is a brief excerpt of Negro Women Workers in 1960, Bulletin 287, issued by the Women's Bureau. Tables, graphs, and data relating to geographic distribution, education, and marital status have been omitted, and other sections have been condensed. These changes have not been indicated in the text.*

A PATTERN of steadily rising gains emerges from an analysis of the employment statistics of Negro women<sup>1</sup> from 1940 to 1960. In terms of kinds of jobs, industries of employment, levels of income, and accessibility to employment opportunities, the status of Negro women has improved.

The major occupational shifts of Negro women have been away from jobs as private household workers, farmers, and operatives and into clerical, professional, technical, sales, and miscellaneous service jobs. At the same time, significantly higher numbers of Negro women have been employed in banking, retail trade, medical and other health services, public administration, and in some branches of manufacturing that are expanding.

Despite considerable achievements, many Negro women were still employed in low-skill and low-paid jobs in 1960, and their unemployment rates were high.

### Women in the Labor Force

Nearly 3 million nonwhite women 14 years of age and over were in the labor force in 1960, almost three-quarters of a million more than in 1950. This gain of 35 percent during the decade was equal to that of white women workers. Over the 20 years since 1940, however, the increase in the number of workers was less pronounced among nonwhite women, 53 percent, than among white women, 77 percent.

Negro women account for a relatively high proportion of all employed Negroes. In 1960, they represented 40 percent of the group, whereas white women were only 32 percent of all white employed persons.

Traditionally, a larger proportion of nonwhite women than of white women work outside the home. In 1960, 42 percent of all nonwhite women 14 years of age and over, and 34 percent of all

white women were in the labor force. The difference has narrowed in the past two decades with the growing interest of white women in paid employment. Between 1940 and 1950, there was no change in the proportion of nonwhite women who worked, and only a 5-percentage-point increase from 1950 to 1960. In contrast, there was a 10-percentage-point gain for white women over the 20-year period.

*Unemployment.* At the time of the 1960 census, the rate of unemployment for nonwhite women was higher than that of white women. Close to 250,000 nonwhite women were reported to be unemployed and seeking work in 1960—8.5 percent of all nonwhite women in the labor force. In comparison, only 4.9 percent of white women were unemployed. Nonwhite women farm laborers had the highest rate of unemployment, 17.4 percent, compared with 6.1 percent for white women farm laborers. The jobless rate for factory operatives was 12.3 percent for nonwhite women and 9.6 percent for white. Nonwhite women had higher rates of unemployment than white women in each of the remaining major occupational groups, with the difference ranging between 1 and 6 percentage points.

*Ages of Women Workers.* In 1960, the median age of nonwhite women workers was about 38 years and of white workers, about 40 years. The lower figure for nonwhite women workers reflects the relatively younger age of nonwhite women in the population, and the much higher proportion of nonwhite women than of white women who work between the ages of 25 and 45 years. A larger proportion of nonwhite women than white women work outside the home in all age groups, except for girls age 14 to 19—a group that includes relatively large numbers who live in rural areas of the South.

Nonwhite women follow a trend of steadily increasing employment up to age 45, continuing at a high rate through 55. This work pattern differs considerably from that of white women. The lat-

<sup>1</sup> Statistics for Negro women are presented wherever possible. Otherwise, the basic data cover nonwhite women who include, in addition to Negro women, American Indian, Oriental, and Eskimo women. Since Negro women represented 93 percent of all nonwhite women in the United States in 1960, the data for nonwhite women also describe Negro women in most States. Note also that certain statistics prior to 1960 do not include Alaska and Hawaii.

ter group maintains a substantially high rate of labor force participation in their early twenties, followed by a noticeable drop when they are 25 to 35 years of age—a period when family responsibilities are greatest. This difference in the work histories of the two groups is further demonstrated by the greater extent to which nonwhite mothers of small children work outside their homes. Thirty-one percent of nonwhite married women with children under 6 years were in the labor force; 18 percent of white.

## Occupations

Increased employment opportunities in white-collar and service jobs have contributed to the most important occupational development for Negro women workers in the past two decades—the trend toward greater diversity. The proportion of Negro women employed in clerical, sales, professional, and service occupations, excluding private household workers, rose from less than one-fifth in 1940 to more than one-third in 1960. Between 1950 and 1960, the percentage gain in the number of those employed as clerical, professional, and sales workers was much greater for Negro women than white women.

Negro women have recently entered clerical jobs in large numbers, including the occupations of secretary, stenographer, typist, cashier, telephone operator, and bookkeeper. Between 1950 and 1960, the number of Negro professional nurses, medical and dental technicians, dietitians, librarians, accountants, and lawyers more than doubled. In addition, they made significant percentage gains as social and welfare workers, therapists, natural scientists, and physicians. Numerically, their greatest increase was in teaching.

Among service workers (except those in private households), large percentage increases were recorded in the number of hospital attendants, practical nurses, and institutional housekeepers. In comparison, there were minor increases in the number of cooks, waitresses, and beauty operators.

The major occupations from which Negro women shifted between 1950 and 1960 were private household workers, farmers, and operatives. These were fields in which there were also either decreases or only limited increases in the number of white women.

The number of Negro women employed as private household workers rose from about 774,000 in 1950 to 888,000 in 1960. This 15-percent increase was less, however, than the 31-percent gain in the total employment of Negro women, indicating a decline in the occupational significance of this group.

The proportion of Negro women employed as operatives also declined from 1950 to 1960, although the overall number rose from 274,000 to 310,000. Some of the principal operative groups had smaller numbers of Negro women in 1960 than in 1950. They included dressmakers, and spinners and weavers, as well as operatives in apparel firms, textile mills, and food plants. Generally, these were occupations of decreasing importance to other workers as well as to Negro women. Similarly, the long-term decline in the demand for agricultural workers affected both Negro and white women.

## Industries

Economic growth during the 1950's accounted for much of the employment increase recorded by Negro women. The major changes were substantial increases in the numbers of Negro women employed in professional services and public administration, only a small increase in personal services, and a noticeable decrease in agriculture.

Of 2.5 million Negro women employed at the time of the 1960 census, more than 1 million were in various categories of the personal service industries, including private households; over 400,000 in professional and related services; nearly 250,000 in wholesale and retail trade; over 200,000 in manufacturing; and 88,000 each in agriculture and public administration.

The number of Negro women in banking, postal service, medical and other health services, State and local public administration, general merchandise and limited price variety stores, and welfare and religious organizations more than doubled between 1950 and 1960. The increases in the number of white women workers in the same industries ranged from 22 to 89 percent.

Negro women also made important gains in four divisions of manufacturing: aircraft, electrical machinery, knitting mills, and rubber and plastic plants.

## Income and Earnings

The concentration of Negro women in unskilled jobs and in part-time<sup>2</sup> or part-year work is reflected in the income and earnings statistics recorded in the 1960 census for the year 1959. Of all Negro women 14 years of age and over, 3 out of 5 reported some money income in 1959. Their median income was \$905, which is 29 percent more than the \$703 average reported in 1949.

The gap between the income of Negro women and the income of white women increased slightly from 1950 to 1960. Negro women's median income amounted to 62 percent of that of white women in 1949, but only 60 percent in 1959.

Negro women continued to receive substantially less income than Negro men. In 1949, they averaged more than half as much as men, but in 1959, only about two-fifths as much. Despite a high rate of increase in their incomes, Negro men also were in a slightly less favorable income position in 1959 than in 1949 in relation to white men.

Median earnings of \$1,219 were reported by nonwhite women who worked in 1959—little more than half the median for all women workers (\$2,257). The average earnings of nonwhite men, \$2,703, were considerably higher than those of nonwhite women, but not quite two-thirds as much as those of all men workers, \$4,621.

The relatively low median earnings of nonwhite women workers result mainly from the large numbers employed in low-wage industries and in occupations where part-time and intermittent work is widespread. Only 46 percent of all nonwhite women workers were employed at least 50 weeks in 1959, as compared with 51 percent of all women workers and 56 percent of nonwhite men workers. In addition, a higher proportion of women than men generally are employed in part-time jobs.

Professional workers received the highest median earnings, \$3,571, of all nonwhite women workers in 1959. They averaged just slightly less than the median earnings of all women professional workers, \$3,625. Nonwhite women employed as sales workers and private household workers had higher median earnings in 1959 than all women in these groups. In both instances, relatively more nonwhite women were employed at least 50 weeks in 1959.

<sup>2</sup> EDITOR'S NOTE.—In 1960, the ratio of white women employed full time to those employed part time was approximately 3 to 1; for nonwhite women, it was close to 2 to 1.

## Earnings in Cotton Textile Mills, May 1963

STRAIGHT-TIME HOURLY EARNINGS of production and related workers in cotton textile mills averaged \$1.53 in May 1963, according to a study conducted by the Bureau of Labor Statistics.<sup>1</sup> These earnings were 5.5 percent above those of August 1960, when a similar Bureau study was made.<sup>2</sup> Men, accounting for three-fifths of the 225,655 workers covered by the study, averaged \$1.56 an hour, compared with \$1.47 for women.

Workers in the Southeast region,<sup>3</sup> making up more than nine-tenths of the industry's work force, averaged \$1.52 an hour; New England workers averaged \$1.64; those in the Southwest, \$1.36; and those in the Middle Atlantic region, \$1.88.

Nationwide, earnings of all but about 4 percent of the workers were within a range of \$1.15 to \$2. Approximately 8 percent of the workers earned at least \$1.15 but less than \$1.25.<sup>4</sup> In the earnings array, the middle half of the workers earned between \$1.35 and \$1.69 an hour. Variations in earnings were found by location, type and size of mill, type of product, and occupation.

<sup>1</sup> The study covered establishments employing 20 workers or more and primarily engaged in the manufacture of cotton yarn (or thread) and broadwoven fabrics (12 inches or more in width). Mills manufacturing mixtures containing 25 percent or more wool were excluded.

Earnings information presented in this article excludes premium pay for overtime and for work on weekends, holidays, and late shifts; furthermore, the earnings information excludes data for 21,074 workers employed in bleaching, cloth dyeing and finishing, and fabricating departments. Nearly 98 percent of such workers were employed in the Southeast and averaged \$1.54 an hour; in New England they averaged \$1.62. The inclusion of data for workers in these departments would not alter the averages presented herein, except in the Middle Atlantic region, where the average would be reduced from \$1.88 to \$1.82. Earnings data are presented separately for these workers in the forthcoming BLS bulletin, *Industry Wage Survey: Cotton Textiles, May 1963*, a more comprehensive account of the study.

Individual releases providing data on earnings and supplementary benefits are available on request for New England and the following States and areas: Alabama; Charlotte, N.C.; Connecticut and Rhode Island; East Central Alabama; Georgia; Greenville-Spartanburg, S.C.; Maine and New Hampshire; North Carolina; Northwest Georgia; Statesville, N.C.; South Carolina; and Texas.

<sup>2</sup> See "Earnings in the Cotton Textile Industry, August 1960," *Monthly Labor Review*, May 1961, pp. 479-485.

In October and November 1963, several of the large southern cotton textile companies granted wage increases, estimated at 5 percent. These increases are not reflected in this article, since it provides data relating to a May 1963 payroll period.

<sup>3</sup> For definitions of regions used in this study, see accompanying table, footnote 2.

<sup>4</sup> The Federal minimum wage was increased from \$1.15 to \$1.25 an hour, effective September 3, 1963.

Paid vacations were provided nearly all workers after 1 year of service. Life, hospitalization, and surgical insurance benefits were also available to a great majority of the workers. Approximately a sixth of the workers were covered by the terms of collective bargaining agreements: an eighth in the Southeast, compared with 95 percent in New England.

### Earnings

Since August 1960, straight-time earnings of the 225,655 production and related workers covered by the study had increased 8 cents an hour.

During this period, employment declined nearly 11 percent; the decline was proportionately much greater in New England (38 percent) than in the Southeast (9 percent). Averages for both the Southeast and New England regions were 7 cents above those recorded in August 1960.

Average hourly earnings in integrated mills (those having both spinning and weaving operations) were higher than those in yarn mills; although the absence of skilled weaving occupations in yarn mills is a contributing factor, yarn-mill workers also averaged lower pay in comparisons at the occupational level. In the Southeast, where

NUMBER AND AVERAGE STRAIGHT-TIME<sup>1</sup> HOURLY EARNINGS<sup>1</sup> OF PRODUCTION WORKERS IN COTTON TEXTILE MILLS, BY SELECTED CHARACTERISTICS AND REGIONS,<sup>2</sup> MAY 1963

Characteristic	United States <sup>3</sup>		New England		Middle Atlantic		Southeast		Southwest	
	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>
All production workers.....	225,655	\$1.53	9,766	\$1.64	1,582	\$1.88	209,471	\$1.52	4,809	\$1.36
SEX										
Men.....	140,117	\$1.56	5,915	\$1.69	902	\$2.01	130,304	\$1.56	2,973	\$1.38
Women.....	85,538	1.47	3,851	1.55	680	1.70	79,167	1.46	1,836	1.34
TYPE OF MILL AND PRODUCT <sup>4</sup>										
Yarn mills.....	47,266	1.44					44,800	1.43		
Carded yarn.....	18,226	1.43					17,903	1.43		
Combed yarn.....	29,040	1.44					26,897	1.43		
Integrated mills.....	174,154	1.64	7,234	1.63			162,262	1.55	4,658	1.36
Carded-yarn fabrics.....	143,757	1.53	3,703	1.65			135,396	1.54	4,658	1.36
Combed-yarn fabrics.....	30,397	1.60	3,531	1.61			26,866	1.59		
PREDOMINANT CLASS OF FABRICS <sup>5</sup>										
Duck and allied fabrics.....	7,751	1.49					5,291	1.54		
Narrow sheeting and allied coarse- and medium-yarn fabrics.....	27,604	1.49					26,359	1.49		
Wide sheeting and allied coarse- and medium-yarn fabrics.....	39,097	1.55					37,325	1.55		
Print-cloth yarn fabrics.....	29,109	1.55					28,450	1.55		
Colored-yarn fabrics.....	11,513	1.54					10,537	1.56		
Towels, toweling, and dishcloths.....	15,878	1.59					15,878	1.59		
Fine cotton fabrics (combed, part-combed, and fine-carded).....	28,408	1.60	3,766	1.62			24,556	1.60		
Specialties and other woven cotton fabrics.....	14,297	1.56			1,075	1.92	11,937	1.51		
SELECTED OCCUPATIONS										
Battery hands <sup>6</sup> .....	10,467	1.36	440	1.42	58	1.50	9,671	1.36	298	1.25
Card tenders <sup>7</sup> .....	4,627	1.41	138	1.53			4,403	1.41	86	1.33
Doffers, spinning-frame <sup>7</sup> .....	11,117	1.59	277	1.67			10,597	1.59	241	1.52
Drawing-frame tenders <sup>7</sup> .....	3,643	1.49	90	1.73			3,487	1.49	66	1.30
Inspectors, cloth, machine <sup>6</sup> .....	5,296	1.43	376	1.46	24	1.61	4,734	1.43	160	1.27
Janitors (excluding machinery cleaners) <sup>7</sup> .....	5,813	1.27	170	1.38	19	1.48	5,510	1.27	114	1.19
Loom fixers <sup>7</sup> .....	10,411	1.97	483	2.06	121	2.48	9,554	1.96	249	1.77
Machinists, maintenance (all men).....	1,216	1.91	48	2.00	6	1.85	1,142	1.91	20	1.67
Spinners, ring-frame <sup>8</sup> .....	5,455	1.61	121	1.91			5,225	1.60	109	1.44
Truckers, hand (including bobbin boys) <sup>7</sup> .....	20,214	1.48	638	1.55			19,238	1.48	338	1.35
Twister tenders, ring-frame <sup>7</sup> .....	7,301	1.32	131	1.41			6,990	1.32	156	1.22
Warper tenders <sup>6</sup> .....	2,936	1.46	61	1.63			2,850	1.45	13	1.28
Weavers <sup>7</sup> .....	1,866	1.61	53	1.58	51	1.92	1,706	1.50	55	1.29
Box looms <sup>7</sup> .....	20,419	1.75	841	1.84	384	2.22	18,809	1.74	369	1.50
Dobby looms <sup>7</sup> .....	2,373	1.75					2,339	1.75		
Plain looms <sup>6</sup> .....	3,214	1.79	31	1.93	74	1.87	3,041	1.80		
Winders, yarn <sup>6</sup> .....	13,842	1.72	754	1.80			12,766	1.72	281	1.49
	17,105	1.44	566	1.55	373	1.72	15,928	1.43	237	1.33

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> The regions in this study include: *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia; and *Southwest*—Arkansas, Louisiana, Oklahoma, and Texas.

<sup>3</sup> Includes data for regions in addition to those shown separately. <sup>4</sup> Alaska and Hawaii were not included in the study.

<sup>5</sup> Data for weaving mills are not shown separately, but are included in the all-production-worker total. Mills engaged in weaving fabrics from pur-

chased yarn employed an estimated 4,235 workers at the time of the study and were concentrated for the most part in the Southeast and Middle Atlantic regions.

<sup>6</sup> Includes data for weaving and integrated mills only.

<sup>7</sup> Predominantly women.

<sup>8</sup> Predominantly men.

<sup>9</sup> Includes data for Jaquard-loom weavers, in addition to those shown separately.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

95 percent of the yarn-mill employment is located, workers in this segment of the industry averaged \$1.43 an hour—12 cents less than workers in integrated mills. The comparatively high average for workers in the Middle Atlantic region (\$1.88) was largely due to the fact that a vast majority of the workers in this region were employed in weaving mills.

Workers in integrated mills averaged \$1.55 in the Southeast, compared with \$1.63 in New England. In New England, integrated-mill employment was nearly equally divided between mills primarily producing carded-yarn fabrics and those producing combed-yarn fabrics.<sup>5</sup> In the Southeast, however, mills producing carded-yarn fabrics accounted for five-sixths of the employment in integrated mills. Workers in integrated mills producing carded-yarn fabrics averaged \$1.54 in the Southeast, compared with \$1.65 for those in New England. Comparable averages for integrated mills producing combed-yarn fabrics were \$1.59 and \$1.61, respectively. Earnings data are tabulated by predominant class of fabric in the accompanying table.

Men, accounting for three-fifths of the 225,655 workers in the regular textile departments, averaged \$1.56 an hour. The 85,538 women averaged \$1.47. In the Southeast, the average wage advantage for men was 10 cents an hour (\$1.56 and \$1.46); in New England, 14 cents (\$1.69 and \$1.55). These wage advantages for men were largely due to the distribution of the sexes among the jobs. For example, three-fifths of the women were employed in four occupations (battery hands, cloth inspectors, spinners, and winders) which require less skill than card grinders, loom fixers, machinists, weavers, and several other jobs typically employing men.

The number and average straight-time hourly earnings of production workers in States and areas studied separately are shown below.

State and area	Number of workers	Average hourly earnings
Alabama.....	21,489	\$1.53
East Central Alabama.....	10,021	1.54
Connecticut and Rhode Island.....	3,035	1.64
Georgia.....	41,628	1.52
Northwest Georgia.....	6,397	1.56
Maine and New Hampshire.....	4,461	1.65
North Carolina.....	70,358	1.48
Charlotte.....	31,791	1.47
Statesville.....	9,289	1.47
South Carolina.....	61,402	1.54
Greenville-Spartanburg.....	26,549	1.54
Texas.....	4,394	1.36

The distribution of workers within specified earnings classes varied by region. For example, as indicated below, fewer than 1 percent of the workers in New England earned less than \$1.25, compared with 7.9 percent in the Southeast and 37.9 percent in the Southwest.

Percent of workers with specified straight-time hourly earnings in—

	United States <sup>1</sup>	New England	Middle Atlantic	South-east	South-west
Less than \$1.25.....	8.2	0.5	2.1	7.9	37.9
\$1.25 and under \$1.30....	7.6	.5	1.6	7.8	13.1
\$1.30 and under \$1.35....	9.9	.5	1.5	10.5	7.1
\$1.35 and under \$1.40....	10.5	15.6	11.6	10.4	8.5
\$1.40 and under \$1.45....	10.1	10.1	1.8	10.3	4.4
\$1.45 and under \$1.50....	7.4	9.1	2.3	7.4	5.4
\$1.50 and under \$1.60....	13.4	17.7	10.7	13.3	7.8
\$1.60 and under \$1.70....	8.9	10.6	13.5	8.8	5.9
\$1.70 and under \$1.80....	8.2	10.1	7.5	8.2	4.0
\$1.80 and under \$1.90....	6.5	8.6	2.3	6.5	3.7
\$1.90 and under \$2.00....	5.4	5.8	4.5	5.5	1.4
\$2.00 and over.....	3.9	10.9	40.6	3.4	.6
Totals.....	100.0	100.0	100.0	100.0	100.0
Number of workers.....	225,655	9,766	1,582	209,471	4,809

<sup>1</sup> Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal 100.

Earnings of women, heavily employed in occupations of similar skills, were more clustered than those of men. Nationally, the middle half of the earnings array for women ranged from \$1.34 to \$1.57; the corresponding range for men was \$1.35 to \$1.77.

Wages of approximately one-third of the workers in the industry were based on incentive methods of wage payment, usually individual piecework. Numerically important jobs usually paid on this basis included: spinning-frame doffers, drawing-frame tenders, slubber tenders, weavers, and yarn winders.

Earnings data were obtained separately for occupations accounting for approximately three-fifths of the production workers in the industry. Averages for jobs provided in the accompanying table ranged from \$1.27 an hour for janitors to \$1.97 for loom fixers. Men largely predominated in both jobs. Average hourly earnings for other numerically important jobs usually staffed by men were: hand truckers, \$1.32; card tenders, \$1.41; twister tenders (ring-frame), \$1.46; drawing-frame tenders, \$1.49; spinning-frame doffers, \$1.59; slubber tenders, \$1.61; and maintenance

<sup>5</sup> In August 1960, combed-yarn fabric mills accounted for nearly twice as many workers as carded-yarn fabric mills in New England. Several large combed-yarn fabric mills in this region discontinued operations between August 1960 and May 1963.

machinists, \$1.91. Averages for numerically important jobs usually staffed by women were: battery hands, \$1.36; cloth inspectors, \$1.43; ring-frame spinners, \$1.48; and yarn winders, \$1.44.

Earnings of individual workers varied greatly within the same job and locality. In several instances, particularly for jobs paid on an incentive basis, hourly earnings of the highest paid worker exceeded those of the lowest paid in the same job and area by \$1 or more. Thus, some workers in comparatively low-paid jobs (as measured by the average for all workers) earned more than some workers in jobs for which significantly higher averages were recorded. For example, the following tabulation indicates a considerable overlapping of individual rates for men dobbie-loom weavers and women ring-frame spinners in the Charlotte, N.C., area, despite a 35-cent difference in the average for the two jobs:

	Number of workers	
	Men	Women
	<i>Dobbie-loom weavers</i>	<i>Ring-frame spinners</i>
\$1.15 and under \$1.20.....	6	99
\$1.20 and under \$1.40.....	43	1,311
\$1.40 and under \$1.60.....	57	1,419
\$1.60 and under \$1.80.....	175	152
\$1.80 and under \$2.00.....	222	2
\$2.00 or more.....	60	-----
Total workers.....	563	2,983
Average hourly earnings.....	\$1.76	\$1.41

### Established Practices<sup>6</sup>

Work schedules of 40 hours a week were in effect in mills employing approximately nine-tenths of the workers; virtually all the remainder were in Southeastern mills with work schedules of 48 hours a week.

Slightly more than half of the workers were employed on late shifts in May 1963. Three-tenths of the workers in both New England and the Southeast were on second shifts, but rarely received differential pay. Two-tenths of the workers in New England and one-fourth of the workers in the Southeast were employed on third shifts and usually received 7 and 5 cents, respectively, above day rates.

Paid holidays were provided annually to three-tenths of the production workers. Nearly all workers in New England received 6 days; a fourth of the workers in Southeastern mills received paid holidays, usually 1 day annually.

Paid vacations, after qualifying periods of service, were provided by mills employing nearly all of the production workers. In New England and in the Southeast, the typical provisions were 1 week's pay after 1 year of service and 2 weeks' pay after 5 or more years.

Life, hospitalization, and surgical insurance, financed at least in part by the employer, were reported by mills employing more than nine-tenths of the production workers. About half the workers were in mills providing accidental death and dismemberment insurance and sickness and accident insurance; medical insurance was available to about a third of the workers. Each of these benefits applied to nine-tenths or more of the workers in New England. Catastrophe insurance, available to about a tenth of the workers in the Southeast, was not common in the industry.

Pension plans providing regular payments for the remainder of the worker's life upon retirement (in addition to those available under Federal old-age, survivors, and disability insurance) were provided by mills employing about a fourth of the workers in the industry; 29 percent of the workers in the Southeast; and 3 percent in New England. Lump-sum payments at retirement, however, were available in mills with 92 percent of the production workers in New England and 7 percent in the Southeast.

Nonproduction bonuses, such as profit sharing and Christmas or yearend, were provided by mills employing about a tenth of the production workers in New England and about a fifth of the workers in the Southeast.

—CHARLES M. O'CONNOR  
Division of Occupational Pay

<sup>6</sup> Establishment practices for production and related workers are briefly summarized in this article. The forthcoming bulletin provides additional detail for these workers and information for office workers.

## Earnings in Synthetic Textile Mills, May 1963

STRAIGHT-TIME HOURLY EARNINGS of production and related workers in synthetic textile mills averaged \$1.57 in May 1963, according to a Bureau of Labor Statistics survey.<sup>1</sup> Men, accounting for three-fifths of the 84,214 production workers employed in regular textile operations through the cloth room, averaged \$1.63, compared with \$1.47 for women. Variations in earnings were found by location, type and size of mill, type of product, and occupation.

Approximately a sixth of the workers were covered by collective bargaining agreements—approximately one-half each in the Middle Atlantic and New England regions, compared with less than 5 percent in the Southeast.

### Earnings

The May 1963 average of \$1.57 was 6 cents higher than in August 1960, when the Bureau conducted a similar study of the industry.<sup>2</sup> Between these survey dates, production worker employment increased 16 percent, as a result of the industry's expansion, in the Southeast. Whereas the employment level increased about 24 percent in the Southeast, it remained virtually the same in New England and decreased about 4 percent in the Middle Atlantic region. Workers in the Southeast region, accounting for nearly three-fourths of the industry's work force, averaged \$1.52 an hour in May 1963, compared with \$1.69 for workers in both the Middle Atlantic and New England regions. (See accompanying table.)

In each region, production worker averages were higher in weaving mills than in integrated mills (engaged in both spinning and weaving operations) or yarn (or thread) mills which do not have the skilled and relatively high-paid weaving operations. Weaving mills accounted for nearly two-thirds of the workers in the Middle Atlantic region, compared with slightly more than two-fifths in New England and about a third in the Southeast. Yarn mills employed approximately three-tenths of the workers in the New England and Middle Atlantic regions, compared with

about a fourth in the Southeast. Nearly nine-tenths of the integrated-mill workers were located in the Southeast.

Men as a group averaged 16 cents an hour more than women—\$1.63 compared with \$1.47. The average wage advantage for men was 13 cents in the Southeast, 22 cents in New England, and 34 cents in the Middle Atlantic region. These wage advantages for men were largely due to the distribution of the sexes among jobs. For example, nearly three-fifths of the women were employed in five occupations (battery hands, cloth inspectors, spinners, twister tenders, and yarn winders) which require less skill than loom fixers, weavers, and several other jobs typically employing men.

Earnings of all but about 1 percent of the workers were within a range of \$1.15 to \$2.50 an hour, with earnings of the middle half ranging from \$1.35 to \$1.76. As indicated in the following tabulation, the distribution of workers within specified earnings classes varied by region. For example, less than 1 percent of the workers in New England earned less than \$1.25 an hour, compared with 8.3 percent in the Southeast and 11.5 percent in the Middle Atlantic region.<sup>3</sup>

<sup>1</sup> The study covered mills employing 20 workers or more and primarily engaged in the manufacture of synthetic yarn (or thread) and broadwoven fabrics (12 inches or more in width), including glass textiles. Mills manufacturing textiles from a blend of synthetic and other fibers were included if content was predominantly synthetic; mills manufacturing mixtures containing 25 percent or more wool were excluded.

Earnings data in this article exclude premium pay for overtime and for work on weekends, holidays, and late shifts; furthermore, the earnings information excludes data for 2,561 workers employed in bleaching, cloth dyeing and finishing, and fabricating departments. They averaged \$1.50 in the United States, \$1.68 in New England, \$1.82 in the Middle Atlantic region, and \$1.44 in the Southeast. The inclusion of these earnings would not affect the averages presented herein. Earnings data are presented separately for these workers in the forthcoming BLS bulletin, *Industry Wage Survey: Synthetic Textiles, May 1963*, a more comprehensive account of the study.

In October and November 1963, several of the large southern manufacturers granted wage increases, estimated at 5 percent. These increases are not reflected in this article, which provides data relating to a May 1963 payroll period.

Individual releases providing data on earnings and supplementary benefits were previously issued for the following States and areas: Allentown-Bethlehem, Pa.; Charlotte, N.C.; Maine and New Hampshire; North Carolina; Paterson-Clifton-Passaic, N.J.; Scranton, Pa.; southern New England; Virginia; Wilkes-Barre-Hazleton, Pa.; and Winston-Salem-High Point, N.C. Copies of the releases are available upon request, as long as the supply lasts, from the Bureau of Labor Statistics, or any of its regional offices.

<sup>2</sup> See "Earnings in Synthetic-Textile Manufacturing, August 1960," *Monthly Labor Review*, June 1961, pp. 620-624.

<sup>3</sup> The Federal minimum wage for manufacturing industries was increased from \$1.15 to \$1.25 an hour, effective Sept. 3, 1963.

	Percent of production workers with specified hourly earnings <sup>1</sup> in the—			
	United States <sup>2</sup>	New England	Middle Atlantic	South-east
Under \$1.25.....	7.9	0.6	11.5	8.3
\$1.25 and under \$1.30.....	7.7	1.2	5.1	9.2
\$1.30 and under \$1.35.....	10.3	2.2	4.6	12.8
\$1.35 and under \$1.40.....	11.7	11.7	10.3	12.0
\$1.40 and under \$1.45.....	8.6	9.1	5.6	9.2
\$1.45 and under \$1.50.....	6.3	7.0	4.2	6.6
\$1.50 and under \$1.60.....	10.2	13.0	11.0	9.5
\$1.60 and under \$1.70.....	7.6	10.8	8.3	7.0
\$1.70 and under \$1.80.....	8.4	11.8	7.8	7.9
\$1.80 and under \$1.90.....	6.2	8.9	5.1	6.0
\$1.90 and under \$2.00.....	4.3	5.5	3.7	4.2
\$2.00 and over.....	10.9	17.9	22.8	7.4
Total.....	100.0	100.0	100.0	100.0
Number of workers.....	84,214	9,780	12,662	61,740
Average hourly earnings <sup>1</sup> .....	\$1.57	\$1.69	\$1.69	\$1.52

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal 100.

Earnings of women, heavily employed in occupations of similar skill requirements, were more concentrated than those of men. Nationally, the middle half of the earnings array for women ranged from \$1.33 to \$1.57; the corresponding range for men was \$1.36 to \$1.86.

Wages of approximately a fourth of the production workers in the industry were based on incentive methods of payment, usually individual piecework. A large number of weavers and winders were paid on this basis.

Average hourly earnings for selected occupational classifications presented in the accompanying table ranged from \$1.30 for janitors to \$2.13 for loom fixers. Men largely dominated both jobs. Averages for other numerically important jobs usually staffed by men were: hand truckers, \$1.35; card tenders, \$1.44; spinning-frame doffers,

NUMBER AND AVERAGE STRAIGHT-TIME HOURLY EARNINGS<sup>1</sup> OF PRODUCTION WORKERS IN SYNTHETIC TEXTILE MILLS, BY SELECTED CHARACTERISTICS, UNITED STATES AND SELECTED REGIONS,<sup>2</sup> MAY 1963

Characteristics	United States <sup>3</sup>		New England		Middle Atlantic		Southeast	
	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>	Number	Earnings <sup>1</sup>
<b>ALL MILLS</b>								
All production workers.....	84,214	\$1.57	9,780	\$1.69	12,662	\$1.69	61,740	\$1.52
<b>SEX</b>								
Men.....	51,389	\$1.63	5,916	\$1.77	6,451	\$1.86	39,021	\$1.57
Women.....	32,825	1.47	3,864	1.55	6,211	1.52	22,719	1.44
<b>TYPE OF MILL</b>								
Yarn or thread mills.....	20,868	1.41	2,989	1.64	3,635	1.37	14,244	1.37
Filament yarn or thread.....	8,751	1.40	-----	-----	3,000	1.35	5,117	1.41
Spun yarn or thread.....	12,117	1.42	2,355	1.67	-----	-----	9,127	1.35
Weaving mills.....	32,427	1.67	4,287	1.74	8,218	1.82	19,922	1.60
Integrated mills.....	30,919	1.56	2,504	1.66	-----	-----	27,574	1.54
<b>PREDOMINANT CLASS OF FABRIC<sup>4</sup></b>								
Filament flat fabrics.....	17,096	1.61	3,770	1.68	1,988	1.69	11,338	1.58
Filament twisted yarn fabrics.....	6,649	1.59	-----	-----	-----	-----	-----	-----
Spun synthetic.....	25,106	1.56	938	1.67	-----	-----	23,358	1.55
Silk and silk-mixture.....	2,199	1.53	-----	-----	1,391	1.74	-----	-----
Pile, upholstery, drapery, tapestry, and tie fabrics.....	11,622	1.77	-----	-----	3,929	1.99	6,134	1.61
<b>SELECTED OCCUPATIONS</b>								
Battery hands (1,981 women and 413 men).....	2,394	1.36	335	1.40	244	1.44	1,815	1.35
Card tenders (820 men and 13 women).....	833	1.44	125	1.64	40	1.61	668	1.39
Doffers, spinning-frame (1,294 men and 33 women).....	1,327	1.53	73	1.74	-----	-----	1,210	1.52
Drawing-frame tenders (562 men and 276 women).....	838	1.50	69	1.60	-----	-----	641	1.48
Inspectors, cloth, machine (2,101 women and 482 men).....	2,583	1.44	408	1.46	403	1.50	1,772	1.43
Janitors (excluding machinery cleaners) (1,111 men and 71 women).....	1,182	1.30	94	1.40	138	1.44	950	1.27
Loom fixers (all men).....	5,339	2.13	746	2.13	841	2.41	3,752	2.07
Slasher tenders (930 men and 8 women).....	938	1.77	134	1.98	72	1.85	732	1.72
Slubber tenders (979 men and 156 women).....	1,135	1.56	40	1.62	-----	-----	1,095	1.56
Spinners, ring-frame (3,259 women and 277 men).....	3,536	1.45	299	1.63	112	1.55	3,125	1.42
Truckers, hand (including bobbin boys) (2,884 men and 41 women).....	2,925	1.35	151	1.45	339	1.46	2,435	1.32
Twister tenders, ring-frame (1,847 women and 967 men).....	2,814	1.39	217	1.51	700	1.37	1,897	1.38
Uptwisters (663 men and 638 women).....	1,301	1.43	98	1.56	311	1.36	892	1.44
Warper tenders (543 women and 436 men).....	979	1.63	104	1.66	361	1.80	514	1.50
Weavers (6,436 men and 3,101 women).....	9,537	1.90	1,029	1.91	2,319	2.15	6,189	1.80
Box looms (1,280 men and 666 women).....	1,946	1.89	267	1.92	623	1.88	1,056	1.89
Dobby looms (2,518 men and 1,206 women).....	3,724	1.83	275	1.87	383	2.04	3,066	1.80
Jacquard looms (1,650 men and 457 women).....	2,107	2.07	122	1.93	1,191	2.34	794	1.70
Plain looms (988 men and 772 women).....	1,760	1.83	365	1.92	122	1.98	1,273	1.79
Winders, yarn (9,652 women and 328 men).....	9,980	1.42	932	1.51	2,506	1.41	6,542	1.42

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>2</sup> The regions in this study include: *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; and *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

<sup>3</sup> Includes data for regions in addition to those shown separately. Alaska and Hawaii were not included in the study.

<sup>4</sup> Includes data for weaving and integrated mills only.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

\$1.53; slubber tenders, \$1.56; and slasher tenders, \$1.77. Averages for numerically important jobs usually staffed by women were: battery hands, \$1.36; twister tenders, \$1.39; yarn winders, \$1.42; cloth inspectors, \$1.44; and ring-frame spinners, \$1.45.

### Establishment Practices <sup>4</sup>

Work schedules of 40 hours a week were in effect in mills employing three-fourths of the workers and were predominant in each of the regions. Nearly a fourth of the southeastern workers were in mills with schedules of 48 hours a week.

Approximately three-tenths of the workers were employed on second-shift work at the time of the study and slightly more than a fifth on third or other late shifts. Only a few of the mills provided differential pay for second-shift work. Third-shift workers in the Southeast most commonly received 5 cents an hour above day (first) shift rates, compared with 7 cents in New England. Differential pay for third-shift work in the Middle Atlantic region was more varied but usually amounted to more than 7 cents an hour.

Paid holidays were provided by mills employing two-fifths of the production workers—virtually all in New England, more than nine-tenths in the Middle Atlantic region, and a fifth in the Southeast. Most commonly, workers in New

England received 6 paid holidays annually; 6 and 7 days were most common in the Middle Atlantic region. In the Southeast, provisions for 1 paid holiday applied to more than half of the workers granted any holiday pay.

Paid vacations to workers with 1 year or more of service were provided by mills employing nearly all of the production workers. The large majority of the workers in each region were in mills providing a week's vacation pay after 1 year of service and 2 weeks after 5 years or more. Provisions for vacations in excess of 2 weeks were not common in the industry.

Life, hospitalization, and surgical insurance, for which employers paid at least part of the cost, were provided by mills employing approximately nine-tenths of the workers. Sickness and accident insurance was available to three-fifths of the workers. Accidental death and dismemberment insurance was available to one-half, and medical insurance, to two-fifths.

Retirement pension benefits (other than those available under Federal old-age, survivors, and disability insurance) were reported by establishments employing slightly more than one-eighth of the workers. One-fifth of the workers were in mills providing lump-sum payments at retirement; such provisions were more prevalent in New England than in the other regions.

Nonproduction bonuses, usually paid at Christmas or yearend, were provided by mills employing one-fourth of the workers.

—JOSEPH C. BUSH

Division of Occupational Pay

<sup>4</sup>Established practices for production workers are briefly described in this article. Additional details for these workers and information on office workers are presented in the forthcoming bulletin.

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There was a wide range in the average full-time weekly earnings in the several occupations in each industry, the range in cotton goods manufacturing being from \$6.41 for trimmers or inspectors (female), to \$15.95 for mule spinners (male); in woolen and worsted goods the range was from \$6.53 for combers (female), to \$17.22 for loom fixers (male); and in silk goods manufacturing the range was from \$5.80 for doublers (female), to \$19.65 for warpers (male).

—From "Wages and Hours of Labor in the Cotton, Woolen, and Silk Industries,"  
*Monthly Labor Review*, July 1916, pp. 76-78.

## Wage Chronology: Lockheed Aircraft Corp. California Company<sup>1</sup>

### Supplement No. 6—1963-64

NEGOTIATIONS TO CONTINUE the 25-year long collective bargaining relationship between the Lockheed Aircraft Corp. and the International Association of Machinists (IAM) began on May 9, 1962. The general bargaining objectives presented by the union were those developed jointly with the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) earlier that year.<sup>2</sup> The company's initial proposals included offers to assume a major portion of the cost of retraining displaced workers and to provide an "appropriate" wage increase or an equivalent increase in other economic benefits. The company also proposed elimination of the cost-of-living escalator clause and changes in existing layoff procedures. Some days later, the union presented more specific demands generally similar to those presented to other West Coast aerospace companies.<sup>3</sup>

Exploratory meetings were held on May 22 and 23. Bargaining on the parties' proposals started on May 31 and continued without material progress into July. On July 1, the union set a strike date for July 23, 9 days after the contract then in effect was to terminate.

Terms of a 2-year contract, proposed by the company on July 10, would have provided wage increases and improvements in fringe benefits estimated to cost 7 to 8 cents an hour. There was no change in the company's earlier position on the cost-of-living escalator clause. The union rejected the offer, as well as a company proposal that the contract be extended for 30 days.

Nine days later, Lockheed stated its willingness to provide approximately the same economic package negotiated by Douglas Aircraft Co. with the IAM and UAW.<sup>4</sup> The offer, which did not provide for any change in union security provisions, was rejected by the union.

Two days before the strike scheduled for July 23, the President of the United States requested a

60-day extension of contracts involving a number of aerospace companies<sup>5</sup> and asked the parties to give their full cooperation to a three-member fact-finding board. Compliance by both parties averted a walkout.

Lockheed, like the other West Coast aerospace companies involved, was unable to reach agreement with the union during the contract extension period. On September 1, the board issued a report containing recommendations regarding the economic and noneconomic issues that remained in dispute.<sup>6</sup> The union agreed to accept the recommendations as a "total package," but the company refused to put the union security issue to a vote of its employees.

Negotiations continued until September 21, the day the no-strike pledge was to expire; the parties then agreed to an indefinite extension, subject to a 5-day notice of intention to terminate. By this time, the other southern California aerospace companies had reached, or were about to reach, agreements along the lines proposed by the Presidential board. At Lockheed, noneconomic issues were the major areas of disagreement in the negotiations, which continued into November.

On November 19, the union announced a new strike deadline for November 28. One day before the scheduled strike, Lockheed revised its last offer to provide three general wage increases (with the first retroactive to July 23), liberalized vacation and group insurance benefits, and higher surgical and layoff benefits. There was no change in the company's position on union security. The strike started on schedule.

The President, on November 28, invoked the emergency provisions of the Labor Management Relations Act and named a three-man board to

<sup>1</sup> See *Monthly Labor Review*, June 1952, pp. 677-687; October 1953, pp. 1089-1092; November 1954, pp. 1236-1238; November 1956, pp. 1310-1312; December 1959, pp. 1363-1366; April 1962, pp. 411-417; or BLS Report 231.

<sup>2</sup> For a discussion of the bargaining objectives, see "Wage Chronology: North American Aviation, Inc.," *Monthly Labor Review*, May 1964, pp. 556-560.

<sup>3</sup> *Ibid.*

<sup>4</sup> For details of the Douglas Aircraft Co.'s agreements, see *Monthly Labor Review*, September 1962, p. 1034.

<sup>5</sup> The aerospace companies were Lockheed, North American Aviation, Inc., Ryan Aeronautical Co., General Dynamics Corp., and Aerojet-General Corp.

<sup>6</sup> See *Monthly Labor Review*, November 1962, p. 1281.

study the issues in dispute and report its findings by December 3. The strikers resumed work the next day.

The board reported that the strike was a result of the continuing controversy on the union shop issue and that no significant progress had been made toward a solution. The board also concluded that the remaining economic issues could be settled without difficulty if the union security issue were resolved.

On December 3, a temporary injunction was issued, at the request of the Federal Government, by the U.S. District Court in Los Angeles. One week later the injunction was extended for the statutory 80 days.

A provisional 3-year agreement was reached by the negotiators on January 27 and ratified by the union membership the following day. The employees' economic gains under the agreement were valued by the parties at 28.3 cents an hour and included wage increases of 5 to 8 cents an hour retroactive to July 23, 1962, and 6 to 8 and 6 to 9 cents an hour in July of 1963 and 1964, respectively. In addition, almost 1,500 workers received retroactive inequity pay increases of 3 to 15 cents an hour, and the entire cost-of-living allowance accumulated under the previous contract was incorporated in basic rates of pay. A wide variety

of related working practices were improved. Longer vacations were provided workers with 10 years or more of service, 1 paid holiday was added, and medical insurance and extended layoff benefits were improved.

The maintenance-of-membership clause, which required workers to retain their union membership as a condition of employment, was continued. New employees were to be introduced to stewards who would be allowed to discuss, on company time, the advantages of joining the union. In addition, the company was to suggest to all new employees that they carefully consider joining the union. A training program for IAM stewards was established, with the company obligating itself to pay up to 75 percent of the tuition in company-approved schools. Finally, a committee was established to meet quarterly to discuss current problems outside the grievance area.

The current contract, which covers about 16,000 workers, is to remain in effect through July 23, 1965. The following tables bring general wage changes up to date through April 1964, and related wage practices up to the termination date of the current agreement. This supplement also summarizes the pension agreement negotiated, under the provisions of the previous agreement, in December 1961.

A—General Wage Changes

Effective date	Provision	Applications, exceptions, and other related matters
July 9, 1962 (agreement dated Aug. 8, 1960). July 23, 1962 (agreement dated Jan. 28, 1963).	1 cent an hour increase----- 5 to 8 cents an hour increase, averaging 6.3 cents. <sup>1</sup>	Quarterly adjustment of cost-of-living allowance. Deferred increases of 6 to 8 cents an hour effective July 22, 1963, and 6 to 9 cents effective July 20, 1964. In addition, existing 7-cent cost-of-living allowance (including 1-cent effective Oct. 8, 1962, and Jan. 7, 1963) incorporated into basic wage rates. Escalator provision continued, with quarterly adjustments in cost-of-living allowance of 1 cent for each 0.4-point change in the Bureau of Labor Statistics Consumer Price Index above 105.9 (1957-59=100). If the CPI fell below 106.3, the cost-of-living allowance would be zero. <sup>2</sup> In addition, inequity adjustments of 3 to 15 cents an hour for 1,450 employees in 43 occupations amounted to 0.6 cent when averaged over all employees in the bargaining unit.
Oct. 8, 1962-----	1 cent an hour increase-----	Quarterly adjustment of cost-of-living allowance. (Incorporated into base rates—see the preceding entry.)
Jan. 7, 1963-----	1 cent an hour increase-----	Do.

See footnotes at end of table.

## A—General Wage Changes—Continued

Effective date	Provision	Applications, exceptions, and other related matters
Apr. 8, 1963	No change	Quarterly review of cost-of-living allowance. Do.
July 8, 1963	No change	
July 22, 1963 (agreement dated Jan. 23, 1963).	6 to 8 cents an hour increase, averaging 6.6 cents. <sup>3</sup>	Deferred increase.
Oct. 14, 1963	3 cents an hour increase	Quarterly adjustment of cost-of-living allowance.
Jan. 13, 1964	No change	
Apr. 13, 1964	1 cent an hour increase	Quarterly review of cost-of-living allowance. Quarterly adjustment of cost-of-living allowance.

<sup>1</sup> Employees in office and technical labor grades 1-3 received 8 cents an hour; grades 4-6, 7 cents; grades 7-10, 6 cents; and grades 11-18, 5 cents. Employees in factory labor grade 1 received 8 cents an hour; grades 2-4, 7 cents; grades 5-8, 6 cents; and grades 9-16, 5 cents.

<sup>2</sup> The agreement provided that quarterly cost-of-living adjustments, effective in January, April, July, and October, be based on the BLS Consumer Price Index for the months of November, February, May, and August, respectively.

Consumer Price Index (1957-59=100)	Cost-of-living allowance
106.2 and below	None.
106.3 to 106.6	1 cent.
106.7 to 107.0	2 cents.
107.1 to 107.4	3 cents.
107.5 to 107.8	4 cents.
107.9 to 108.2	5 cents.
108.3 to 108.6	6 cents.

Consumer Price Index (1957-59=100)

Consumer Price Index (1957-59=100)	Cost-of-living allowance
108.7 to 109.0	7 cents.
109.1 to 109.4	8 cents.
109.5 to 109.8	9 cents.
109.9 to 110.2	10 cents.
and so forth, with 1-cent adjustment for each 0.4-point change in the index.	

The parties converted the index ranges to a 1957-59 base by use of the standard conversion factor (.8149959).

The cost-of-living allowance currently in effect continued to be included in computing overtime, vacation, and sick leave payments, and pay for unused sick and injury leave. The 1963 agreement provided for the cost-of-living allowance to be included in computing jury-duty pay.

<sup>3</sup> Employees in office and technical labor grades 1-3 received 8 cents an hour; grades 4-6, 7 cents; and grades 7-18, 6 cents. Employees in factory labor grade 1 received 8 cents an hour; grades 2-4, 7 cents; grades 5-16, 6 cents.

B—Hourly Rate Ranges, by Factory Labor Grade, 1961-64<sup>1</sup>

Labor grade	July 10, 1961		July 23, 1962 <sup>2</sup>		July 22, 1963		July 20, 1964	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
1	\$2.92	\$3.19	\$3.07	\$3.34	\$3.15	\$3.42	\$3.24	\$3.51
2	2.83	3.04	3.02	3.23	3.09	3.30	3.17	3.38
3	2.75	2.98	2.89	3.12	2.96	3.19	3.04	3.27
4	2.66	2.90	2.80	3.04	2.87	3.11	2.95	3.19
5	2.59	2.83	2.72	2.96	2.78	3.02	2.85	3.09
6	2.53	2.75	2.66	2.88	2.72	2.94	2.79	3.01
7	2.47	2.69	2.60	2.82	2.66	2.88	2.73	2.95
8	2.41	2.63	2.54	2.76	2.60	2.82	2.67	2.89
9	2.36	2.56	2.48	2.68	2.54	2.74	2.60	2.80
10	2.30	2.50	2.42	2.62	2.48	2.68	2.54	2.74
11	2.22	2.41	2.34	2.53	2.40	2.59	2.46	2.65
12	2.17	2.34	2.29	2.46	2.35	2.52	2.41	2.58
13	2.11	2.28	2.23	2.40	2.29	2.46	2.35	2.52
14	2.07	2.23	2.19	2.35	2.25	2.41	2.31	2.47
15	2.05	2.18	2.17	2.30	2.23	2.36	2.29	2.42
16	2.01	2.11	2.13	2.23	2.19	2.29	2.25	2.35

<sup>1</sup> In 1961 and 1962, employees received automatic increases of 5 cents an hour on the first Monday of November and March and a 6-cent increase on the first Monday of July, until the maximum rate was reached. The agreement dated Jan. 28, 1963, provided for a 5-cent-an-hour increase on the second Monday of the fourth month of employment and of each fourth month thereafter, except when the fourth month was May, June, July, or August, when the increase was to be 6 cents, until the maximum rate was reached. Where a scheduled increase would result in an amount above or no more than 2 cents below the maximum, increases were to be adjusted to provide the maximum rate. The rates shown include only that portion of the cost-of-

living allowance incorporated into basic rates by the stipulated dates; the specific amounts are given in footnote 2. Otherwise, cost-of-living allowances were added only to rates of workers on the payroll at their effective dates; they were not added to labor grade minimums and maximums and are not included in the rates shown on this table.

<sup>2</sup> Rates shown reflect incorporation of 7-cent cost-of-living allowances into basic rates as well as the general wage rate changes which varied from 5 to 8 cents, depending upon labor grade, and inequity adjustments. (See footnote 1, table A.)

C—Hourly Rate Ranges,<sup>1</sup> by Office and Technical Labor Grade, 1961–64 <sup>2</sup>

Labor grade	Effective date								Labor grade	Effective date							
	July 10, 1961		July 23, 1962		July 22, 1963		July 20, 1964			July 10, 1961		July 23, 1962 <sup>3</sup>		July 22, 1963		July 20, 1964	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
1	\$3.06	\$3.50	\$3.26	\$3.70	\$3.34	\$3.78	\$3.43	\$3.87	10	\$2.35	\$2.63	\$2.48	\$2.76	\$2.54	\$2.82	\$2.61	\$2.89
2	2.89	3.32	3.04	3.47	3.12	3.55	3.21	3.64	11	2.30	2.56	2.42	2.68	2.48	2.74	2.54	2.80
3	2.83	3.14	2.98	3.29	3.06	3.37	3.15	3.46	12	2.22	2.50	2.62	2.40	2.68	2.46	2.74	
4	2.76	3.04	2.90	3.18	2.97	3.25	3.05	3.33	13	2.15	2.41	2.27	2.53	2.33	2.59	2.39	2.65
5	2.69	2.98	2.83	3.12	2.90	3.19	2.98	3.27	14	2.06	2.34	2.18	2.46	2.24	2.52	2.30	2.58
6	2.60	2.90	2.74	3.04	2.81	3.11	2.89	3.19	15	2.01	2.28	2.13	2.40	2.19	2.46	2.25	2.52
7	2.54	2.83	2.67	2.96	2.73	3.02	2.80	3.09	16	1.96	2.23	2.08	2.35	2.14	2.41	2.20	2.47
8	2.47	2.75	2.60	2.88	2.66	2.94	2.73	3.01	17	1.93	2.18	2.05	2.30	2.11	2.36	2.17	2.42
9	2.41	2.69	2.54	2.82	2.60	2.88	2.67	2.95	18	1.91	2.11	2.03	2.23	2.09	2.29	-----	2.35

<sup>1</sup> Excludes cost-of-living allowance. For cost-of-living allowance, see table A.

<sup>2</sup> Progress from the minimum to the maximum rate in a grade was the same as that for factory labor grades. (See footnote 1, table B.)

<sup>3</sup> See footnote 2, table B.

D—Related Wage Practices

Effective date	Provision	Applications, exceptions, and other related matters
<i>Holidays</i>		
Nov. 29, 1962 (agreement dated Jan. 28, 1963).	Added: One paid holiday (total 8). Changed: Double time, plus holiday pay, for work on holidays.	Holiday was day after Thanksgiving. Changed: Holiday pay to include cost-of-living allowance, and shift and odd work-week bonuses for holidays occurring during employee's vacation.
<i>Paid Vacations</i>		
Feb. 1, 1963 (agreement dated Jan. 28, 1963).	Changed: 3 weeks' paid vacation for 10 years or more (was 12) of service.  Added: 4 weeks' paid vacation for 25 years or more of service.	In effect and continued: Vacation pay continued to include cost-of-living allowance.  Vacation pay to equal 160 hours' pay at straight-time rates plus the cost-of-living allowance in effect.
<i>Sick and Injury Leave</i>		
Jan. 28, 1963 (agreement of same date).	-----	In effect and continued: Pay for unused sick and injury leave continued to include cost-of-living allowance and shift and odd workweek bonuses. Changed: Employee disabled up to 12 months (was 6) must be reinstated.
<i>Reporting Time Pay</i>		
May 12, 1958 (agreement of same date).	-----	In effect and continued: Reporting time guarantee continued to include odd work-week premium, assigned shift bonus, and appropriate premium pay for 6th and 7th day.
Jan. 28, 1963 (agreement of same date.)	-----	Added: Holiday premium to be included in minimum guarantee for employee called to work on holidays.

See footnotes at end of table.

## D—Related Wage Practices—Continued

Effective date	Provision	Applications, exceptions, and other related matters
<i>Educational Pay</i>		
Jan. 28, 1963 (agreement of same date).	Established: 75 percent of tuition paid employee satisfactorily completing training in company-approved school.	
<i>Jury-Duty Pay</i>		
Jan. 28, 1963 (agreement of same date).	-----	Added: Jury-duty pay to include cost-of-living allowance.
<i>Insurance Benefits</i>		
<p>Jan. 28, 1963 (agreement of same date).</p> <p>Feb. 1, 1963 (agreement dated Jan. 28, 1963).</p>	<p><i>Life insurance:</i> Added: Employee could elect, not later than 31 days after attaining age 65, to continue additional life insurance in force immediately prior to reaching age 65, up to age 68, at employee's expense.</p> <p>Increased: For employee and dependents:</p> <p><i>Hospital benefits:</i> <i>Room and board</i>—Up to \$30 (was \$23) a day, reduced by hospital benefits paid (\$20 a day for 10 days) under California Unemployment Compensation Disability Benefits Act.</p> <p><i>Surgical benefits:</i> <i>Surgical schedule</i>—Up to \$825 (was \$500 during one period of disability).</p> <p>Added: For dependents—Hospital and surgical coverage identical with that provided employee, maternity benefits excluded.</p>	<p>Added: Company to contribute first \$2 of weekly premium for dependent.</p> <p>Changed: Dependent coverage to children 19 through 23 years of age living with employee.</p>
<i>Retirement Benefits</i>		
<p>Jan. 2, 1962 (agreement dated Dec. 6, 1961).</p> <p>Feb. 19, 1962 (agreement of Feb. 6, 1962).</p>	<p>Added: <i>Death benefits</i>—\$1,000 to designated beneficiary on death of retiree.</p> <p>Changed:</p> <p><i>Normal retirement benefits</i>—To a minimum of \$2.25 a month for each year of service beginning on or after Dec. 25, 1961, with benefits varying according to earnings.<sup>1</sup> Years of credited service limited to 35.</p> <p><i>Early retirement:</i> Monthly benefit to be actuarially equivalent to normal retirement amount to which employee would be entitled with years of credited service he had at time of early retirement.</p> <p><i>Eliminated: Vesting rights</i>—40-year age requirement for full vesting after 15 years' service and for partial vesting for laid off employee with 10 but less than 15 years' service.</p> <p>Added: <i>Disability benefits</i>—Employee totally and permanently disabled for 6 consecutive months or more between ages 45 and 65 with credited service of 10 years or more to receive; if eligible for social security, normal benefits based on length of credited service; if ineligible for social security benefits, greater of \$70 a month or \$5 times years of continuous service.</p>	<p>Employee to receive service credit for up to 2 years while on layoff.</p> <p>Benefits reduced by amount of workmen's compensation or other disability benefits (except those provided by the Federal Social Security Act) received if company contributed to the cost of such benefits.</p> <p>Normal benefits payable at age 65.</p>

See footnotes at end of table.

D—Related Wage Practices—Continued

Effective date	Provision	Applications, exceptions, and other related matters
Feb. 19, 1962 (agreement of Feb. 6, 1962)—Continued.	<p><i>Deferred disability benefits</i>—Employee disabled prior to age 45 and meeting all qualifications for disability benefits except age to receive deferred benefits at age 45, providing he had been totally and permanently disabled for 6 consecutive months or more at that time.</p> <p><i>Social security adjustment option</i>—Employee retiring under early retirement provision could elect to receive actuarially adjusted payments providing larger benefits before age 62 and reduced benefits on receipt of social security allowance.</p>	<p>Employee required to make election before retirement.</p> <p>Option not applicable if it reduced monthly benefit below \$15.</p> <p>Larger monthly benefits not to exceed the reduced benefits by more than employee's estimated social security payments.</p>

*Extended Layoff Benefits*

Jan. 28, 1963 (amendment dated Mar. 14, 1963).	<p>Increased:</p> <p><i>Company liability</i>—By 50 percent to \$150 (was \$100) per employee on payroll.</p> <p><i>Size of benefits</i>—To \$75 for each full year of qualifying service up to 15 years (was \$50 a year for 10 years), maximum benefit \$1,125. Benefits reduced when accrued liability was less than \$75 for each active employee.<sup>2</sup></p>	
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<sup>1</sup> Benefits for years beginning on or after Dec. 25, 1961, to be computed according to the following formula:

a. \$2 plus.  
 b.  $1\frac{1}{2}$  percent of  $\frac{1}{2}$  of the amount determined by computing for each such plan year the product of—  
 1. the excess, if any, of the member's base wage rate for the plan year over a rate determined by dividing 2,080 into the maximum amount of wages subject to tax under the Federal Insurance Contributions Act for the calendar year beginning during such plan year, and  
 2. the number of hours worked in such plan year not to exceed 2,080 except that the amount under this subsection (b) shall not be less than 25 cents for such plan year.

In any year in which member had less than a full year of credited service, benefits to be computed in same manner using 1,800 as the number of hours worked, reduced by  $\frac{1}{2}$  for each 150 hours (or  $\frac{1}{2}$  or greater fraction of 150 hours) less than 1,800 hours worked in year.

<sup>2</sup> When fund was insufficient to pay full benefits, individual payments were reduced as follows:

Company's maximum liability per employee	Employee's seniority	Percent by which benefits were reduced
\$50 but less than \$75.....	Less than 5 years.....	25
\$25 but less than \$50.....	Less than 5 years.....	50
	5 but less than 10 years.....	25
Less than \$25.....	Less than 5 years.....	75
	5 but less than 10 years.....	50
	10 but less than 15 years.....	25

Company's maximum liability accrued at rate of \$5.20 a month times the number of employees (excluding those on layoff or leave of absence) on the first Monday in each month, up to a maximum of \$150. Employees receiving reduced benefits because of lack of funds were eligible for benefits equal to the difference between the reduced benefit received and their full benefit in the event of subsequent layoff.

Prepared in the Division of Wage Economics

# Significant Decisions in Labor Cases\*

## Labor Relations

*Secondary Boycotts.* In one of the two decisions rendered on April 20 dealing with the secondary boycott provision of the Labor Management Relations Act, the U.S. Supreme Court ruled<sup>1</sup> that a union did not violate the ban by appealing to supermarket managers to exercise their discretion to stop doing business with a struck wholesale distributor, even though the appeal included a threat to handbill. The Court further held that the warning on handbilling was not a "threat" within the meaning of the ban; and that the reference in the applicable publicity proviso to goods "produced" should be construed so as to include products "distributed" by the struck employer.<sup>2</sup>

The union sought to support its strike against Servette, a wholesale distributor, by asking managers of supermarkets to stop stocking merchandise supplied by Servette. The union warned that failure to comply would lead to distribution of handbills in front of the stores asking the public not to buy certain items furnished by the wholesaler. Such handbills were distributed in a few instances.

The National Labor Relations Board dismissed Servette's charges that the union's conduct violated section 8(b)(4)(i) and (ii)(B), primarily on the ground that the managers were authorized to make a policy decision and were, therefore, not induced as "individuals" within the meaning of subsection (i). The Board based this distinction on its decision in *Carolina Lumber Co.*,<sup>3</sup> where it interpreted the statute as permitting inducement of "high level" supervisors but not "low level" supervisors. The court of appeals set aside the Board's order on the grounds that the term "individual" in subsection (i) was applicable to the managers, and that the publicity proviso did not protect the handbilling because Servette did not,

within the meaning of the proviso, "produce" the goods involved.

The Supreme Court, in a unanimous opinion, reversed the court of appeals and issued an interpretation differing from that of the Board and of the lower court. It held that while the term "individual" in subsection (i) is to be read literally as including the supermarket managers, the aid solicited from the managers in this case did not violate the subsection. Determining that the appeal here was to exercise managerial discretion—as opposed to an appeal to withdraw their employment services—the Court held that such an appeal is not within the conduct proscribed under subsection (i). Thus the question turned on the nature of the appeal rather than the level of the manager to whom it was made.

Turning to the question of whether the publicity proviso of section 8(b)(4) protected the union's handbilling, the Court, agreeing with the Board's interpretation in *Lohman Sales Co.*,<sup>4</sup> held that it did. Regarding the proviso's language, which appears to limit its applicability to situations involving products "produced by [a primary] employer," the Court ruled that even though Servette was not a manufacturer, it was an employer producing products within the meaning of the proviso. The Court said that to limit the protection of the proviso to those in a primary dispute with an employer who physically creates

\*Prepared in the U.S. Department of Labor, Office of the Solicitor. The cases covered in this article represent a selection of the significant decisions believed to be of special interest. No attempt has been made to reflect all recent judicial and administrative developments in the field of labor law or to indicate the effect of particular decisions in jurisdictions in which contrary results may be reached based upon local statutory provisions, the existence of local precedents, or a different approach by the courts to the issue presented.

<sup>1</sup> *NLRB v. Servette, Inc.* (U.S. Sup. Ct., Apr. 20, 1964).

<sup>2</sup> Subsections (i) and (ii) of section 8(b)(4) of the LMRA state that it is an unfair labor practice for a union "(1) . . . to induce or encourage any individual employed by any person . . . to engage in . . . a refusal in the course of his employment to . . . handle . . . commodities or to perform any services"; or "(ii) to threaten, coerce, or restrain any person . . . where in either case an object thereof is . . . (B) forcing or requiring any person to cease . . . dealing in the products of any other producer, processor, or manufacturer, or to cease doing business with any other person . . . Provided, further, that for the purposes of this paragraph (4) only, nothing contained in such paragraph shall be construed to prohibit publicity, other than picketing, for the purpose of truthfully advising the public . . . that a product or products are produced by an employer with whom the labor organization has a primary dispute and are distributed by another employer . . ."

<sup>3</sup> 130 NLRB 1438, 1443 (Mar. 17, 1961).

<sup>4</sup> 132 NLRB 901 (Aug. 10, 1961).

products would frustrate the broader freedom Congress wanted to provide unions "to appeal to the public for support."

As for the union's warnings that uncooperative stores would be handbilled, the Court held that these were not prohibited as threats within subsection (ii) because "statutory protection for the distribution of handbills would be undermined if the threat to engage in protected conduct were not itself protected."

In the other case<sup>5</sup> involving consumer boycotts, the Supreme Court, in a five-member opinion, ruled that the 1959 amendments to the LMRA do not prohibit secondary consumer picketing of retail stores when the appeal is limited to asking customers not to buy specific products furnished by struck primary employers.

Struck fruit packers sold apples to the Safeway retail chain in Seattle, Wash. In support of the strike, the union peacefully picketed and handbilled the entrances of the stores, appealing to customers not to buy apples furnished by the struck employers. In ruling on the issue involved—whether the picketing was prohibited under section 8(b)(4)(ii)(B) of the act, which makes it an unfair labor practice to threaten, coerce, or restrain any person with an object to force him to cease doing business with another—the NLRB held that all secondary consumer picketing is prohibited. The court of appeals set aside the Board's order and remanded the case, taking the position that the statute bars secondary consumer picketing only where it inflicts substantial economic injury upon the neutral stores, thus rendering the union's conduct threatening, coercive, or restraining.

The majority of the Supreme Court agreed with neither of these opinions. It held that while section 8(b)(4)(ii)(B) automatically outlaws peaceful secondary consumer picketing aimed at *all* products handled by a secondary employer, examination of the statute and its legislative history indicates Congress has not evinced with "the requisite clarity" a purpose of prohibiting such picketing when directed only at specific struck products. The Board's position, the Court said, rested on finding that Congress had determined that secondary consumer picketing always threat-

ens, coerces, or restrains the secondary employer, but added that the legislative history does not support this conclusion.

In holding that the picketing in this case did not "threaten, coerce, or restrain" Safeway, the Court rejected the test applied by the court of appeals—whether Safeway suffered or was likely to suffer economic loss—as determinative of whether a violation of section 8(b)(4)(ii)(B) was committed. "When consumer picketing is employed only to persuade customers not to buy the struck product, the union's appeal is closely confined to the primary dispute," the Court said. Even though such picketing may be effective to reduce the sales of the struck product, or even cause the neutral employer to drop the item as a poor seller, a violation of the act is not established.

Justice Harlan, joined in dissent by Justice Stewart, agreed with the Board that Congress had intended to outlaw all secondary picketing, and that the majority's distinction between general and limited product picketing was not supported by a reading of the statute or by the legislative history. Justice Harlan said the statute broadly proscribes "threatening, coercing, or restraining" any person; and the publicity proviso differentiates only between modes of expression, not between types of secondary consumer picketing. His conclusion that the Conference Committee meant to prohibit all secondary consumer picketing was supported by a statement by the then Senator Kennedy, who was chairman of the Committee, when he stated: "We were not able to persuade the House conferees to permit secondary picketing in front of that shop, but we were able to persuade them to agree that the union shall be free to conduct informational activity short of picketing. In other words, the union can hand out handbills at the shop, can place advertisements in newspapers, can make announcements over the radio, and carry on all publicity short of having ambulatory picketing in front of a secondary site."

Justice Black agreed with the dissenting opinion that all secondary consumer picketing was proscribed, but he took the position that such prohibition violated the constitutional guarantee of free speech and he, therefore, concurred in the result reached by the majority. He said, "It is difficult to see that the section in question intends

<sup>5</sup> *NLRB v. Fruit and Vegetable Packers and Warehousemen, Local 760* (U.S. Sup. Ct., Apr. 20, 1964).

to do anything but prohibit dissemination of facts about the labor dispute, a right protected by the First Amendment." Noting that the publicity proviso does permit some picketing, the Justice concluded that this was neither a "case in which picketing was barred because the picketers are asking others to do something unlawful nor a case in which all picketing is, for reasons of public order, banned."

*Hot-Cargo Contracts.* Reversing an NLRB decision in part, a Federal circuit court ruled<sup>6</sup> on the validity of a Teamsters' agreement containing "protection of rights" clauses relative to picket lines, struck goods, subcontractors, and hazardous work.<sup>7</sup> The court indicated that, generally, the clauses were lawful only when applied to situations involving employee or union activities which themselves are protected by the act.

One of the clauses scrutinized by the court protected individual employees against discipline for refusing to cross or work behind a picket line. The court ruled that the clause was valid as applied to primary disputes at the contracting employer's own premises because the refusal to cross such picket lines is protected activity under the LMRA and "the union and employer may provide by contract such refusal shall not be grounds for discharge." It was valid, the court said, when applied to refusals to cross lawful primary picket lines at another employer's premises even if the conditions outlined in the proviso to section 8(b)(4) are not met—that is, if the picket line is not in support of a strike approved by a union the struck employer is required to recognize under the act. The NLRB had held in this case that refusal to cross a non-proviso picket line is secondary activity and contractual protection of such activity violated section 8(e). The court determined, on the basis of court cases and legislative history, that protection of refusal to cross a primary picket line is not limited to picketing satisfying the 8(b)(4) proviso. On the other hand, the court ruled that the picket line clause was unlawful under section 8(e) insofar as it immunized employees from discipline for crossing picket lines at the contracting employer's own plant or at the plant of another employer if the picketing is in support of a secondary strike or boycott.

A struck goods clause gave employees immunity from discipline for refusal to perform work which, but for the existence of a labor dispute, would have been performed by others. The court ruled that the clause was lawful with regard to work done when the contracting employer was a struck employer's "ally"—an employer who, by arrangement, does work which would otherwise have been done by striking employees—but was unlawful beyond that scope.

Another clause which protected employees from discipline for refusing to handle struck goods was labeled by the court "a typical hot-cargo clause" and, therefore, unlawful; the fact that it was an "employee-rights" rather than a "union-rights" clause, that is, one limited to protecting an individual's refusal to handle goods, did not change its illegality. Nor was the clause saved by an additional provision giving the employer the right to continue handling goods which individual employees refused to handle.

A subcontracting clause whereby the contracting employer agreed not to use the services of an employer who did not adhere to union standards of wages, hours, and working conditions was declared legal because it was a union-standards not a union-signatory subcontracting clause. The latter type provision would be secondary and violative of section 8(e) because it would require a subcontractor to have a collective bargaining agreement with a union; and an immunity agreement under it would violate section 8(e). The clause here only required that union standards be observed and was, therefore, primary.

The parties had also negotiated regarding a hazardous work clause providing that invalidation of the picket line or struck goods sections by court decision would result in additional "penalty" benefits and protection for employees. For example, higher wages would have been paid to employees required to cross or work behind a picket line. The court declined to rule on the

<sup>6</sup> *Truck Drivers Local 413 v. NLRB* (Brown Transport Corp. and Patton Warehouse, Inc.) (C.A., D.C., Apr. 9, 1964); see also *Monthly Labor Review*, May 1962, p. 548.

<sup>7</sup> Section 8(e) of the LMRA makes it an unfair labor practice for a union or an employer to enter into an agreement, expressed or implied, whereby the employer agrees to "cease or refrain" from dealing in the products of any other employer or to "cease doing business with any other person."

validity of this clause because it had not been adopted by the parties as part of their permanent contract.

As for a remedy, the court refrained from totally invalidating the clauses which were in part unlawful, on the assumption that the parties to the contract had anticipated eventual elimination of the illegal aspects of the clauses by court decisions.

### Union Affairs

*Union Referral of Attorneys.* The U.S. Supreme Court ruled<sup>8</sup> that the First and Fourteenth Amendments to the Constitution protect the right of union members, through their brotherhood organization, to maintain and carry out a plan for advising workers who are injured to obtain legal advice and for recommending specific lawyers.

The Virginia State Bar Association brought suit against the Brotherhood of Railway Trainmen to enjoin it and officials of its Department of Legal Counsel from recommending to its members certain union-approved attorneys for the prosecution of claims arising out of employment injuries. The association charged this activity constituted the solicitation of legal business and the unauthorized practice of law in Virginia. A lower State court issued an injunction against the practice, which order was affirmed by the State's highest court.

The U.S. Supreme Court reversed, holding that the First Amendment's guarantees of free speech, petition, and assembly gives the railroad workers the right to assemble for the lawful purpose of assisting and advising one another of Federal rights granted them under Federal statute. The Court noted that the railway brotherhoods played a major role in fostering legislation giving rail-

road workers rights to compensatory damages for employment injuries. The Brotherhood's plan of advising injured workers to obtain legal advice before settling their claims and of recommending certain approved attorneys was designed, the Court said, to insure that the workers realized and protected those statutory rights. Such activity was not practicing law or soliciting legal business by the Brotherhood members contacting the injured employees, nor was it soliciting business on the part of the lawyers, the Court went on to say. In the Court's opinion, the State failed to show any appreciable public interest in preventing or regulating the Brotherhood in carrying out its plan.

Justices Clark and Harlan dissented, stating that the activities complained of "degrades the profession, proselytes the approved attorneys to certain required attitudes, and contravenes both the accepted ethics of the profession and the statutory and judicial rules of acceptable conduct." Both Justices found evidence that the Brotherhood's president had considerable influence over both fees and disposition of cases. Moreover, there was evidence that at least in former times the attorneys were required to pay a percentage of their fees back to the Brotherhood. Regulation of the legal profession, the dissent continued, has been recognized as belonging peculiarly to the State and here Virginia sought only to halt the substantive evil of channelling and soliciting litigation. Justice Clark said: "The potential for evil in the union system is enormous, and . . . will bring disrepute to the legal profession." He distinguished this case from one<sup>9</sup> in which the National Association for the Advancement of Colored People recommended its attorneys to individuals. The privilege there "was a 'form of political' expression to secure Constitutionally protected rights"; while in this case, "personal injury litigation is not a form of political expression, but rather a procedure for the settlement of damage claims."

<sup>8</sup> *Brotherhood of Railway Trainmen v. Virginia ex. rel. Virginia State Bar* (U.S. Sup. Ct., Apr. 20, 1964).

<sup>9</sup> *N.A.A.C.P. v. Button*, 371 U.S. 415 (1963).

# Chronology of Recent Labor Events

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## April 3, 1964

PAUL HALL, president of the Seafarers' Union of North America, and Charles Millard, acting for trustees of the Canadian maritime unions (see Chron. item for Oct. 17, MLR, Dec. 1963, p. 1447), announced agreement on a plan to restore limited control of the Canadian Seafarers' Union to the membership, permit elections next fall, and work toward achieving integration of all maritime unions in Canada. Hall said he would seek the cooperation of other maritime unions to assure uninterrupted service on the Great Lakes.

## April 7

A Federal Court of Appeals upheld a National Labor Relations Board ruling that in a dispute with 88 workers over the safety of unloading procedures, employers illegally closed the port of Philadelphia and thus were liable for back wages totaling some \$1 million to 3,000 longshoremen of ILA Local 1291 who were locked out for 16 days. (See Chron. item for July 22, MLR, Sept. 1959.) The case was *Philadelphia Marine Trade Association v. NLRB*.

A THREATENED STRIKE by 650 Marine Engineers against Great Lakes ships operated by major steel companies was averted when the firms signed a pension agreement similar to that agreed to earlier by deep sea ship operators and which provided a \$300-a-month pension after 20 years' service regardless of age. (See MLR, Oct. 1963, pp. 1201-1202.) On April 14, the same agreement was announced with nine major independent Great Lakes shipping lines.

## April 15

THE SECRETARY OF LABOR reimposed the 95-cent non-adverse wage for foreign agricultural workers in Florida under Public Law 78, which requires that these wages first be offered to domestic workers. The order, which had been issued in July 1963 (see MLR, Sept. 1963, p. 1083) but suspended in October pending further hearings, affects an estimated 33,000 domestic and 2,000 foreign workers previously employed at rates as low as 60 cents an hour.

THE PRESIDENT signed Executive Order 11152 establishing a Committee on Manpower to develop improved methods and programs. Composed of heads of 11 Federal agencies, the committee will assist the Secretary of Labor in carrying out requirements under the Manpower Development and Training Act of 1962. (See MLR, May 1962, pp. 532-534 for text of the major provisions of this act.)

EMPLOYERS importing foreign performers having "no unique talents" became subject to new Labor Department regulations requiring certification that no qualified and jobless Americans are available capable of performing in the same capacity. Foreign entertainers had previously been exempt from Immigration Act provisions requiring temporary visas.

THE TEXTILE WORKERS and four of the largest cotton and synthetic textile manufacturers in New England reached agreement on a 2-year contract providing an immediate 5-percent wage increase and a wage reopener on April 15, 1965. Averaging 8½ cents an hour, the increase brought plant minimums to \$1.43 an hour. (See also p. 695 of this issue.)

## April 16

THE New York Telephone Co. and the Communications Workers agreed to a 3-year contract providing 24,000 workers wage increases ranging from \$2 to \$6 a week and fringe benefits totaling 12 cents an hour. Wage reopeners were provided during the second and third years. (See also p. 694 of this issue.)

## April 20

IN THE FIRST OF THREE CASES decided on the same day, the U.S. Supreme Court held that a Teamster local did not violate Taft-Hartley restrictions on secondary boycotts when it peacefully picketed Safeway Stores to urge customers not to buy apples handled by Tree Fruits, Inc., a packer struck by the union. (See Chron. item for June 7, MLR, Aug. 1962, p. 907.) The case was *NLRB v. Fruit and Vegetable Packers and Warehousemen, Local 760*, (See also pp. 687-688 of this issue.)

IN A SECOND CASE involving a consumer boycott, the Court ruled that a Teamster local was not prohibited from making a noncoercive appeal to supermarket managers to stop doing business with Servette, Inc., a struck wholesale distributor. The case was *NLRB v. Servette, Inc.* (See also p. 686 of this issue.)

In *Brotherhood of Railway Trainmen v. Virginia ex rel. Virginia State Bar* the Court ruled that the First and Fourteenth Amendments to the Constitution permit the Railway Trainmen and members of its Legal Aid Department to advise injured workers to obtain legal advice before settling their claims and to recommend the use of union-approved attorneys. The Virginia State Bar had claimed this activity constituted the solicitation of legal business and the unauthorized practice of law in Virginia. (See also p. 689 of this issue.)

## April 22

On the 13th day of a 15-day strike postponement arranged by the President, the National Railway Labor Conference and five operating brotherhoods representing 200,000 workers agreed in principle to terms ending a 4½-year dispute over work rules and other collective bargaining issues. In addition to provisions for paid holidays, and expenses for layovers, wage rates for yard conductors, switchmen,

engineers, and helpers will be increased. The basic 100-mile unit of pay in road service was retained; a joint union-management committee will study an unresolved question involving interdivisional runs. (See also p. 692 of this issue.)

#### April 24

THE FIFTH CONVENTION of the Canadian Labor Congress in Montreal was adjourned after making constitutional changes to permit arbitration of jurisdictional disputes and penalties for raiding. The 1,600 delegates also voted to raise the per capita fee of directly chartered locals from \$1.05 to \$1.50 and directed officers to bring all acceptable unions in Canada into the CLC.

#### April 25

THE U.S. Department of Labor published interpretative statements of general policy (29 CFR, Part 800) for administering the Equal Pay Act of 1963 which took effect on June 11, 1964. The act prohibits wage differentials

based on sex and applies to employers subject to the Fair Labor Standards Act's minimum wage regulations. (See Chron. item for June 10, MLR, Aug. 1963.)

#### April 26

The 11,000-member Masters, Mates and Pilots Union ended its 56th biennial convention in Miami, Fla. after nominating 11 members for international president. Delegates were also informed of plans for an upgrading and retraining program for licensed deck officers and a study of shipboard manpower mechanization systems. (See also p. 696 of this issue.)

#### April 27

In appeals brought by four railroad operating brotherhoods, the U.S. Supreme Court declined to review the constitutionality of the award and the law passed by Congress in 1963 requiring arbitration in the dispute over crew sizes and the elimination of firemen's jobs. (See Chron. item for Aug. 28, MLR, Oct. 1963.) (See also pp. 692-693 of this issue.)

# Developments in Industrial Relations\*

## Wages and Collective Bargaining

*Railroads.* The President announced on April 22 that agreement "in principle" had been reached in the 4½-year-long work rules dispute between the operating brotherhoods<sup>1</sup> and the Nation's railroads. Intensive negotiations under the President's personal auspices, with the assistance of five mediators,<sup>2</sup> brought the settlement on the 13th day of the 15-day truce he had persuaded the parties to accept on April 9.<sup>3</sup> The agreement is to be effective when ratified by the five unions but with retroactive pay to May 7, according to a decision by the two special mediators. A few days after the agreement was reached on the work rules dispute, the Supreme Court's decision cleared the way for putting into effect the arbitration award affecting firemen and train crewmen.<sup>4</sup>

The settlement, subject to agreement on language and ratification by the unions, maintained the basic unit of road service pay at 100 miles (150 miles for passenger train service employees) but provided that until January 1, 1968, any wage increases for employees paid on this basis would be added to the daily rate and would not increase mileage rates in excess of the basic unit. Yard service employees—slightly more than half of those affected by the settlement—were to receive inequity wage increases. Engineers and firemen in 5-day-week yard service were to get 4.11-percent and 3.11-percent increases, respectively; yard helpers were to receive an 8¾-cent increase, bringing their hourly rate to \$2.90. The rate for yard conductors (yard foremen) was to become a flat \$3.10 an hour—an average increase of about 12.9 cents. Increases for yard conductors were to vary from 12¼ to 16¼ cents an hour because the rates for workers represented by different unions were to be equalized and because employees represented by the Brotherhood of Railroad Trainmen formerly had the option of 7 paid holidays or

a 4-cent hourly wage increase. The new agreement provided that all daily rated employees (about 65 percent of all operating workers) were to receive 7 paid holidays. Those already receiving these holidays were given the 4-cent wage increase that they had given up for the holidays. Time worked on holidays was to be paid at time and a half plus regular pay.

Other settlement terms included payment of expenses for layovers of 4 hours or more (suitable lodging or an allowance in lieu of it plus a \$1.50 meal allowance) for road employees, except those in turnaround passenger service; a provision that road crews could perform yard work provided there was less than 4 hours' work in a 10-hour period for 10 consecutive working days; a limited right to eliminate operating employees on self-propelled equipment; and referral of the problem of interdivisional runs (trips made by crews outside of their normal seniority district) to a joint union-management committee for further study and recommendation.

On April 27, the U.S. Supreme Court declined to review the constitutionality of the arbitration law passed by Congress in August 1963,<sup>5</sup> and the award on the issue of firemen and train crew size, thus disposing of a suit brought by four of the operating brotherhoods seeking to prevent the elimination of up to 90 percent of the firemen's jobs and the remanding of the train crew size issue to local negotiations as provided under the arbitration award.<sup>6</sup> However, the award bars a strike or lockout on this issue for 2 years only.

In accordance with an agreement to postpone the effective date of the arbitration award until 10 days after the Supreme Court's decision, the carriers began exercising their rights on May 7. On this same date, the original arbitration panel

\*Prepared in the Division of Wage Economics, Bureau of Labor Statistics, on the basis of published material available in early May.

<sup>1</sup> Unions involved in the settlement were the Brotherhood of Locomotive Engineers (Ind.), the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Railroad Trainmen, the Order of Railway Conductors and Brakemen (Ind.), and the Switchmen's Union.

<sup>2</sup> Government mediators were Secretary of Labor W. Willard Wirtz, Assistant Secretary of Labor James J. Reynolds, and Francis A. O'Neill, Chairman of the National Mediation Board. Veteran mediators George W. Taylor of the University of Pennsylvania and Theodore W. Kheel entered the negotiations during the 15-day truce period.

<sup>3</sup> See *Monthly Labor Review*, May 1964, p. 572, for a discussion of events leading to the threatened strike.

<sup>4</sup> See *Monthly Labor Review*, January 1964, pp. 70-71.

<sup>5</sup> See *Monthly Labor Review*, October 1963, pp. 1187 and 1201.

<sup>6</sup> See *Monthly Labor Review*, January 1964, pp. 70-71.

reconvened to rule on differences in interpretation of the award which had arisen.

In Washington, D.C., on May 11, U.S. District Court Judge Alexander Holtzoff issued a permanent restraining order to prevent the Brotherhood of Locomotive Firemen and Enginemen from striking against the railroads over implementation of the award. He ruled the union must abide by the carrier's interpretation of the award pending a decision by the arbitration board on the meaning of any disputed provision.

A growing realization that some 50,000 railroad jobs might in fact eventually be eliminated had led other unions not directly involved in the dispute to press for greater security provisions in their contracts. Thus, the Railway Clerks negotiated job and income stabilization agreements with the St. Louis-San Francisco Railway on January 31, 1964, and with the Long Island Railroad Co. on March 23, 1964; and on March 6, 1964, they amended their agreement with the Southern Pacific Co.

The St. Louis-San Francisco and Long Island agreements were patterned after the Southern Pacific contracts negotiated in March 1963 to the extent that they provided displacement and furlough allowances and separation pay.<sup>7</sup> In addition, the St. Louis-San Francisco agreement increased the guaranteed call-in pay provision to 4 hours at time and one-half (instead of 2 hours) on days of rest. The Long Island pact also provided a fund of about \$20,000 annually for inequity wage increases.

In the Southern Pacific agreement, the number of positions on the extra list guaranteed full pay was increased. The 5-day work guarantee was also extended to cover all groups and classes. The sick leave provision was improved to provide that sick leave pay, formerly paid only when it would not increase costs, would be paid even if the company must hire replacements.

*Trade.* The Food Employers Council, Inc., and nine locals of the Retail Clerks ratified in late March and early April 5-year contracts covering some 45,000 employees in southern California. Wages were increased in amounts ranging from 2 to 6 cents an hour, bringing the journeyman clerk's hourly rate to \$3; additional 7½-cent increases

will become effective in each of the remaining 4 years. Hourly contributions for pensions were increased from 8 to 12 cents and health and welfare contributions were increased from 16½ to 22¾ cents an hour. Early retirement was liberalized to provide full benefits of \$107.75 a month at age 60 with 20 years of service instead of after 30 years at age 65; in addition, workers can retire at age 50 rather than at 55 with reduced benefits. Unused sick leave will be paid for in a cash bonus to an employee at the end of his anniversary year.

A preventive medicine program was established providing for regular physical and mental examinations, "like those now being urged for high priced executives, but more so," according to Joseph De Silva, executive secretary of Local 770 in Los Angeles. "This will be done by medical and research staffs chosen from the finest physiologists, chemists, computer analysts and clinicians in the country so we can, if we want to, live scientifically," he said. A new life insurance policy provides death benefits of up to \$5,000 for an employee certified by a doctor to be fatally ill. Prescription drugs for union members and their families and retirees will be paid for up to 75 percent of the cost the first year, 80 percent the second, and 90 percent in the third year.

Vacations were put on an industrywide basis, whereby an employee changing jobs within the industry will not lose credit for previous service. Employers agreed to maintain all benefits regardless of rising costs, but the first 3½-cent-an-hour increase in the cost-of-living allowance each year will be waived.

There were some changes designed to curtail costs, including lower apprentice rates and merged medical-dental programs for outlying locals. The contract extends to clerks jurisdiction over the stocking of shelves and the serving of food in market snackbars, work involving about 1,500 jobs and formerly performed by sales drivers, cooks, and waitresses. The present "intermediate scale" or "general merchandise scale," lower than the journeyman's scale with rates from \$2.51½ to \$2.57½ an hour, was continued, but new employees entering these classifications will receive lower rates.

No changes were made in benefits previously agreed to such as psychiatric and dental care or in the SUB plan.

<sup>7</sup> See *Monthly Labor Review*, May 1963, p. 558.

*Utilities.* Commonwealth Edison Co. and the Public Service Co. Division in Chicago and northern Illinois and the International Brotherhood of Electrical Workers, representing 8,600 employees, agreed on a 2-year contract providing wage increases ranging from 7 to 13 cents an hour and averaging 10.7 cents, effective April 1. An additional 8 cents to 10 cents, averaging 9.2 cents, will be effective 1 year later. Improvements were made in the pension plan formula, retroactive to January 1, 1964, and in the group life insurance and health and welfare plans at a cost of 7.4 cents an hour.

A 6-day strike by 2,400 members of the IBEW ended on April 7 when the Virginia Electric Power Co. and the union agreed on a 3¼-percent wage increase under a reopening provision, with additional 3-percent increases effective April 1, 1965, and 1966. The contract, due to expire in March 1965, was extended for 2 more years. No provision was made for revised job descriptions, reportedly a key issue in the dispute. The new hourly rate for linemen was \$3.56.

The New England Electric System, including the Narragansett Electric Co., and the Brotherhood of Utility Workers, Inc. (Ind.) reached agreement in early April on 2-year contracts for 2,800 employees providing for 3½-percent wage increases, effective April 1, 1964, and 1965. Holiday pay and hospital and medical benefits were also improved.

The New York Telephone Co. and the Communications Workers reached agreement April 16 on a 3-year contract providing general wage increases of \$2 to \$6 a week retroactive to February 28 for 24,000 plant and engineering department employees; wage reopeners were provided in 1965 and 1966. The increase averaged \$5 a week, with about 15,000 employees receiving the full \$6. Job and zone reclassifications affected approximately 2,100 employees. Supplemental benefits, including improved pensions, vacations, and health and welfare provisions, were similar to the Bell system and CWA settlements negotiated in 1963.

*Metalworking.* The American Hardware Corp. of New Britain, Conn., and the Machinists agreed March 19 on a 3-year contract retroactive to March 1. Covering 1,900 workers, it provided wage increases of 2.5 percent the first year with a

minimum of 5 cents; 2 percent in 1965 with a minimum of 4 cents; and 2 percent in 1966 with no minimum. Supplementary benefit improvements included, in the first year, an additional paid half holiday (making a total of 9); \$18 instead of \$15 daily hospital room benefit; \$40 weekly sickness and accident benefits instead of \$35; and full pension vesting after 15 years' service at age 45. Pension benefits will be increased to \$2.80 a month per year of credited service beginning January 1, 1965, and employee contributions for insurance will be reduced to one-half the cost. As of March 1, 1966, the company will pay the full cost of employees' insurance and one-half the cost for dependents. Also provided were 3½ weeks of vacation with a minimum of 150 hours of pay after 20 years, and 4 weeks with a minimum of 170 hours of pay after 25 years; the previous ceiling had been 3 weeks, with a minimum of 130 hours of pay, after 15 years of service.

In early April, Steelworkers agreed to wage and supplementary benefits reductions expected to cut labor costs at the Blaw-Knox company's Equipment Division plant in Blawnox, Pa., by approximately \$500,000 a year. About 850 hourly and salaried workers were affected. An 18½-cent hourly cost-of-living allowance (gained prior to the discontinuance of an escalator clause under the 1962 settlement) and the extended vacation plan negotiated in 1963 and scheduled to become effective in 1964 were both eliminated. The vacation plan—a modified form of that in effect in the basic steel industry—would have provided 2 extra weeks of vacation annually for the senior half of the work force and 1 week for the junior half. The company had said that its costs were not competitive with other steel fabricators because its settlements were patterned after those in basic steel. Blaw-Knox products include construction and steelmaking equipment and tracking antennae.

In late March, the Worthington Corp. and locals of the Steelworkers, the Machinists, and the Office Employees agreed to 1-year extensions of 2-year contracts that were scheduled to expire August 15. An 8½-cent package was provided, distributed among wage increases, paid holidays, and improved insurance benefits. Most of Worthington's plants are located in the Middle Atlantic States. Negotiations to extend the con-

tracts reached in 1962 were initiated after other pump, compressor, and air conditioner manufacturers negotiated 3-year contracts.

In March, the Manufacturers and Repairers Association of New Orleans, a group of ship and heavy machinery repair firms, agreed to 2-year contracts with the local Metal Trades Council and the Machinists providing 3-percent wage increases retroactive to February 15, with an additional 3 percent increase on February 15, 1965. Premium pay was extended to include time spent on both travel during lunch periods and return to the hiring point after normal shift hours. Also in New Orleans, 17 nonassociation ship repair yards agreed to identical wage terms for 1,000 workers represented by the Metal Trades Council. Travel pay was not at issue.

*Other Manufacturing.* The California and Hawaiian Sugar Refining Corp. and the Longshoremen's and Warehousemen's Union (Ind.) and the Sugar Workers Union—representing approximately 1,200 workers at the company's Crockett, Calif., refinery—settled a 3-day strike on April 14 with a 3-year contract. The settlement provided wage increases of 10 cents an hour retroactive to February 1, 1964; 8 cents effective February 1, 1965; and 10 cents effective February 1, 1966; a ninth paid "floating" holiday; and clauses to reduce the impact of automation on employees laid off because of "mechanization equipment or methods changes." Under these clauses, workers equal to the number to be laid off, were to be permitted to retire early if they were at least 62 years old and had 30 years' service. Those who retire early were to receive \$100 a month until the normal retirement age of 65. They would be given a choice between receiving a reduced pension to begin at the time of early retirement and to continue after age 65 or a higher pension beginning at age 65.

Last year, two refineries of American Sugar Refinery Co., and the United Packinghouse Workers of America, had agreed to a retirement preparation plan which gave regular employees with 15 years' service the following vacations (including their regular vacation): 6 weeks at age 57 and 58; 7 weeks at age 59 and 60; 8 weeks at age 61 and 62; and 12 weeks at age 63 and 64.

A 5-percent wage increase this year and a wage reopening next year were provided by 2-year con-

tracts on April 15 by the Textile Workers and the four largest cotton-synthetic manufacturers in New England: Pepperell Manufacturing Co., Boston, Mass.; Bates Manufacturing Co., Lewiston, Maine; Berkshire Hathaway Inc., New Bedford, Mass.; and American Thread Co., Wilimantic, Conn. The contracts were expected to set the pattern for about 25,000 workers in the Northeast. The union had not sought a reopening with these companies in 1963; southern textile workers received wage-rate increases of about 5 percent late last year.

In March, the E. L. Bruce Co., manufacturers of hardwood flooring and other lumber products, and the Carpenters agreed to a 2-year contract covering 2,800 of the firm's 3,500 employees in Tennessee, Alabama, Mississippi, Arkansas, and Illinois. Terms were a 5-cent wage increase effective March 3, an additional 4 cents effective March 3, 1965, and a \$2 monthly company contribution toward group insurance.

Agreement was reached on April 5 between 12 clay products manufacturers in Ohio, Indiana, and Pennsylvania, and the Brick and Clay Workers on a 3-year master contract providing some 3,000 workers a 5-cent hourly pay increase spread over the 3-year period, additional insurance benefits, and a pension plan.

### Other Developments

*Union Affairs.* Delegates to the 14th biennial convention of the American Federation of State, County and Municipal Employees held in Denver during the week of April 28 elected Jerry Wurf as their president, to replace Arnold S. Zander, who had held the office since the union's organization 28 years ago.

It was Wurf's second challenge to Zander; defeated in 1962 by 300 votes, Wurf this time won the position by a plurality of 21 ballots—1,450 to 1,429. A Catholic priest, the Rev. Albert Blatz, and a Negro woman, Lillian Roberts, were among those elected vice presidents of the 250,000-member union.

After his election, Mr. Wurf said the union was entering a "revolutionary era," citing the increased organizing possibilities resulting from the rapid increase in employment in State and local government and the increasing willingness of these units to bargain with and collect dues for unions.

He also stated that the union would undertake to increase its membership by strengthening its locals, organizing the unorganized workers, particularly those in white-collar occupations, and by asking local independent unions to become affiliates.

The International Organization of Masters, Mates and Pilots ended its 56th biennial convention in Miami Beach on April 26. The incumbent, Charles M. Crooks,<sup>8</sup> and 10 others were nominated for the presidency of the union; mail balloting was to be conducted during a 90-day period beginning not later than May 26.

The convention also ratified a recommendation to be presented to the union-management trustees of the union's trust fund that a new independent administrator be selected to replace Robert T. Creasy. A spokesman for Crooks said that the action was taken because of "excessive administrative costs" which for the fiscal year ending May 31, 1962, were \$86,019.34 and \$51,532.42, respectively, for the \$560,000 welfare and \$9,312,544 pension portions of the fund.

In other business, Crooks announced establishment of a tentative job retraining and upgrading program under the Manpower Development and Training Act. Under the plan, a school would be established in New York City to prepare 200 licensed deck officers for the Coast Guard's next higher license grade. The course would last 6 weeks and would cover labor relations as well as necessary technical courses. Crooks said the union would later consider setting up similar schools in other ports.

The Industrial Union Department of the AFL-CIO announced creation of a collective bargaining services section to further cooperation among affiliates dealing with the same employer or in the same section of an industry and to provide direct services to individual unions. The new section resulted from a departmental reorganization approved by the IUD's last convention.<sup>9</sup> The reorganization was said to be necessary to deal with the collective bargaining problems resulting from the increasing numbers of corporate mergers, new products, and other aspects of changing technology which "serve to blur" old distinctions in industry.

Shipping on the Great Lakes moved toward labor peace when the Seafarers Union and the Board of Trustees representing the Canadian

Government reached an agreement placing limited control of the Canadian branch of the union back into the hands of its members. Elections are to be held next fall and until then, Leonard McLaughlin, executive vice president, will be the administrative director of the 18,000-member union.

It was also agreed that the board would ask the Canadian Government to end the trusteeship in a reasonable time; that steps would be taken to unite all elements of the maritime industry of Canada and the United States; and that both parties would work to integrate maritime unions in Canada where it is in the interest of union stability.

Hal C. Banks, president of the Canadian Seafarers until removed in March 1964 by trustees assigned by the Canadian Parliament to oversee five maritime unions,<sup>10</sup> was sentenced on May 5 to 5 years in prison for his part in a conspiracy to wound or maim Captain Henry Walsh, an organizer for the Canadian Merchant Guild. Banks had been a leader in boycotts of Canadian ships in Great Lakes ports during 1963.

A Federal District Court convened in Chicago on April 27 to try Teamster president James R. Hoffa and seven associates on charges of defrauding a Teamsters pension fund by obtaining loans of \$20 million and diverting \$1 million from the fund for their own use. The Federal Government alleged that the defendants used interstate communications to obtain the money for themselves and others by fraudulent means, such as over-evaluating real estate to be mortgaged.

On the opening day of the trial, Hoffa and the union's Executive Board agreed that union money should not be used to pay expenses of the trial, pending clarification of whether such payments are legal under the Landrum-Griffin Act. In the opinion of the union's general counsel, Edward Bennett Williams, such payments would be illegal. Hoffa proposed that the question be turned over to independent counsel for an opinion, and then be decided by the Executive Board. Legality of the payments was questioned in a letter from 12 members of Local 107 in Philadelphia to each

<sup>8</sup> Shortly after the convention, Crooks announced his withdrawal as a candidate for reelection for reasons of personal health.

<sup>9</sup> See *Monthly Labor Review*, January 1964, pp. 73-74.

<sup>10</sup> See *Monthly Labor Review*, December 1963, p. 1455.

Teamster vice president demanding that such payments be halted and past payments recovered.

The Executive Board had previously suggested \$1-a-member voluntary contributions to a defense fund for Hoffa and other Teamster officials.

Sentence was passed in April on Henry F. Bell, vice president of the International Longshoremen's Association, after his conviction during the previous month for offering \$30,000 to jurors to acquit Hoffa. Federal District Judge Frank Gray, Jr., in Nashville, Tenn., imposed the maximum sentence of 5 years in prison and a \$5,000 fine. Judge Gray denied a motion for a new trial but allowed Bell to remain free on \$20,000 bond pending appeal. He was the sixth person<sup>11</sup> to be convicted of jury tampering in Hoffa's 1962 conspiracy trial which ended in a mistrial. Four others await trial.

The Printers League and Local 6 of the Typographical Union jointly announced a plan to insure the nondiscriminatory selection of apprentices in New York City job shops. The plan would be administered by impartial agencies instructed to select apprentices on the basis of qualification and aptitude and "without regard to race, creed, color, sex, or national origin" as provided under the November 1963 settlement.<sup>12</sup>

Beginning in October 1964, apprentices will be selected from a pool of about 1,000 "miscellaneous composing room employees" of the print shops. Applicants must be 18 to 26 years old, have a high school diploma or its equivalent, be physically able to perform the work, and have been in the industry for 6 months.

The selection steps will begin with State-administered general aptitude tests and personal interviews, followed by examinations in grammar, mathematics, and acquired composing room skills conducted by the city's School of Printing. Finally, credit for service in the industry will be added. The resulting total point scores will be the sole basis for filling the 100 or so annual openings.

Theodore W. Kheel, impartial chairman of the Joint Industry Board of the Printing Industry, said that about one-third of the 1,000 potential applicants are members of minority groups.

Bertram A. Powers, president of Local 6, said that 7 percent of 600 present apprentices were Negroes.

*Civil Rights.* Installation of plumbing at the New York Terminal Market site was stopped on May 1 when 41 white plumbers of Local 2 of the Plumbers and Pipefitters refused to work with 4 newly hired nonunion plumbers—three Puerto Ricans and a Negro.

Initially, the white plumbers claimed that toilet facilities were inadequate. On the second day, a union spokesman said that the basis of the walk-out was the nonunion status of the four men. The nonunion men claimed that they had attempted to join the union, without success. The 4,100-member local reportedly had 16 nonwhite members.

On March 5, a hearing examiner for the Illinois Fair Employment Practice Commission ordered Motorola, Inc., at Franklin Park, Ill., to stop administering a general ability job test to job applicants because it discriminated against "the hitherto culturally deprived and the disadvantaged groups."

In July 1963, Leon Myart, a Negro, responded to a Motorola employment advertisement for "electronic troubleshooters." Mr. Myart failed the test but subsequently passed it several times during the course of State and Federal investigations of his complaint. The inability of the company to produce Mr. Myart's original answer sheet and his training in electronics were factors in the examiner's decision.

Motorola denied that the test discriminated against Negroes. The author of the test, Dr. Phillip Shurranger, chairman of the psychology department at Illinois Institute of Technology, said, "It is a test designed to help evaluate the trainability of a prospective employee," adding, "I know of no way to evaluate if a test in itself is discriminatory toward any group."

The hearing examiner, Robert E. Bryant, said that "There's absolutely nothing in my ruling which would preclude an employer from testing applicants in a way pertinent to the job they're seeking. Use of an intelligence test of this sort is a tool serving to discriminate between whites and Negroes, whether done deliberately or not."

Mr. Bryant's findings are being reviewed by the full Illinois FEPC in hearings that began on April 18 and were continued to May 25.

<sup>11</sup> See *Monthly Labor Review*, April 1964, p. 446.

<sup>12</sup> See *Monthly Labor Review*, January 1964, p. 72.

# Book Reviews and Notes

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## Economics of Bargaining

*Collective Bargaining in the Automobile Industry—A Study of Wage Structure and Competitive Relations.* By Robert M. MacDonald. New Haven, Conn., Yale University Press, 1963. 410 pp. (Yale Studies in Economics, 17.) \$8.50.

Mr. MacDonald has written a first-rate book on the economic aspects of collective bargaining in the automobile industry. He has overcome the obvious difficulties in gaining access to data and records to an unusual extent. His willingness to appraise, evaluate, and even to make predictions makes what otherwise could be rather heavy and specialized reading more interesting to both the scholar and the practitioner. The book is one of the best published sources of information on the wage structure and the development and cost of fringe benefits in the industry.

The attempt to measure the independent influence of unionism upon the wage structure, productivity, and other economic variables is an interesting one. Here, the author concludes that compensation levels, broadly defined to include fringe benefits, vary inversely with the size and profitability of firms. The general conclusion is that the so-called weaker firms have given in to unions, especially during the palmy post-war days, more because of poor quality of management than because the unions were strong. Of Studebaker's oft-referred-to "constructive-problem-solving" approach to issues and the informality of bargaining procedures, Mr. MacDonald says, with acknowledged benefit of hindsight, "these now appear to have signified little more than the absence of a carefully designed program to guide and direct decisions and actions in the labor relations sphere. Management was apparently resigned to 'playing it by ear,' . . ."

General Motors Corp. is praised by saying that it is universally recognized as one of the nation's

most efficiently run enterprises; with all available evidence pointing to the fact that in the labor relations sphere, it has out performed its rivals in maintaining the efficiency and profitability of its operations. The author says that while it is difficult to compare labor costs directly, whatever evidence does exist suggests that General Motors has operated with significantly lower labor costs than either of its principal competitors. He says it has derived a most important advantage from its ability to maintain a relatively fast workpace and to avoid many of the "hidden costs" flowing from restrictive union rules.

According to Mr. MacDonald, the role of unionism has been, in most respects, to eliminate the rate ranges in personal differentials in auto wage structures. He notes, however, that when the concept of wages is broadened to take account of major fringe benefits, personal benefit differentials have, in fact, been enlarged by what he terms the "seniority differential," a form of personal differential based on length of service. The conclusion is that when a broader concept of wages is adopted, the union's overall impact on personal differentials is a mixed one.

Good data are presented on interfirm and interplant differentials. It is noted that outside of certain locational differences the wage scales of the various companies are quite similar, but the author believes that if account is taken of geographic differentials General Motors appears to enjoy a slight wage advantage over its competitors. If correction is made for the differences in employee benefits, the smaller companies would be raised to the top of the interfirm wage structure. On the interplant differences which could emerge from the negotiation of profit-sharing plans, Mr. MacDonald suggests that it must be recognized that neither General Motors nor Ford is likely to accede to profit sharing as long as the decision is left to private bargaining.

Though the book's major emphasis is economic, one can obtain from it an excellent "feel" of the bargaining relationships in the automobile industry as well as of the collective bargaining process. There are also some interesting conclusions as to how the competitive process has functioned.

—RONALD W. HAUGHTON

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## Gompers Reappraised

*Samuel Gompers—A Biography.* By Bernard Mandel. Yellow Springs, Ohio, Antioch Press, 1963. 566 pp. \$8.

For many years, Gompers' autobiography "Seventy Years of Life and Labor" (completed in 1923 and published in 1925) was the only extensive study of the life and work of "one of 10 or 12 greatest Americans," to use a phrase by John R. Commons. Within the last decade, a number of books centering about Gompers' life and influence have appeared. The most ambitious of these is the volume under review.

The book is always readable, sometimes exciting, and in several instances startlingly misleading. The author has been more successful in portraying Gompers, the man, with all his virtues and faults, than in developing his ideas. He lacks a sympathetic approach to Gompers' philosophy. Sympathy does not, of course, necessarily mean agreement. The author speaks of the "vagueness of Gompers views regarding his 'ultimate aims.'" He is also of the opinion that Gompers "either did not understand Marxism or was distorting it in order to flail a straw man."

Of course, Gompers had ultimate aims, but they were not those of the author or of the Socialists. Moreover, he opposed Marxism, not out of ignorance, but out of full knowledge. At the 1903 Convention of the AFL, he said, "I want to tell you Socialists that I have studied your philosophy . . . studied your standard works, both in English and German . . . and I want to say that I am entirely at variance with your philosophy . . . Economically, you are unsound; socially, you are wrong; industrially, you are an impossibility."

This estimate of his own knowledge is strongly supported by John R. Commons, who wrote in *Current History* February 1925: "I have not known any person more thoroughly grounded in the theories of Marx than Samuel Gompers." Dr. Mandel has the right to his own views regarding "surplus value" and "increasing misery" and "exploitation," but Gompers was correct in considering them central to Marxism. How right and prescient Gompers was. Even the Social Democrats of Germany have abandoned Marxism.

Gompers' "ultimate aims" were the "ideals of our Republic." Toward the end of his life he wrote: "The materialism of the Labor Movement

has never appealed to me. It is the idealism of the Labor Movement which has been the inspiration of my life. . . . My endeavor has ever been to enable the worker to attain the complete human ideal."

If Gompers failed to express his "ultimate aims" in specific terms, it is because he refused to set any limitation on the goals of labor. In a repartee with Morris Hillquist, the Socialist leader, before the Commission on Industrial Relations, he exclaimed, "In other words, we go further than you. You have an end; we have not."

One of the great merits of the book is that it clears up some of the misconceptions about what Gompers meant by "trade unions pure and simple." Dr. Mandel writes: "Pure and simple unionism did not mean to Gompers, as has often been charged, complete abstention from political activities." Gompers political activity extended from Bryan to LaFollette. He relates how Gompers supported Wilson's reelection and wrote a statement for the Democratic campaign committee, which used it in a pamphlet addressed to workers. He tells of a phone call to Gompers by the secretary of the Democratic campaign manager "who told him that Wilson's victory was due to him more than to any other one man."

The author's treatment of the Trade Union Educational League in the section entitled "Challenge from the Left" is disingenuous. He fails to identify William Z. Foster as first a secret and then an open and leading American Communist. He charges that Gompers "arbitrarily expelled members of federal labor unions on unproved and vague allegations of 'radicalism.'" As proof, he cites this incident: "At the Convention of the Federation in 1923, this policy was dramatized by the unseating of William Dunne, a member of the TUEL National Committee and the delegate of the Butte Trades Council." Again, there is no mention that Dunne was a prominent Communist leader.

While the author is color blind when it comes to "reds," he is quick to see "black" in Gompers. He writes, "Mussolini started his career as a Socialist and ended it as a Fascist. Gompers was never one or the other, but he traveled the same circle—he started as a sympathizer and associate of Socialists and ended by commending the Fascist system and ideology."

Space will not permit an analysis of this sweeping accusation based on flimsy evidence. It doesn't add to Dr. Mandel's stature as a scholar that among his quotations from the two editorials dealing with Fascism, he did not include the following: "The American Federation of Labor has not accepted the Fascists' regime as a great exponent of democracy. It came into power by methods that in themselves constituted a renunciation of democracy and it has proclaimed upon more than one occasion its defiance of democratic methods."

The book should be read primarily for its wealth of detail. A living Sam Gompers arises from its 566 pages. One of the numerous anecdotes that enlivens and reveals the manner of man that was Gompers is the following: On one occasion he called at the White House to express to Theodore Roosevelt his displeasure at a public statement made by the latter. He spoke so vigorously that Roosevelt, showing irritation, hit the desk with his fist and said, "Mr. Gompers, I want you to understand, sir, that I am President of the United States." Gompers faced him with blazing eyes, and hitting the desk with equal emphasis, shot back, "Mr. President, I want you to understand that I am the president of the American Federation of Labor."

—ALBERT S. EPSTEIN

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International Association of Machinists

### Arbitrating "Job Rights"

*Managerial Freedom and Job Security.* By Morris Stone. New York, Harper and Row, Publishers, 1964. 262 pp. \$5.50.

Morris Stone analyzed some 170 grievance arbitration cases—almost wholly from the files of the American Arbitration Association—which bear on such problems of job security as subcontracting, erosion of the bargaining unit, work jurisdiction, integrity of jobs, work load disputes, attrition, and automation. The center of his attention is the conflict between unions and managements arising out of the (not unadulterated) managerial drive toward economic efficiency and the union's effort to protect "job rights." It is

where grievance cases explicitly or implicitly involve the more general issue of "implied" vs. "reserved" rights that the conflict appears.

Stone's conclusions are perceptive and useful as a general statement of the state of the conflict and of some of the problems that arbitrators and the parties face in dealing with the issues. However, only the most general conclusions can be reached—that "Negotiators of contracts did what they could to draw a line between areas of managerial freedom and joint control. . . . These lines of demarcation were not always clear and sharp, nor were they always wisely drawn. . . . The extent to which [the parties] fashioned a viable system is revealed in the kinds of grievances that have arisen and the manner in which they have been resolved." It is clear that, in general, Stone thinks they have indeed fashioned a viable system. But in the conclusions and in the text, he discusses with much insight some of the more difficult problems: The inability of arbitrators to solve the problems before them without going behind the superficial statement of the conflict over "reserved" vs. "implied" rights; the problem of discovering "the probable intent of the negotiators, where the latter probably had not thought of the problem at all . . . ."

Though it is not the author's responsibility, I have an uneasy feeling that the book will be widely misused. Its body consists of summaries of arbitration awards and statements of the sometimes apparently conflicting resolutions of similar problems by different arbitrators. Buried in the preface is the all-important caveat that sometimes the arbitrator "sensing that the parties will get along better if he omits some of the contentious history from his discussions, will leave a great deal unsaid . . . . Furthermore, even written opinions that seem complete may be lacking in some detail or fact the arbitrator thought it expedient to omit."

Nevertheless, it is terribly easy for the advocate to pick out a summary statement from the book as an authoritative statement of what arbitrators do when faced with a particular problem and use it to attempt to convince a current arbitrator. Fortunately, most arbitrators understand better than some advocates the limitations of use of published decisions (and summaries and interpretations of them) in the solution of particular problems.

And Stone does try to develop general criteria from the many cases.

I have another cavil. Stone justifies his exclusive use of AAA cases by stating that arbitration of these tends to be less mediatory and more nearly limited to "interpretation and application" of the agreement. This may be so, although I suspect that this depends more on the case and the arbitrator than on the agency through which the arbitrator is selected. Much useful data could, I think, have been derived from other published cases without sacrifice of homogeneity of approach.

Despite these qualifications, the book is a very useful addition to the literature on a very important aspect of industrial relations: the continuing conflict between the interests of managements and of unions to control jobs. We talk more and more about the issue of job ownership. *Managerial Freedom and Job Security* deals with this issue at one level at which it appears in the real world—in gutty disputes over what the parties agreed to (or were silent about) when they negotiated their collective agreements.

—FREDERIC MEYERS

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## Diagnosis

*The Crisis in the American Trade-Union Movement*—[*A Symposium*]. Edited by Solomon Barkin and Albert A. Blum. (*In Annals of the American Academy of Political and Social Science*, Philadelphia, November 1963, pp. 1-128. \$2.)

The 15 monographs in this issue address the question whether the trade union movement, given its present structure and policies, can remain a viable force in America.

The first three articles consider whether there is in fact a crisis in the labor movement. Resting his case on labor's past propensity to overcome obstacles, Professor Taft dissents. Since there is general agreement that the labor movement has some difficult problems, the issue seems to resolve itself down to a question of degree. Mr. Barkin and Professor Blum present the only real quantitative study in the volume as they review the results of a mail survey of attitudes of presidents of national

and international unions and their staff. They conclude that more of labor's officialdom agree with Edward Townsend than there is a crisis issue than with Professor Taft, but the reader is left wondering how well the attitudes of the presidents who responded represent the thinking of the nearly 80 percent who did not.

The remaining articles are divided roughly into three broad groups: problems of structure—both internal and external, problems in goal realization, and a look at the road ahead.

In the first group, James L. Stern explains how automation adversely affects unions by changing the nature of work and reducing the solidarity of the work group; Emanuel Stein examines the conflict between internal democracy and the need for concentration of power; A. H. Raskin considers the same basic problem as it relates to the need for more authority at the federation level; and Joseph Shister is pessimistic about the outlook for union growth because unions are not prepared to organize the white-collar workers.

In the second group, Ray Marshall points out why unions will encounter barriers in organizing other groups such as agricultural workers, ethnic and economic minorities, and Southern workers; Philip Ross claims favorable legislation by itself cannot result in further union growth; and George Strauss sees a shift in bargaining strength in favor of management. Melvin Rothbaum explains why collective bargaining impasses may become increasingly difficult to resolve; Maurice F. Neufeld sees the disenchanting liberals and intellectuals deserting the union cause; and John P. Windmuller notes the labor movement useful but with limited influence on foreign policy.

In conclusion, Solomon Barkin suggests formation of a trade union commission to conduct a self-examination of policies, structures, and operations of personnel.

Notwithstanding some inevitable overlap in thought and ideas, among articles, the volume leaves little doubt as to the need for some sort of reawakening on the part of today's labor leaders. How this reawakening can be accomplished is a question given only the most superficial consideration by most of the authors.

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## Aids for Decisionmaking

*Economic Analysis and Industrial Management.* By Jacques Lesourne; translated by Scripta Technica, Inc. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1963. xxii, 631 pp., bibliography. 2d ed. \$13.35.

The increasing complexity of managerial decisionmaking demands new approaches to minimize error and increase the probabilities of meeting corporate objectives. Lesourne's objective is to present useful quantitative techniques which will reduce this uncertainty by producing acceptable alternatives derived from parameters established from corporate objectives. Using these assumptions, he goes on to illustrate by using graphic and algebraic configurations the important quantitative techniques available in major decision areas.

While many of these techniques are not new or radical, the author employs them successfully in real situations which produce a framework in which decision error may be minimized. Not only does he describe specific situations where the quantitative techniques have been useful, but he generalizes these techniques wherever possible so that they may be applied to new and quite different decisionmaking problems. Perhaps, it is in these rigorous generalizations that he makes his most important contribution to managerial decisionmaking.

The work is an advanced offering in economic theory and decisionmaking. However, before presenting a method of quantitative analysis, Lesourne reviews the basic and widely accepted theory in each area of quantitative decisionmaking. This enables managerial people who are not familiar with economic theory or who have misplaced their economic tools, to obtain a feel for each area before the quantitative procedures are presented.

One major problem that would be confronted by most economics and business students using this text would be their lack of mathematical ability. While this limitation is being removed in many colleges and universities in the United States, it would be an important limiting factor to most students. Lesourne describes the mathematical sophistication necessary by saying he has "generally made use of mathematics taught in engineering schools." I have no doubt that this is true; unfortunately, a large percent of American man-

agers and educators lack engineering backgrounds or advanced mathematical training.

In summary, one could say that the introduction of rigorous forms of analysis makes a clear contribution which will be more widely appreciated as we sharpen our tools and our ability to perceive this form of analysis. The completeness, the diligence, the fine examples used by Lesourne make this particular text a real contribution to the area of managerial decisionmaking and it will prove to be of even greater value in the future.

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## Progress and Poverty

*What Price Progress? A Study in Chronic Unemployment.* By Sidney C. Sufrin and Marion A. Buck. Chicago, Rand McNally & Co., 1963. 146 pp. \$2.25, paper.

In discussing unemployment in distressed areas, the authors have brought little in the way of fresh insights to their subject. They have, however, quite adequately filled their purpose—to provide the student and interested citizen with an introduction to the economic background and the policy issues of the distressed area problem. Since progress is change, it is inevitable that the very process of economic growth will create areas of economic distress. The inevitability of the problem, actually heightens the national responsibility to eradicate or at least ameliorate the personal hardships produced.

In examining distressed areas, the authors make a careful distinction between large metropolitan areas with high unemployment rates, such as Detroit and Pittsburgh, and the many small communities, with high levels of unemployment, which have no economic ties to large industrial centers. Although in terms of sheer numbers of unemployed, the former represent a larger problem, the small communities present a greater challenge since they typically have a narrow economic base, benefit less from a high national level of economic activity, and are hurt by the growing urbanization of the population.

Some of the economic forces affecting distressed areas (such as the level of aggregate demand, the mobility of capital and labor, automation, and

foreign trade) are briefly discussed. Since distressed areas are a byproduct of economic growth, solutions must be found through specific programs and policies tailored to local needs. Existing programs at the local, State and Federal levels are discussed and evaluated. The authors conclude that the problem of chronic unemployment in the community must first be faced by the local leadership. State and Federal agencies can be of assistance in implementing local redevelopment programs, but it is the community itself which must decide whether redevelopment is a workable solution.

—CAROL B. KALISH

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### Retirement and Labor Force Trends

*Employment, Income, and Retirement Problems of the Aged.* Edited by Juanita M. Kreps. Durham, N.C., Duke University Press, 1963. 240 pp. \$7.50.

This volume of essays by six Duke University economists considers questions of retirement policy in the context of rapid mechanization of industry and rapid expansion of the labor force. Using primarily secondary source data and, in a few cases, theoretical and logical models, the authors analyze the mechanics, development, and economic impact of aging populations; the extent and nature of the retirement problem and its relation to trends in the demand and supply of labor; the economic consequences of "flexible" (earlier) retirement; some of the financial dimensions and effects of pension-fund growth; and factors influencing the economic status of the aged.

The crucial essay in the volume projects labor requirements and labor supply for the years 1970 and 1975. Its conclusions set the tone of the analyses of retirement problems which follow. Projecting recent trends (generally from the period 1947-59) in income and productivity rates in 62 industrial sectors of the economy to obtain estimates of future demand for labor and matching these with the anticipated labor force, the authors forecast that the unemployment rate will increase to about 7 percent in 1970 and 10 percent in 1975.

Faced with this kind of pessimistic picture, one either directs his attention to finding ways to reverse the trends in demand or to slow down the growth in the labor force, or both. The authors give rather brief attention to the first of these possibilities because their analysis of the trends in demand composition convince them that the "traditional method of counteracting unemployment by stimulating aggregate demand is much less effective than it was some years ago." This conclusion appears to result from their observation that the manufacturing sector, which has previously been a major source of income and employment growth, is declining in relative importance and is no longer a promising source of job expansion. The authors argue, therefore, that if increased unemployment is to be avoided, some reduction in the size of the expected labor force will be necessary, and they envision for the future a lowering of the retirement age, a reduced workweek, and delayed entry into the labor force through extended education.

These conclusions may well be correct. Many readers will remain unconvinced, however, that extrapolation of short-run trends necessarily produces an accurate or inevitable picture of the future. Adopting the approach they did, the authors are faced in the remainder of the book with determining the basis on which various groups are to be encouraged to leave the labor force and the ways in which their departure can be financed. Some readers might prefer an approach which emphasizes the opportunities for an expansion of demand that would make participation in the labor force a real alternative for the older workers as well as others.

Whatever one's preferences on these questions, readers will find in these essays much interesting material and analysis relevant to a consideration of the income status of the aged and of retirement policy, regardless of the existing balance of labor supply and demand. The book is provocative at many points and will be a useful addition to the gerontological literature, which by and large has been too little influenced by economists.

—WALTER H. FRANKE

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## Labor Courts

*Industrial Conciliation and Arbitration in New Zealand.* By Noel S. Woods. Wellington, New Zealand, Government Printer, 1963. 208 pp., bibliography. 21s.

Written largely to explain the peculiar dispute settlement machinery, its character, and its "place in the New Zealand way of life," this study is also an extensive history of New Zealand industrial relations law, policy, and practices.

The present system provides that irreconcilable disputes arising out of contract negotiations which cannot be settled directly by the parties, must be referred to a Council of Conciliation. Any ensuing agreement usually is transmitted to the Court of Arbitration to be issued in the form of an award of the Court. In case of failure of the conciliation attempt, the dispute is automatically referred to this Court for arbitration. Its awards are enforceable on every employer in the industry and geographic area concerned. To prevent labor strife during negotiations for a new agreement after expiration of the old one, awards and collective agreements remain in force until they are replaced. Only registered industrial organizations are bound by the provisions of the Conciliation and Arbitration Act. Nonregistered organizations, which come under the Labor Disputes Investigation Act, may strike lawfully if they comply with some restrictive statutory rules. The attitude of trade unions and employer associations towards the Conciliation and Arbitration Act has fluctuated with changes in economic conditions and relative bargaining strength. In recent years, the parties generally have felt that the advantages outweigh its disadvantages, and have registered voluntarily.

The American reader of this book, naturally, will be particularly interested in efforts made in New Zealand to solve labor problems which have also caused discussion in the United States. It is significant that the system, at no time, has been capable of eliminating even all strikes within the scope of the act. The provision that cases not settled through conciliation are automatically referred to arbitration has removed the danger that the time, effort, and expense involved in a conciliation attempt may be wasted. The author describes how the New Zealand experience has

confirmed the experience elsewhere that compulsory arbitration tends to leave the settlement of differences to the government.

The American reader may also be interested in the New Zealand treatment of the problem of union security. The act for many years provided that awards and agreements generally had to include a clause prohibiting employment of non-union members. In 1961, over strong opposition of both unions and employers, an amendment prohibited compulsory union membership. A union shop or preferential hiring clause may still be included in collective agreements and, under certain conditions, in awards. Enforcement of such clauses, however, is entirely up to the parties.

—KURT BRAUN

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## How to Evaluate Education

*Economic Aspects of Education—Three Essays.*

By William G. Bowen. Princeton, N.J., Princeton University, Industrial Relations Section, 1964. 127 pp. (Research Report 104.) \$3.75, cloth; \$3, paper.

There has been a growing interest, accompanied by a considerable body of research, on the economics of education, particularly on the contribution of education to growth. The first article in this collection of three by Professor Bowen evaluates the major approaches to measurement of economic contribution of education. The book also includes articles on "University Finance in Britain and the United States" and "British University Salaries."

Professor Bowen distinguishes three major approaches to estimating the contribution of education. The first correlates indexes of educational and economic activities, with the implication that increased output may be attributed to increased education. But this is at best an ambiguous relationship since the relationship can also be interpreted to mean that increased output makes it possible for a country to spend more on education as a consumer good. Professor Bowen suggests that interindustry correlations between educational input (research and development)

and profitability may be more useful, although this approach still has major limitations.

The residual approach involves identifying as much of the increase in output as can be attributed to the inputs of labor and capital, and then deriving a residual in which education is presumably a major input. Unfortunately, the residual embodies so many heterogeneous elements that Gary Becker labeled it "a measure of our ignorance" rather than a measure of productivity.

The returns-to-education approach is based on the assumptions that differences in earnings reflect differences in productivity and that education-related earnings differentials can be used as partial measures of the effects of education on productivity and output. Research along these lines by Becker and others indicates that investment in human beings in the form of education pays as high a rate of return (9 percent) as the average rate of return on investment in the United States. Professor Bowen fails to cite explicitly the even more startling conclusion reached by Edward F. Denison that 23 percent of the increase in real national income and 42 percent of the gain in labor productivity over the period 1929-57 may be attributed to the increase in formal education.

The author indicates that the major difficulty with either the Becker or Denison approach is that it is still uncertain how much of the increase in income or growth is really attributable to education rather than to other factors, such as ability and family background.

My own view is that further refinement in the attempt to measure the unique contribution of education to growth may not be as useful as further research on the interdependence and complementarity of the various factors making for economic growth. Over the long run, the interaction on each other of additional education, advances in knowledge and technology, working experience, capital and labor inputs may contribute more to economic growth than any single factor could contribute by itself.

—JACK ALTERMAN

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## For Line Operations

*Improving Individual Productivity.* By John D. Staley and Irving A. Delloff. New York, American Management Association, 1963. 207 pp., bibliography. \$7.50; \$5 to AMA members.

The authors have addressed their book "to the harassed shirt sleeve executive" and assume "that cost preventive measures have been or are being thoughtfully and diligently applied so that the executive who is worth his salt must necessarily turn his attention next to productivity."

If by "shirt sleeve executive" the authors mean the small-plant owner who does not have an industrial relations manager on his staff, the book is quite useful. Although too much space is given to the successes and failures of incentive plans, there are many useful ideas that the executive in charge of a small plant can use in improving productivity and in dealing with a union.

Many parts of the book can be used as examples in developing productivity charts and in analyzing the productivity of employees. There are warnings concerning the bad effects of over-emphasis on incentive plans and the bad effects of vague statements in union contracts and a discussion of the adverse effect of each on supervisors. There are several good examples of methods and words to use in tightening the contract with the union so that there will be no misunderstanding by either party.

This reviewer was disappointed to find that the title of the book was somewhat misleading in that it deals almost exclusively with the productivity of industrial workers whose units of work can be counted and devotes very little space to the productivity improvements of staff personnel.

The book is not recommended for the high-level industrial engineer in a large plant because he would be familiar with situations similar to those described as particular problems.

—EDWARD L. DIAMOND

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## Essays on Policy

*The United States and the Middle East.* Edited by Georgiana G. Stevens. New York, Columbia University, The American Assembly, 1964. 182 pp. \$3.95, cloth; \$1.95, paper; Prentice-Hall Inc., Englewood Cliffs, N.J.

Background books such as *The United States and the Middle East*, written to aid deliberations at American Assembly sessions at Arden House, make an important contribution to public understanding. The twenty-fourth Assembly discussed the issues drawn from this volume and drafted a report of recommendations that is published separately.

This book is composed of six chapters on various aspects of our foreign policy and an introduction by Georgiana Stevens. She points out that active United States diplomatic involvement in the Middle East dates back less than 20 years. The withdrawal of the French and British influence after World War II combined with the spread of the cold war to the Islamic world made American involvement inevitable despite the fact that we were ill prepared.

Two of the chapters are of particular interest to students of labor. Dr. William Polk, Harvard historian and member of Walt Rostow's Policy Planning Council of the Department of State, offers a new system of social differentiation in place of the usual Western concept of middle class ("Social Modernization: The New Men"). He believes that the growth of a core of "new men" apart from the "traditional" elements within Middle Eastern society is one of the most significant changes in recent years. He discusses the importance of skilled manpower in the modernization of Egypt.

The treatment by A. J. Meyer, a Harvard expert on Middle Eastern economics, of "Economic Modernization" inevitably touches on many of the points discussed by Dr. Polk in view of the impossibility of completely separating the social from the economic. Meyer states that the area, despite the rapid overall expansion of the Middle East after World War II, faces a series of formidable economic problems—unequal distribution of income, insufficient agricultural production at the same time underemployment is rife, a disappointing rate of industrialization, the burden of armaments, and the urban explosion. One of the more

optimistic future trends was the outlook for petroleum exports and the growth of tourism. Meyer also recognizes the importance of human resources in economic development.

Specialists in Middle Eastern affairs and others interested generally in U.S. foreign policy will find the other four chapters on the more political aspects of the policy informative and interesting; "Middle East Background" by William Sands, "Regional and International Politics in the Middle East" by J. C. Hurewitz, "The Arab-Israel Conflict Today" by Harry Ellis, and "United States Policy and the Middle East" by Richard H. Nolte.

—HAROLD L. DAVEY

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## Quotations From Recent Books

*U.S.A. and Its Economic Future.* By Arnold B. Barach and Rudolf Modley. New York, Twentieth Century Fund, Inc., 1964. 148 pp. \$1.95, Macmillan Co., New York.

"Going into debt is a far more common—and acceptable—practice today than at any time in the nation's history. Total consumer indebtedness (including charge accounts, single-payment loans, service charges, personal loans, and other installment debt) was \$63 billion in 1962, compared to \$7 billion in 1950. Current indebtedness amounts to 16.5 per cent of total disposable income (income after taxes), compared to only 3.4 per cent in 1950."

*The Rise of American Economic Life.* By Arthur Cecil Bining and Thomas C. Cochran. New York, Charles Scribner's Sons, 1964. 782 pp., bibliography. 4th ed. \$8.

"Increase in expenditure for all forms of research showed a rather steadily mounting curve from one-tenth of 1 percent of the gross national product in 1920 to 1 percent in the year 1955. Then the curve began to mount rapidly as research salaries rose and new Government funds were poured into the missile program. In 1950, for example, Congress had set up the National Sci-

ence Foundation, but only in 1959, after Russia had launched its first satellite, was the Foundation given a significant budget. By 1960, expenditures were over three times the 1955 figure and still rising rapidly. While university and corporate laboratories carried on most of this research, the new work was largely directed to military rather than commercial or social progress. The total of between 2½ and 3 percent of gross national product, however, was still considerably less than the total national expenditure for advertising."

*The Image of the Federal Service.* By Franklin P. Kilpatrick, Milton C. Cummings, Jr., M. Kent Jennings. Washington, The Brookings Institution, 1964. 301 pp. \$5.

"The familiar factor of security and fringe benefits is most commonly mentioned by these [elite] groups as a potential loss if they leave the Federal service. The belief that there would be greater self-determination, less bureaucracy, and better advancement opportunities in private employment also is strong. But note particularly the figures on financial reward. Despite the technical difficulties in making such comparisons, the extent to which in recent years salaries for upper level government employees have lagged behind the pay in industry for people with comparable job responsibilities has been well documented. As we noted earlier, when the top Federal groups were interviewed in 1960-61, they were well aware of this discrepancy. Thus we find that the proportions of Federal executives, social scientists, and engineers who feel they would be better paid on the outside are enormous. Among Federal natural scientists the feeling is strongest of all; 8 percent say their pay would be worse outside the Government; 75 percent say it would be improved."

*The Managerial Grid: Key Orientations for Achieving Production Through People.* By Robert R. Blake and Jane S. Mouton. Houston, Tex., Gulf Publishing Co., 1964. 340 pp. \$8.

"A variety of theories regarding managerial behavior can be identified. These theories—or sets of assumptions—are based on the way in which the three organization universals just discussed are connected to one another.

"One of the three is *concern for production*; the amount of emphasis supervision places on achieving production. A second is *concern for people*; the productive unit of organization. The third is *hierarchy*; the *boss* aspect. Whenever a man acts as a manager, he is in some way making assumptions about how to solve problems of achieving organization purposes of production through people."

*There's Gold in Your Golden Age.* By Maxwell S. Cagan. Minneapolis, Minn., T. S. Denison & Co., Inc., 1963. 293 pp. \$3.95.

"To derive an income from other sources you have to put your money to work. This calls for a reinvestment of capital funds and you should consider all angles and possibilities very carefully before you sell your blue chip stocks or withdraw your savings. Make doubly sure that your contemplated investment does not involve risks too big and perhaps even tragic for you."

*101 Ways to Enjoy Your Leisure.* Stamford, Conn., The Retirement Council, 1964. 126 pp. \$4.50, cloth; \$3, paper.

"As retirees develop their capacity for new creative effort, they can discover talents that have been buried since their youth. Dr. Alexander Reid Martin believes that 'our unpreparedness for free time is not biologically determined, is not due to something we failed to acquire, but to something we lost as we grew up.'"

*The Senior Forum: Questions and Answers About Retirement.* By Beulah Collins. New York, Fleet Publishing Corporation, 1964. 316 pp. \$4.50.

"Q. I am 61, have a good job, and under normal circumstances would retire in 4 years with a \$275-a-month pension. . . . Three times in the last week I have had to stay on the job until 7 p.m. in order to carry out some unreasonable orders . . . . My wife insists that I am being discriminated against and that if I put up with this I will soon lose my health . . . .

"A. You've said enough. And to your wife, you may have said *too* much. . . ."

## Other Recent Publications

### Education and Training

*National Register of Scholarships and Fellowships: Vol. I, Scholarships and Loans.* By Juvenal L. Angel. New York, World Trade Academy Press, 1964. 494 pp. 4th ed. \$15, Regents Publishing Co., Inc., New York.

*Occupational Mobility Through MDTA Training.* By Thomas C. Brown. Washington, U.S. Department of Labor, Office of Manpower, Automation and Training, 1964. 9 pp. (Manpower Evaluation Report 2.)

*Apprenticeship and Economic Change.* By David J. Farber and Jean B. Henson. Washington, U.S. Department of Labor, Bureau of Apprenticeship and Training, 1963. 30 pp.

*Comparisons of Earned Degrees Awarded 1901-1962—With Projections to 2000.* Washington, National Science Foundation, 1964. 54 pp. (NSF-2.)

*Career Development of Scientists—An Overlapping Longitudinal Study.* By William W. Cooley. Cambridge, Mass., Harvard University, Graduate School of Education, 1963. 185 pp. (Cooperative Research Project 436.)

*Careers and Opportunities in Fashion.* By Barbara Brenner. New York, E. P. Dutton & Co., Inc., 1964. 191 pp. \$3.95.

*Your Future in Pharmacy.* By James E. Kraemer. New York, Richards Rosen Press, Inc., 1964. 156 pp. (Careers in Depth.) \$2.95.

*Your Future in Occupational Therapy.* By Frances L. Shuff. New York, Richards Rosen Press, Inc., 1964. 156 pp. (Careers in Depth.) \$2.95.

### Employee Benefits

*Digest of 50 Selected Health and Insurance Plans for Salaried Employees, Spring 1963.* By Harry E. Davis and Arne H. Anderson. Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 161 pp. (Bulletin 1377.) \$1, Superintendent of Documents, Washington.

*Corporate Retirement Policy and Practices.* By Harland Fox and Miriam C. Kerpen. New York, National Industrial Conference Board, Inc., 1964. 90 pp. (Studies in Personnel Policy, 190.) \$15.

*Employee-Benefit Plans, 1954-62.* By Joseph Krislov. (In Social Security Bulletin, U.S. Department of Health, Education, and Welfare, Social Security Administration, Washington, April 1964, pp. 4-21. 25 cents, Superintendent of Documents, Washington.)

### Health and Safety

*Occupational Health Services for Government Employees.* By Margaret F. McKiever. (In Journal of Occupational Medicine, New York, February 1964, pp. 76-80. \$1.)

*Sick Absence for Men and Women by Marital Status.* By Philip Enterline. (In Archives of Environmental Health, Chicago, March 1964, pp. 466-470. \$1.25.)

*Disability Among Persons in the Labor Force by Employment Status, United States, July 1961-June 1962.* Washington, U.S. Department of Health, Education, and Welfare, Public Health Service, 1964. 54 pp. (Vital and Health Statistics Data From the National Health Survey, Publication 1000-Series 10-No. 7.) 40 cents, Superintendent of Documents, Washington.

*Safety and Technological Change in Pulp and Paper Operations.* (In Safety Standards, U.S. Department of Labor, Bureau of Labor Standards, Washington, March-April 1964, pp. 1-5. 20 cents, Superintendent of Documents, Washington.)

### Industrial Relations

*Focus on Industrial Relations: Key Presentations at NAM's 68th Congress of American Industry.* New York, National Association of Manufacturers, Industrial Relations Division [1964]. 28 pp. 50 cents.

*Recent Developments in Labor Law—A Symposium.* Discusses the following topics: Organizational and Recognition Picketing, Individual Employee's Right to Sue Under Section 301, Jurisdictional Disputes, "Bill of Rights" for Union Members Under Landrum-Griffin, Duty to Bargain, Secondary Boycotts, and Executive Order 10988. (In Georgetown Law Journal, Washington, Winter 1964, pp. 217-454. \$1.50.)

*State Right-To-Work Laws and Federal Labor Policy.* By Joseph R. Grodin and Duane B. Beeson. (In California Law Review, Berkeley, March 1964, pp. 95-114. \$2.)

*Labor Law Problems in Plant Relocation.* (In Harvard Law Review, Cambridge, Mass., April 1964, pp. 1100-1121. \$1.50.)

*Labor Relations in the Postal Service.* By Dean Harper. (In Industrial and Labor Relations Review, Ithaca, N.Y., April 1964, pp. 443-453. \$1.75.)

*Union Powers and Union Functions: Toward a Better Balance.* New York, Committee for Economic Development, Research and Policy Committee, 1964. 43 pp. \$1.

*Workers Councils: A Study of Workplace Organization on Both Sides of the Iron Curtain.* By Adolf Sturm-

thal. Cambridge, Mass., Harvard University Press, 1964. 217 pp. \$5.

## Labor Force

*Employment Service Review.* Washington, U.S. Department of Labor, Bureau of Employment Security, U.S. Employment Service, Vol. 1, Nos. 1 and 2, January-February 1964. 54 pp. (First issue; published monthly.) Annual subscription \$3; single copy 30 cents, Superintendent of Documents, Washington.

*Shorter Hours to Create Jobs.* (In American Federationist, AFL-CIO, Washington, April 1964, pp. 9-16.)

*The Migratory Farm Labor Problem in the United States.* Fourth report of the Committee on Labor and Public Welfare made by the Subcommittee on Migratory Labor, U.S. Senate, pursuant to S. Res. 22 (as amended). Washington, 1964. x, 68 pp. (88th Cong., 2d sess. Report 934.)

*Exploring the Dimensions of the Manpower Revolution: Selected Readings in Employment and Manpower.* Washington, U.S. Senate, Committee on Labor and Public Welfare, Subcommittee on Employment and Manpower, 1964. 586 pp. (Vol 1.)

*Preparatory Technical Conference of Employment Policy, Geneva, September-October 1963.* (In International Labor Review, Geneva, February 1964, pp. 125-135. 75 cents. Distributed in United States by Washington Branch of ILO.)

*Federal Manpower Policies and Programs to Combat Unemployment.* By Sar A. Levitan. Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1964. 41 pp.

*The Labor Market Role of the State Employment Services.* Washington, U.S. Senate, Committee on Labor and Public Welfare, Subcommittee on Employment and Manpower, 1964. 942 pp. (Committee Print, 88th Cong., 2d sess.)

*Labor in a Prosperous Japan.* By Solomon B. Levine. (In Current History, Philadelphia, April 1964, pp. 212-218. 85 cents.)

*The Labor Force of Poland.* By Zora Prochazka and Jerry W. Combs, Jr. Washington, U.S. Department of Commerce, Bureau of the Census, 1964. 46 pp. (International Population Statistics Reports, Series P-90, No. 20.)

## Prices and Consumption Economics

*Wholesale Prices and Price Indexes, 1961.* By Edward J. Kazanowski. Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 254 pp. (Bulletin 1382.) \$1.25, Superintendent of Documents, Washington.

*Consumer Expenditures and Income: San Francisco, Calif., 1960-61 and Supplement 1.* Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 18 and 9 pp., respectively. 2d report. (BLS Report 237-52.) Other reports in this series include:

	Report No.
<i>Philadelphia, Pa., 1960-61; Supplement 1</i> (2d report)-----	237-58
<i>Baton Rouge, La., 1961; Supplement 1</i> -----	237-62
<i>St. Louis, Mo., 1960-61; Supplement 1</i> (2d report)-----	237-65
<i>Bakersfield, Calif., 1961; Supplement 1</i> -----	237-70

## Productivity and Technological Change

*The Productivity of Rural Workers on Industrial Jobs.* By Robert W. Lewis. Lawrence, University of Kansas, Center for Research in Business, 1964. 40 pp., bibliography.

*Automation and Management—[A Symposium].* (In Advanced Management Journal, Society for Advancement of Management, New York, April 1964, pp. 5-100. \$2.50; \$2 to Society members.)

*Automation's Perplexing Boon: Years of Time to Spare.* By Ralph Lazarus. (In Personnel, American Management Association, New York, March-April 1964, pp. 8-15. \$1.75; \$1.25 to AMA members.)

## Social Security

*Unemployment Benefits and Duration: A Study of the Effect of Weekly Unemployment Benefit Amounts on the Duration of Unemployment Benefits.* By Charles A. Lininger, Jr. Ann Arbor, University of Michigan, Institute for Social Research, 1963. 120 pp. bibliography.

*Family Characteristics of the Long-Term Unemployed: A Report on a Study of Claimants Under the Temporary Extended Unemployment Program, 1961-62.* Washington, U.S. Department of Labor, Bureau of Employment Security, 1964. 178 pp. (BES U-207-7.)

*Benefits Under the Railroad Unemployment Insurance Act in 1962-63—Parts I and II.* (In Monthly Review, U.S. Railroad Retirement Board, Chicago, January 1964, pp. 2-5, 25 and February 1964, pp. 10-12, 14.)

*Benefits in the Case of Industrial Accidents and Occupational Diseases.* Geneva, International Labor Office, 1964. 135 pp. (Report V(2) prepared for International Labor Conference, 48th session, 1964.) \$1.50. Distributed in United States by Washington Branch of ILO.

*Monografía sobre los Seguros sociales en Brasil.* (In Revista Iberoamericana de Seguridad Social, Ministerio de Trabajo, Madrid, November-December 1963, pp. 1299-1332.)

## Wages and Hours

*Occupational Wage Survey: Jacksonville, Fla., January 1964.* Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 18 pp. (Bulletin 1385-32.) 20 cents, Superintendent of Documents, Washington. Other bulletins in this series include:

	Bulletin No.	Pages	Price (cents)
<i>Buffalo, N.Y., December 1963</i> -----	1385-33	22	25
<i>Denver, Colo., December 1963</i> -----	1385-34	30	25
<i>Memphis, Tenn., January 1964</i> -----	1385-35	30	25
<i>San Francisco-Oakland, Calif., January 1964</i> -----	1385-36	32	25
<i>New Haven, Conn., January 1964</i> ---	1385-37	28	25
<i>Pittsburgh, Pa., January 1964</i> -----	1385-38	24	25
<i>Minneapolis-St. Paul, Minn., January 1964</i> -----	1385-39	22	25

*Wage Chronology: General Motors Corp., 1939-63.* Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 30 pp. (BLS Report 185.) 25 cents, Superintendent of Documents, Washington.

*Salaries, Wages, and Fringe Benefits in Michigan Cities and Villages Over 4,000 Population.* Ann Arbor, Michigan Municipal League, 1964. 106 pp. (Information Bulletin 102.) \$6.

*Salaries of White-Collar Workers in Hawaii, Puerto Rico, and Alaska, May-June 1963.* Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1964. 56 pp. (Bulletin 1392.) 40 cents, Superintendent of Documents, Washington.

*The Redistribution of Income: Parts I and II.* By Fabian Linden. (In Conference Board Record, National Industrial Conference Board, New York, February 1964, pp. 24-26 and March 1964, pp. 59-61.)

*Changes in Occupational Wage Differentials.* By H. Günter. (In International Labor Review, Geneva, February 1964, pp. 136-155. 75 cents. Distributed in United States by Washington Branch of ILO.)

*Hired Farm Workers: Data Pertinent to Determining the Scope and Level of a Minimum Wage for Hired Farm Workers.* Washington, U.S. Department of Labor, Wage and Hour and Public Contracts Divisions, 1964. 112 pp.

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*Can a Case Be Made for Discouraging Overtime?* By T. Aldrich Finegan. (In Challenge, New York University, New York, April 1964, pp. 7-10. 40 cents.)

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*Economic History of the United States.* By Francis G. Walett. New York, Barnes & Noble, Inc., 1963. 280 pp., bibliography. 2d ed. (College Outline Series, 84.) \$1.75, paper.

*History of Economic Thought: A Book of Readings.* Edited by K. William Kapp and Lore L. Kapp. New York, Barnes & Noble, Inc., 1963. 437 pp. 2d ed. revised and enlarged. (College Outline Series, 62.) \$2.50, paper.

*The Economics of American Living.* By Harry W. Heckman. Chicago, Rand McNally & Co., 1963. 162 pp. 2d ed.

*Message From the President of the United States Relative to the Health of the Nation.* Washington, 1964. 11 pp. (H. Doc. 224, 88th Cong., 2d sess.)

*Message From the President of the United States Relative to Poverty, and a Draft of a Bill to Mobilize the Human and Financial Resources of the Nation to Combat Poverty in the United States.* Washington, 1964. 27 pp. (H. Doc. 243, 88th Cong., 2d sess.)

*Organization Man—Prospect for the Future.* By George Strauss. (In California Management Review, University of California, Graduate Schools of Business Administration, Berkeley and Los Angeles, Spring 1964, pp. 5-16. \$2, University of California Press, Berkeley.)

*La Dynamique des Comités d'Entreprise.* By Maurice Montuclard. Paris, Centre National de la Recherche Scientifique, 1963. 551 pp., bibliography. 56 F.

*Urban Renewal in European Countries: Its Emergence and Potentials.* By Leo Grebler. Philadelphia, University of Pennsylvania Press, 1964. 132 pp. \$5.

*Concentration in the Manufacturing Industries of the United States—A Midcentury Report.* By Ralph L. Nelson. New Haven, Conn., Yale University Press, 1963. 288 pp. (Economic Census Studies, 2.) \$7.50.

*Annual Report of the Waterfront Commission of New York Harbor for the Year Ending June 30, 1963.* New York, 1964. 34 pp.

*Annual Economic Indicators for the U.S.S.R.* Prepared for the [Congressional] Joint Economic Committee. Washington, 1964. 218 pp. (Joint Economic Committee Print, 88th Cong., 2d sess.) 55 cents, Superintendent of Documents, Washington.

*Year Book of Labor Statistics, 1963.* Geneva, International Labor Office, 1963. xxiii, 563 pp. (In English, French, Spanish.) \$7, cloth; \$6, paper. Distributed in United States by Washington Branch of ILO.

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### E.—Work Stoppages

- 748 E-1. Work stoppages resulting from labor-management disputes

### F.—Work Injuries

- F-1. Injury-frequency rates for selected manufacturing industries<sup>1</sup>

<sup>1</sup> This table is included in the January, April, July, and October issues of the *Review*.

NOTE: With the exceptions noted, the statistical series here from the Bureau of Labor Statistics are described in *Techniques of Preparing Major BLS Statistical Series*, BLS Bulletin 1168, 1954, and cover the United States without Alaska and Hawaii.

## A.—Employment

TABLE A-1. Estimated total labor force classified by employment status and sex

[In thousands]

Employment status	Estimated number of persons 14 years of age and over <sup>1</sup>														Annual average	
	1964				1963				1963						1961	1960
	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1961	1960	
	Total, both sexes															
<b>Total labor force</b> .....	76,544	75,553	75,259	74,514	75,201	76,000	76,086	75,811	77,167	77,917	77,901	75,864	74,897	74,175	73,126	
<b>Civilian labor force</b> .....	73,799	72,810	72,527	71,793	72,461	73,261	73,344	73,062	74,418	75,173	75,165	73,127	72,161	71,603	70,612	
Unemployment.....	3,921	4,293	4,524	4,565	3,846	3,936	3,453	3,516	3,857	4,322	4,846	4,066	4,063	4,806	3,931	
Unemployment rate seasonally adjusted <sup>2</sup> .....	5.4	5.4	5.4	5.6	5.5	5.9	5.5	5.6	5.5	5.6	5.7	5.9	5.7	6.7	5.6	
Unemployed 4 weeks or less.....	1,660	1,620	1,669	2,069	1,734	1,955	1,623	1,682	1,670	1,807	2,802	1,833	1,597	1,897	1,799	
Unemployed 5-10 weeks.....	705	807	1,236	988	859	767	662	617	806	1,221	806	679	672	964	823	
Unemployed 11-14 weeks.....	321	544	455	402	324	349	251	332	430	260	222	202	371	411	353	
Unemployed 15-26 weeks.....	693	742	654	605	492	401	443	382	439	376	502	649	743	758	502	
Unemployed over 26 weeks.....	543	581	510	501	436	463	476	503	510	557	514	643	651	804	454	
<b>Employment</b> .....	69,877	68,517	68,002	67,228	68,615	69,325	69,591	69,546	70,561	70,851	70,319	69,061	68,067	66,796	66,681	
<b>Nonagricultural</b> .....	65,448	64,500	64,071	63,234	64,576	64,548	64,541	64,220	65,065	64,882	64,365	63,883	63,424	61,333	60,958	
Worked 35 hours or more.....	51,452	50,556	48,953	47,179	50,817	46,129	50,960	50,492	47,678	47,214	49,804	50,383	46,505	47,257	46,388	
Worked 15-34 hours.....	7,676	7,717	8,694	9,637	7,679	12,456	7,402	7,124	6,985	6,556	7,015	7,261	10,455	7,522	8,249	
Worked 1-14 hours.....	4,206	4,191	4,321	4,164	4,092	3,935	3,893	3,645	3,261	3,332	3,580	4,144	3,856	3,610	3,279	
With a job but not at work <sup>3</sup> .....	2,115	2,038	2,103	2,255	1,985	2,029	2,283	2,900	7,142	7,780	3,966	2,093	2,608	2,946	3,042	
<b>Agricultural</b> .....	4,429	4,017	3,931	3,993	4,039	4,777	5,350	5,326	5,496	5,969	5,954	5,178	4,673	5,463	5,723	
Worked 35 hours or more.....	2,903	2,391	2,108	2,108	2,139	2,994	3,716	3,619	3,702	4,130	4,199	3,489	3,198	3,540	3,811	
Worked 15-34 hours.....	1,029	1,029	1,077	1,042	1,100	1,196	1,094	1,170	1,155	1,237	1,226	1,196	1,041	1,245	1,279	
Worked 1-14 hours.....	374	386	524	549	476	411	442	424	444	466	413	415	305	477	444	
With a job but not at work <sup>3</sup> .....	124	211	223	294	284	176	98	112	196	137	119	80	129	200	190	
	Males															
<b>Total labor force</b> .....	50,665	50,123	49,956	49,731	49,924	50,285	50,368	50,602	52,060	52,477	52,204	50,483	50,010	49,918	49,507	
<b>Civilian labor force</b> .....	47,951	47,411	47,255	47,041	47,215	47,577	47,657	47,884	49,342	49,765	49,500	47,778	47,306	47,378	47,025	
Unemployment.....	2,345	2,681	2,826	2,881	2,477	2,253	1,874	1,902	2,224	2,516	2,779	2,434	2,600	3,060	2,541	
<b>Employment</b> .....	45,607	44,730	44,429	44,160	44,739	45,324	45,784	45,983	47,118	47,249	46,722	45,345	44,706	44,318	44,455	
<b>Nonagricultural</b> .....	41,891	41,299	41,029	40,686	41,294	41,488	41,644	41,880	42,733	42,538	42,078	41,205	40,762	39,811	39,807	
Worked 35 hours or more.....	35,537	34,797	33,782	32,879	34,709	32,166	35,387	35,317	34,007	33,791	35,283	35,055	32,806	32,984	32,511	
Worked 15-34 hours.....	3,332	3,461	4,187	4,580	3,466	6,442	3,233	3,205	3,345	3,060	3,256	3,161	4,941	3,587	4,100	
Worked 1-14 hours.....	1,759	1,743	1,795	1,777	1,718	1,586	1,610	1,552	1,441	1,437	1,551	1,795	1,658	1,511	1,366	
With a job but not at work <sup>3</sup> .....	1,265	1,297	1,265	1,452	1,311	1,292	1,410	1,808	3,941	4,250	1,988	1,357	1,357	1,729	1,836	
<b>Agricultural</b> .....	3,716	3,432	3,400	3,474	3,445	3,836	4,139	4,103	4,385	4,711	4,644	4,140	3,945	4,508	4,675	
Worked 35 hours or more.....	2,622	2,190	1,918	1,908	1,951	2,622	3,121	3,067	3,232	3,591	3,634	3,071	2,888	3,127	3,265	
Worked 15-34 hours.....	678	741	803	795	820	754	626	631	669	681	637	702	700	822	792	
Worked 1-14 hours.....	306	325	475	497	409	307	309	301	315	329	276	296	247	370	348	
With a job but not at work <sup>3</sup> .....	107	176	203	274	263	154	84	102	168	111	96	68	112	179	172	
	Females															
<b>Total labor force</b> .....	25,878	25,430	25,302	24,783	25,277	25,715	25,718	25,209	25,108	25,440	25,697	25,381	24,886	24,257	23,619	
<b>Civilian labor</b> .....	25,847	25,399	25,271	24,752	25,246	25,684	25,687	25,178	25,076	25,408	25,665	25,349	24,854	24,225	23,587	
Unemployment.....	1,577	1,613	1,698	1,684	1,369	1,682	1,580	1,615	1,633	1,806	2,067	1,632	1,463	1,747	1,380	
<b>Employment</b> .....	24,271	23,786	23,573	23,068	23,877	24,001	24,107	23,563	23,443	23,602	23,598	23,717	23,391	22,478	22,196	
<b>Nonagricultural</b> .....	23,557	23,201	23,042	22,548	23,282	23,061	22,897	22,340	22,332	22,344	22,287	22,679	22,063	21,523	21,151	
Worked 35 hours or more.....	15,912	15,758	15,170	14,301	16,020	13,962	15,572	15,147	13,672	13,424	14,522	15,327	13,099	14,273	13,877	
Worked 15-34 hours.....	4,343	4,256	4,507	5,057	4,213	6,014	4,164	3,921	3,640	3,496	3,760	4,099	5,515	3,934	4,149	
Worked 1-14 hours.....	2,450	2,448	2,526	2,387	2,377	2,349	2,282	2,092	1,819	1,895	2,029	2,352	2,198	2,098	1,919	
With a job but not at work <sup>3</sup> .....	849	740	838	803	674	736	879	1,183	3,202	3,529	1,978	900	1,251	1,217	1,206	
<b>Agricultural</b> .....	713	585	531	520	594	940	1,210	1,223	1,111	1,111	1,258	1,310	900	1,217	1,045	
Worked 35 hours or more.....	279	201	190	199	224	372	597	551	467	467	564	418	311	408	445	
Worked 15-34 hours.....	350	288	273	247	280	443	467	537	485	556	590	493	341	419	486	
Worked 1-14 hours.....	66	61	49	53	69	104	134	122	129	137	135	117	59	107	96	
With a job but not at work <sup>3</sup> .....	16	35	20	20	21	22	15	10	28	26	23	12	17	22	17	

<sup>1</sup> Estimates are based on information obtained from a sample of households and are subject to sampling variability. Data relate to the calendar week ending nearest the 15th day of the month. The employed total includes all wage and salary workers, self-employed persons, and unpaid workers in family-operated enterprises. Persons in institutions are not included.

Because of rounding, sums of individual items do not necessarily equal totals.

<sup>2</sup> Unemployment as a percent of labor force.

<sup>3</sup> Includes persons who had a job or business but who did not work during the survey week because of illness, bad weather, vacation, or labor dispute. Prior to January 1957, also included were persons on layoff with definite instructions to return to work within 30 days of layoff and persons who had

new jobs to which they were scheduled to report within 30 days. Most of the persons in these groups have, since that time, been classified as unemployed.

NOTE: For a description of these series, see Explanatory Notes (in *Employment and Earnings*, U.S. Department of Labor, Bureau of Labor Statistics, current issues).

Figures for periods prior to April 1962 are not strictly comparable with current data because of the introduction of 1960 Census data into the estimation procedure. The change primarily affected the labor force and employment totals, which were reduced by about 200,000. The unemployment totals were virtually unchanged.

TABLE A-2. Employees in nonagricultural establishments, by industry<sup>1</sup>

[In thousands]

Revised series: see box, p. 720.

Industry	1964					1963							Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Total employees.....	57,872	57,375	57,045	56,909	58,585	58,220	58,426	58,211	57,651	57,422	57,609	56,967	56,505	57,174	55,841
<b>Mining</b> .....	620	610	611	614	631	634	637	641	646	641	650	643	632	634	652
Metal mining.....	83.4	82.9	82.0	82.0	82.6	83.5	84.1	84.4	84.7	84.4	84.0	83.0	81.5	82.4	82.8
Iron ores.....	26.9	26.7	26.2	26.2	26.7	27.6	27.6	27.9	28.1	27.9	26.9	26.5	24.4	25.9	25.5
Copper ores.....	23.7	23.5	28.2	28.0	27.8	27.6	27.5	27.5	27.5	27.5	27.9	27.9	28.5	27.9	28.5
Coal mining.....	129.5	134.1	135.2	137.1	136.1	136.0	134.5	135.1	125.9	138.8	141.5	142.8	138.7	138.7	151.7
Bituminous.....	118.2	122.7	124.0	125.8	124.8	125.0	123.8	124.5	114.5	128.0	130.5	131.9	132.0	127.6	139.8
Crude petroleum and natural gas.....	287.0	287.1	290.5	295.0	291.5	289.5	295.0	297.9	302.2	300.3	295.0	289.7	293.4	299.2	299.2
Crude petroleum and natural gas fields.....	159.5	160.6	160.5	161.6	161.2	161.6	163.3	166.5	167.5	166.3	163.0	162.9	163.6	163.6	167.4
Oil and gas field services.....	127.5	126.5	130.0	133.4	130.3	127.9	131.7	131.4	134.7	134.0	132.0	126.8	129.9	131.8	131.8
Quarrying and nonmetallic mining.....	109.6	106.8	106.4	116.1	122.6	127.1	126.7	128.2	128.5	127.0	123.3	118.1	119.7	118.7	118.7
<b>Contract construction</b> .....	2,958	2,756	2,681	2,628	2,925	3,176	3,333	3,378	3,437	3,364	3,232	3,049	2,846	3,029	2,909
General building contractors.....	838.4	816.4	803.9	889.2	972.4	1,011.6	1,026.4	1,055.9	1,033.5	984.6	916.0	864.0	920.4	881.1	881.1
Heavy construction.....	477.9	459.6	442.5	536.1	632.4	706.3	723.2	735.5	718.4	691.0	635.7	565.0	604.1	593.8	593.8
Highway and street construction.....	216.7	203.0	192.0	256.3	329.9	387.5	398.8	404.6	392.3	377.6	341.5	274.9	312.2	298.1	298.1
Other heavy construction.....	261.2	256.6	250.5	279.8	302.5	318.8	324.4	330.9	326.1	313.4	294.2	276.1	291.9	295.7	295.7
Special trade contractors.....	1,439.6	1,405.1	1,381.9	1,499.7	1,571.2	1,615.1	1,628.4	1,645.2	1,612.0	1,556.1	1,497.2	1,430.9	1,504.5	1,434.5	1,434.5
<b>Manufacturing</b> .....	17,093	17,054	16,982	16,935	17,139	17,229	17,367	17,398	17,199	17,050	17,111	16,960	16,845	17,035	16,859
Durable goods.....	9,797	9,733	9,676	9,666	9,765	9,789	9,811	9,801	9,609	9,666	9,738	9,673	9,593	9,659	9,493
Nondurable goods.....	7,296	7,321	7,306	7,269	7,374	7,440	7,556	7,597	7,590	7,384	7,373	7,287	7,252	7,376	7,367
<b>Durable goods</b>															
Ordnance and accessories.....	262.2	265.4	270.0	275.5	277.6	276.4	276.7	276.4	275.7	276.2	275.5	274.5	273.9	276.7	270.7
Ammunition, except for small arms.....	185.4	188.2	191.9	194.9	196.0	193.8	193.3	192.4	191.1	191.1	189.3	187.7	186.9	191.0	183.4
Sighting and fire control equipment.....	56.7	20.7	21.4	22.3	23.0	23.6	24.2	25.2	26.1	26.6	27.7	28.6	29.4	27.2	32.1
Other ordnance and accessories.....	56.7	56.5	56.7	58.3	58.6	59.0	59.2	58.8	58.5	58.5	58.5	58.2	57.6	58.4	55.1
Lumber and wood products, except furniture.....	576.7	567.7	566.3	564.1	584.4	597.2	605.9	614.1	608.8	589.4	584.9	594.6	571.9	585.8	588.7
Logging camps and logging contractors.....	73.9	70.7	74.9	76.0	82.3	86.8	89.9	93.3	89.9	82.8	78.5	82.4	74.1	81.5	83.0
Sawmills and planing mills.....	246.8	244.8	242.2	238.9	248.3	254.8	258.0	261.5	263.1	256.2	255.4	257.1	248.3	252.8	255.7
Millwork, plywood, and related products.....	155.5	153.4	152.4	152.8	154.8	156.3	157.6	158.3	154.7	150.6	149.9	155.1	151.7	152.6	151.9
Wooden containers.....	34.6	34.0	33.5	33.6	34.8	34.6	35.0	35.7	36.5	36.4	36.6	36.0	35.0	35.3	36.4
Miscellaneous wood products.....	65.9	64.8	63.3	62.8	64.2	64.7	65.4	65.3	64.6	63.4	64.5	64.0	62.8	63.7	61.8
Furniture and fixtures.....	394.9	394.7	391.3	390.0	395.5	397.8	399.7	399.1	396.7	386.5	387.7	382.8	382.6	389.8	385.1
Household furniture.....	292.1	292.3	289.9	287.2	290.7	291.2	291.5	289.3	286.7	279.4	280.7	278.0	278.9	283.3	276.0
Office furniture.....	26.1	25.7	25.6	27.0	27.2	27.5	27.4	27.3	25.8	26.9	26.6	26.8	27.1	27.8	27.8
Partitions; office and store fixtures.....	36.0	35.7	35.5	36.3	37.8	39.3	40.5	40.9	40.4	39.0	38.2	37.8	39.0	40.6	40.6
Other furniture and fixtures.....	41.4	40.3	40.0	40.8	41.5	41.6	41.4	41.9	41.8	40.9	41.1	40.0	39.1	40.5	40.7
Stone, clay, and glass products.....	612.1	598.3	589.5	584.2	603.6	619.9	623.9	629.9	635.6	630.0	626.8	615.3	599.6	607.5	594.0
Flat glass.....	31.0	31.7	32.0	32.3	32.6	32.2	31.6	31.3	30.2	30.3	30.1	29.9	29.9	30.8	30.4
Glass and glassware, pressed or blown.....	115.6	114.2	112.5	108.8	111.8	113.4	113.8	115.9	116.7	116.1	115.6	113.6	112.6	113.1	109.6
Cement, hydraulic.....	38.8	37.8	36.7	36.9	38.2	40.1	40.9	42.0	42.6	42.7	42.3	41.0	40.0	39.9	40.1
Structural clay products.....	67.3	65.6	63.6	64.0	67.3	68.5	68.7	70.1	72.0	71.3	71.1	69.8	67.7	68.1	68.3
Pottery and related products.....	44.4	43.7	44.2	44.5	45.4	45.1	44.8	44.4	43.7	43.5	43.7	43.6	43.6	43.9	43.8
Concrete, gypsum, and plaster products.....	172.0	162.5	159.6	158.1	167.8	177.2	180.9	183.3	185.4	184.0	183.3	177.3	168.0	171.8	164.4
Other stone and mineral products.....	122.5	121.6	120.9	120.0	121.3	121.9	121.3	121.6	122.8	122.4	121.3	120.3	118.5	120.0	118.9
Primary metal industries.....	1,202.3	1,190.1	1,181.3	1,167.6	1,163.7	1,152.0	1,152.7	1,166.0	1,170.8	1,195.9	1,209.1	1,191.6	1,174.8	1,165.7	1,163.8
Blast furnace and basic steel products.....	607.7	596.3	589.3	578.7	576.5	568.8	571.4	581.8	593.2	615.9	623.9	612.2	597.9	586.3	591.9
Iron and steel foundries.....	209.5	208.2	207.0	204.6	203.0	201.3	200.0	201.7	196.2	198.4	200.5	198.4	197.2	198.3	193.6
Nonferrous smelting and refining.....	70.2	70.2	70.0	69.9	69.7	69.9	69.7	70.2	70.3	70.3	69.6	68.4	67.6	68.8	68.1
Nonferrous, rolling, drawing, and extruding.....	184.0	184.2	184.0	183.9	184.3	182.7	182.7	182.7	183.5	183.0	185.4	183.1	182.0	182.7	181.3
Nonferrous foundries.....	72.6	72.8	72.6	72.3	71.8	71.3	71.0	71.4	70.9	71.4	71.3	71.5	71.3	70.0	70.0
Miscellaneous primary metal industries.....	58.3	58.4	58.4	58.2	58.4	58.0	57.9	58.3	57.2	57.4	58.3	58.2	58.6	58.2	58.9
Fabricated metal products.....	1,178.1	1,169.8	1,164.2	1,161.9	1,175.6	1,177.8	1,182.7	1,178.6	1,160.5	1,149.1	1,163.0	1,147.6	1,133.7	1,152.7	1,127.5
Metal cans.....	63.0	62.4	61.4	59.9	60.3	61.2	61.6	64.2	65.5	65.0	64.6	63.0	62.0	62.0	61.3
Cutlery, handtools, and general hardware.....	139.2	139.8	139.9	140.7	141.4	139.9	138.6	137.3	132.6	130.5	135.5	134.6	134.8	136.0	134.8
Heating equipment and plumbing fixtures.....	79.0	78.2	78.5	78.4	79.0	79.0	79.3	79.2	79.0	77.5	77.0	75.9	74.8	76.9	74.9
Fabricated structural metal products.....	340.0	334.4	332.7	332.0	338.4	343.6	347.4	351.4	352.0	346.6	344.3	335.9	327.5	337.5	331.5
Screw machine products, bolts, etc.....	89.2	89.4	89.0	88.7	89.2	88.6	88.8	89.2	88.7	87.6	89.1	88.5	88.3	88.7	87.9
Metal stampings.....	203.3	203.2	203.1	204.2	205.9	205.9	205.4	198.8	187.4	189.0	196.8	196.1	194.4	196.8	190.4
Coating, engraving, and allied services.....	73.3	72.5	70.7	71.1	72.6	73.0	73.6	72.3	70.3	69.1	70.2	69.7	68.7	70.0	67.2
Miscellaneous fabricated wire products.....	60.3	59.7	59.5	59.3	59.7	58.9	59.5	58.4	58.0	57.0	57.9	57.7	57.3	58.0	56.7
Miscellaneous fabricated metal products.....	130.8	130.2	129.4	127.6	129.1	127.7	128.5	127.8	127.0	126.8	127.6	126.2	125.9	126.8	122.9

See footnotes at end of table.

TABLE A-2. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

Industry	[In thousands]												Revised series; see box, p. 720.		
	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>3</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
<b>Manufacturing—Continued</b>															
<i>Durable goods—Continued</i>															
Machinery.....	1,591.2	1,583.4	1,555.1	1,556.6	1,550.0	1,531.1	1,527.5	1,524.7	1,516.4	1,512.4	1,523.1	1,516.4	1,518.8	1,520.3	1,489.8
Engines and turbines.....	86.9	86.3	85.7	85.5	86.3	86.1	86.2	86.3	85.4	84.7	84.5	84.4	85.7	85.6	84.0
Farm machinery and equipment.....	227.5	226.1	226.8	223.6	220.5	219.4	217.2	216.6	211.5	217.3	210.0	222.6	225.0	211.8	212.4
Construction and related machinery.....	227.5	226.1	207.3	221.6	219.4	217.2	216.9	217.6	216.6	214.6	215.1	212.3	211.6	214.4	210.7
Metalworking machinery and equipment.....	289.6	287.4	283.7	280.4	279.5	273.9	272.4	270.9	269.1	268.3	271.0	269.4	269.4	270.4	261.7
Special industry machinery.....	173.8	172.5	171.7	170.6	170.0	169.3	168.4	167.9	166.9	166.8	168.5	168.0	168.5	168.2	169.0
General industrial machinery.....	241.2	240.0	238.8	235.8	235.1	231.8	232.2	233.4	232.2	231.0	229.2	229.2	229.5	231.1	227.6
Office, computing, and accounting machines.....	153.6	153.9	155.2	155.2	155.8	154.0	154.4	153.9	153.6	152.8	153.0	152.3	153.5	153.8	156.3
Service industry machines.....	102.5	102.1	101.4	100.7	100.2	100.1	100.3	99.7	98.7	101.2	102.9	103.3	101.9	100.5	100.8
Miscellaneous machinery.....	187.7	186.9	184.5	183.2	182.2	181.5	180.1	179.0	178.8	175.7	177.0	174.9	173.7	176.5	167.4
Electrical equipment and supplies.....	1,550.2	1,550.4	1,557.0	1,569.2	1,581.7	1,584.9	1,595.4	1,590.5	1,571.7	1,566.3	1,580.4	1,572.8	1,572.4	1,581.6	1,579.2
Electric distribution equipment.....	170.8	170.6	171.0	170.8	170.6	170.3	169.0	169.5	170.5	168.6	168.5	167.8	167.6	168.9	167.8
Electrical industrial apparatus.....	189.8	189.5	188.7	188.4	188.1	187.6	187.8	187.8	187.8	187.8	188.2	186.8	186.1	187.2	185.4
Household appliances.....	159.3	167.6	158.0	157.5	160.3	161.9	160.8	157.9	153.9	152.6	155.0	153.4	151.9	154.7	150.2
Electric lighting and wiring equipment.....	152.8	153.5	153.1	152.1	152.8	153.8	154.3	153.0	150.2	146.5	147.4	146.0	147.0	149.3	143.2
Radio and TV receiving sets.....	108.4	106.2	108.6	112.1	116.9	119.7	122.6	122.2	118.3	113.5	112.1	106.9	103.7	113.0	110.7
Communication equipment.....	404.9	408.4	410.8	416.8	419.4	417.5	425.0	426.1	425.5	427.1	432.0	435.8	441.0	433.7	445.0
Electronic components and accessories.....	261.1	260.5	260.2	262.0	262.5	263.8	264.3	263.8	265.7	261.6	265.7	265.2	264.7	264.8	266.8
Miscellaneous electrical equipment and supplies.....	103.1	104.1	106.6	109.5	111.1	110.3	111.6	110.2	99.8	108.6	111.5	110.9	110.4	109.9	110.0
Transportation equipment.....	1,662.7	1,650.5	1,643.7	1,649.3	1,664.8	1,659.2	1,650.4	1,626.8	1,487.0	1,600.4	1,620.7	1,620.4	1,616.5	1,614.2	1,542.3
Motor vehicles and equipment.....	786.0	776.9	769.1	776.2	782.8	777.3	768.3	752.3	617.6	732.1	747.0	745.8	738.9	738.4	691.6
Aircraft and parts.....	636.3	639.7	641.6	647.8	656.0	654.0	652.1	648.6	644.5	643.3	644.9	644.5	647.6	649.4	634.6
Ship and boat building and repairing.....	144.2	140.9	141.9	139.0	139.2	141.2	142.1	140.4	141.6	141.8	144.0	148.9	149.4	144.2	141.3
Railroad equipment.....	51.2	50.3	48.1	47.7	47.7	47.2	47.3	45.1	44.1	44.3	44.7	42.3	43.0	44.1	40.6
Other transportation equipment.....	41.8	40.8	38.2	39.1	39.1	39.5	40.6	40.4	39.2	38.9	40.1	38.9	37.6	38.0	34.2
Instruments and related products.....	375.6	374.5	373.6	374.7	376.6	376.8	375.8	375.5	376.2	372.0	373.5	368.1	367.3	371.5	360.4
Engineering and scientific instruments.....	99.6	99.6	99.3	99.0	99.0	97.1	96.5	97.1	98.0	97.9	97.9	97.0	97.4	97.5	95.0
Mechanical, measuring, and control devices.....	43.7	43.6	43.5	42.5	42.6	42.6	42.2	42.0	41.2	41.1	42.0	41.5	41.0	41.5	40.6
Optical and ophthalmic goods.....	55.1	54.7	53.9	53.8	53.9	54.0	53.8	54.0	53.3	52.3	53.6	53.0	52.7	53.1	50.1
Surgical, medical, and dental equipment.....	77.1	76.8	77.4	78.0	78.0	78.5	78.2	77.8	78.3	77.7	76.0	74.3	73.8	75.9	72.4
Photographic equipment and supplies.....	28.9	29.0	29.4	30.4	31.6	31.9	31.5	31.5	31.0	29.9	30.1	28.9	28.8	29.8	28.3
Watches and clocks.....	391.3	387.8	383.5	373.3	391.2	415.4	420.2	419.2	409.3	388.2	393.2	388.7	381.2	393.4	391.2
Jewelry, silverware and plated ware.....	44.1	44.0	43.3	43.3	43.7	43.8	43.4	43.1	41.9	38.8	41.7	41.5	41.6	42.1	42.3
Toys, amusement and sporting goods.....	94.9	91.6	86.9	98.0	115.9	122.8	120.1	116.0	106.3	105.2	103.6	96.8	103.8	102.5	102.5
Pens, pencils, office and art materials.....	31.3	31.6	31.7	32.3	32.3	32.4	32.2	32.4	32.0	31.3	31.9	32.1	31.7	31.9	31.0
Costume jewelry, buttons, and notions.....	57.9	57.7	54.9	56.8	58.3	58.8	60.1	59.9	56.5	58.0	56.1	55.2	57.3	57.8	57.8
Other manufacturing industries.....	158.9	159.7	159.3	156.9	159.5	164.0	163.0	163.5	159.5	155.3	156.4	155.4	155.9	158.3	157.6
<i>Nondurable goods</i>															
Food and kindred products.....	1,647.2	1,639.6	1,644.8	1,660.7	1,709.8	1,752.0	1,832.8	1,872.6	1,864.6	1,779.5	1,732.0	1,679.9	1,659.4	1,738.4	1,759.9
Meat products.....	296.8	296.4	297.2	302.6	311.6	313.5	314.0	313.6	312.9	310.7	307.8	303.6	300.6	307.9	312.9
Dairy products.....	28.0	28.6	28.4	28.4	28.3	28.9	29.5	29.8	30.5	307.9	305.2	297.5	294.2	296.2	303.4
Canned and preserved foods, except meats.....	183.1	181.8	186.6	201.8	228.4	297.8	354.2	341.6	264.3	227.4	203.2	197.5	241.7	253.7	253.7
Grain mill products.....	127.5	127.8	128.3	129.7	130.1	130.1	133.8	135.1	136.1	135.9	134.1	131.1	127.8	131.6	130.8
Bakery products.....	288.8	288.8	288.1	287.4	291.8	293.1	294.0	292.8	295.1	296.0	294.0	290.7	289.4	292.3	293.6
Sugar.....	32.5	40.5	44.1	47.2	50.7	48.8	33.0	31.4	30.7	30.9	30.6	28.9	35.6	35.3	35.3
Confectionery and related products.....	70.4	73.5	75.7	75.5	82.2	84.3	83.4	80.5	76.3	69.9	72.6	70.8	71.3	76.5	75.4
Beverages.....	212.0	211.3	209.0	210.0	214.7	217.0	220.5	220.3	223.9	223.9	219.9	213.2	209.5	214.7	212.3
Miscellaneous food and kindred products.....	138.6	140.1	140.0	140.5	142.5	145.6	147.0	144.2	141.5	140.2	140.1	139.2	140.2	142.0	142.4
Tobacco manufactures.....	77.4	81.6	85.7	88.3	95.2	99.5	106.6	107.5	100.5	74.9	75.6	76.5	78.6	89.2	91.0
Cigarettes.....	37.1	37.1	37.7	37.7	38.2	38.0	38.0	38.6	38.6	38.2	38.1	37.5	37.6	37.9	37.5
Cigars.....	25.0	24.5	22.8	23.4	23.9	23.7	23.4	23.0	21.9	22.8	22.8	23.0	23.1	23.9	23.9
Textile mill products.....	890.7	891.8	887.7	880.7	887.9	894.8	897.7	895.8	896.5	884.0	895.1	887.6	886.9	889.5	902.6
Cotton broad woven fabrics.....	231.6	233.7	233.7	233.3	234.3	233.8	234.2	233.7	234.0	232.4	233.0	232.5	233.6	233.6	240.4
Silk and synthetic broad woven fabrics.....	85.1	85.2	85.3	85.1	85.4	85.1	84.3	83.7	84.1	82.5	83.6	82.6	82.1	83.3	81.7
Weaving and finishing broad wovens.....	47.1	46.4	46.9	46.4	45.9	45.8	47.2	47.8	49.0	49.5	50.4	50.2	50.7	48.9	51.8
Narrow fabrics and smallwares.....	27.2	27.1	27.0	27.0	27.2	27.3	27.4	27.2	27.0	26.1	27.2	26.9	26.8	27.0	27.6
Knitting.....	214.9	213.2	208.8	204.2	208.3	216.5	219.7	219.6	219.5	216.4	218.3	215.3	213.3	214.6	219.4
Finishing textiles, except wool and knit.....	74.3	74.9	74.6	74.6	75.2	75.0	74.4	74.3	74.3	73.6	74.5	74.1	74.5	74.4	74.9
Floor covering.....	38.7	38.5	38.0	38.7	38.7	38.7	37.9	37.9	37.8	37.0	37.1	37.1	37.7	37.9	37.4
Yarn and thread.....	107.4	107.5	107.2	106.5	106.7	106.0	105.5	105.5	105.7	101.9	104.9	103.6	103.1	104.2	103.3
Miscellaneous textile goods.....	64.9	65.1	65.7	65.6	66.2	66.6	66.5	66.1	65.1	64.6	66.1	65.3	65.7	65.7	66.3

See footnotes at end of table.

TABLE A-2. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 720.

Industry	1964					1963								Annual average	
	Apr. <sup>2</sup>	Mar. <sup>1</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
<b>Manufacturing—Continued</b>															
<i>Nondurable goods—Continued</i>															
Apparel and related products.....	1,291.8	1,326.3	1,321.9	1,281.5	1,297.9	1,310.1	1,329.6	1,329.0	1,331.9	1,280.0	1,289.2	1,288.2	1,280.2	1,297.7	1,266.7
Men's and boys' suits and coats.....	108.8	114.9	114.8	114.4	115.2	113.2	113.5	116.1	116.6	113.9	118.8	117.9	116.3	116.3	117.2
Men's and boys' furnishings.....	331.4	331.7	328.8	323.0	326.7	330.1	333.6	335.5	340.2	330.2	334.1	330.3	326.8	329.4	319.0
Women's, misses', and juniors' outerwear.....	390.0	411.1	411.2	391.0	391.8	392.0	399.8	400.6	404.5	384.9	380.2	388.4	390.5	392.4	381.7
Women's and children's undergarments.....	119.1	120.0	119.2	117.8	121.6	125.6	124.9	122.9	120.8	113.4	116.0	116.1	116.4	118.7	116.5
Hats, caps, and millinery.....	80.0	80.2	83.4	80.0	78.2	78.7	80.0	79.6	81.3	81.2	82.3	79.6	75.4	79.7	78.4
Fur goods and miscellaneous apparel.....	80.0	73.1	71.8	67.7	71.9	76.1	78.4	77.3	75.6	72.7	73.0	71.4	71.0	73.0	73.9
Miscellaneous fabricated textile products.....	160.2	160.1	157.0	155.0	161.2	164.1	166.3	163.9	158.2	151.1	154.1	155.0	152.6	155.7	147.2
Paper and allied products.....	622.3	620.9	619.0	620.1	625.7	626.4	626.3	629.0	629.3	620.6	624.1	615.8	614.5	620.7	614.5
Paper and pulp.....	213.6	212.7	212.7	213.4	215.5	215.3	215.5	216.9	219.6	217.2	217.8	213.6	212.9	215.2	217.3
Paperboard.....	67.5	68.3	68.2	68.3	68.2	68.2	67.9	68.0	68.3	67.9	67.9	67.7	66.8	67.8	65.8
Converted paper and paperboard products.....	151.3	150.5	149.6	149.7	150.8	150.1	150.3	151.9	150.8	147.6	147.9	146.7	147.5	148.4	144.5
Paperboard containers and boxes.....	189.9	189.4	188.5	188.7	191.2	192.8	192.6	192.2	190.6	187.9	190.5	187.8	187.3	189.3	186.9
Printing, publishing, and allied industries.....	943.1	942.1	937.9	936.4	946.4	940.8	941.7	937.8	935.1	930.5	932.8	927.9	925.3	927.9	924.9
Newspaper publishing and printing.....	327.0	325.8	324.3	324.0	327.8	325.1	326.4	325.4	325.8	325.9	325.9	323.4	321.3	319.5	324.1
Periodical publishing and printing.....	70.7	71.1	70.9	71.1	70.7	70.6	70.0	69.1	68.3	68.8	69.9	70.3	70.2	70.3	70.3
Books.....	78.2	77.9	76.8	76.3	75.2	75.6	76.2	76.2	74.1	74.4	74.4	74.1	73.7	74.5	72.5
Commercial printing.....	304.1	303.5	301.0	302.6	304.6	303.6	302.7	299.9	297.2	296.2	297.7	296.8	296.5	298.8	296.0
Bookbinding and related industries.....	50.1	49.7	49.2	48.0	50.2	49.7	50.4	50.9	51.7	51.5	51.6	50.4	50.1	50.4	49.1
Other publishing and printing industries.....	113.8	114.2	114.4	114.1	116.4	116.3	116.0	115.4	115.1	114.5	114.4	113.3	113.4	114.6	113.0
Chemicals and allied products.....	883.3	874.9	866.4	864.5	866.5	866.6	870.0	871.8	875.9	872.3	870.2	869.4	870.1	865.6	846.0
Industrial chemicals.....	287.7	285.2	284.8	284.9	284.8	285.1	284.7	286.8	289.4	288.4	287.6	285.2	284.6	285.4	283.4
Plastics and synthetics, except glass.....	176.5	174.6	173.6	173.7	173.5	172.9	172.8	172.6	172.9	172.6	170.9	168.7	166.0	169.7	161.2
Drugs.....	117.1	117.0	116.5	117.5	117.6	117.4	117.1	117.1	118.3	117.6	116.8	115.4	115.1	116.2	111.3
Soap, cleaners, and toilet goods.....	99.4	98.5	97.8	96.8	99.2	99.8	101.7	101.1	101.6	99.5	99.2	97.7	98.3	99.3	96.9
Paints, varnishes, and allied products.....	65.1	64.6	64.0	63.6	64.0	64.3	64.5	65.0	66.1	66.1	65.3	64.1	63.6	64.2	62.9
Agricultural chemicals.....	59.8	56.2	51.5	49.5	47.9	46.9	48.6	47.8	46.0	46.0	48.9	56.8	61.3	50.0	48.3
Other chemical products.....	77.7	78.8	78.2	78.5	79.5	80.2	80.6	81.4	81.6	82.1	81.5	81.5	81.2	80.9	81.9
Petroleum refining and related industries.....	183.5	183.2	183.4	183.7	184.5	186.8	188.8	191.0	193.1	191.1	190.4	188.9	187.0	188.1	195.0
Petroleum refining.....	150.6	151.0	151.3	152.3	152.0	152.4	153.0	154.6	155.8	154.4	153.9	153.4	153.6	153.6	160.5
Other petroleum and coal products.....	32.9	32.2	32.1	31.4	32.5	34.4	35.8	36.4	37.3	36.7	36.5	35.5	33.4	34.5	34.5
Rubber and miscellaneous plastic products.....	414.0	411.9	409.8	408.2	410.2	413.1	411.6	409.4	405.0	400.5	412.4	410.4	408.1	408.8	405.8
Tires and inner tubes.....	96.9	96.3	95.9	95.4	95.3	94.5	91.9	91.6	91.3	90.6	98.7	98.4	98.3	96.0	99.2
Other rubber products.....	161.7	160.7	161.1	160.8	162.0	162.9	162.3	161.5	159.8	155.7	162.1	161.1	160.6	161.2	160.5
Miscellaneous plastic products.....	155.4	154.9	152.8	152.0	152.9	155.7	157.4	156.3	153.9	148.8	151.6	150.9	149.2	151.6	146.0
Leather and leather products.....	342.5	348.9	349.5	345.1	349.7	350.3	350.8	352.7	357.9	350.6	350.7	342.6	342.0	350.3	360.3
Leather tanning and finishing.....	31.5	31.3	31.4	30.3	31.7	31.7	31.5	31.3	31.5	30.7	31.5	30.9	30.6	31.3	31.9
Footwear, except rubber.....	231.8	236.9	238.3	237.0	236.2	233.6	231.7	234.2	239.0	236.2	235.7	232.3	232.1	235.6	241.2
Other leather products.....	79.2	80.7	79.8	77.8	81.8	85.0	87.6	87.2	87.4	83.7	83.5	79.4	79.3	83.5	87.2
<b>Transportation and public utilities.....</b>	<b>3,911</b>	<b>3,885</b>	<b>3,879</b>	<b>3,876</b>	<b>3,931</b>	<b>3,944</b>	<b>3,968</b>	<b>3,982</b>	<b>3,976</b>	<b>3,975</b>	<b>3,954</b>	<b>3,897</b>	<b>3,859</b>	<b>3,913</b>	<b>3,903</b>
Railroad transportation.....	753.9	752.9	755.0	773.4	770.5	776.2	776.2	780.2	791.2	789.8	788.9	779.7	768.9	774.4	797.1
Class I railroads.....	660.5	659.4	662.4	672.3	675.9	681.4	685.8	696.9	695.0	694.7	684.5	674.4	679.6	700.2	700.2
Local and interurban passenger transit.....	274.5	282.8	283.8	281.5	278.9	277.9	276.2	258.3	258.4	268.9	274.4	273.2	273.1	271.1	271.1
Local and suburban transportation.....	80.3	86.8	87.0	87.2	87.5	87.8	87.8	86.8	86.8	87.0	87.7	88.1	87.3	87.6	90.5
Taxicabs.....	115.2	117.4	117.3	117.0	114.5	113.1	112.2	111.1	111.4	111.7	112.7	113.9	114.1	113.2	113.2
Intercity and rural buslines.....	40.7	40.8	42.1	41.6	41.2	41.8	43.1	43.6	43.7	42.7	42.7	41.6	40.5	41.7	41.4
Motor freight transportation and storage.....	886.4	888.0	885.3	913.2	924.6	935.7	934.2	921.1	920.1	912.3	877.3	868.3	898.0	879.9	879.9
Air transportation.....	215.3	214.2	214.6	213.8	212.9	212.0	211.5	212.4	211.8	210.7	210.7	209.4	208.4	210.5	200.5
Air transportation, common carriers.....	195.6	194.7	194.4	193.5	192.4	191.8	191.6	191.9	191.3	189.5	187.8	186.7	189.7	189.7	179.5
Pipeline transportation.....	19.4	19.4	19.4	19.5	19.6	19.7	20.1	20.4	20.5	20.4	19.9	20.0	20.0	21.3	21.3
Other transportation.....	292.2	283.0	282.5	293.1	300.9	302.2	306.4	305.6	305.7	302.4	305.6	294.0	296.0	297.1	297.1
Communication.....	833.8	830.4	826.9	826.8	825.8	832.5	835.0	843.0	842.4	831.5	824.4	823.7	828.5	824.7	824.7
Telephone communication.....	691.6	688.4	685.1	685.3	684.7	690.8	693.2	698.8	701.4	691.8	685.8	684.5	688.5	687.7	687.7
Telegraph communication.....	32.9	32.9	32.8	32.2	33.0	33.3	33.6	33.6	34.0	34.1	34.1	34.7	35.0	34.2	37.0
Radio and television broadcasting.....	105.0	104.8	104.7	104.0	103.8	104.1	103.9	103.3	102.7	101.3	99.6	99.9	101.5	95.8	95.8
Electric, gas, and sanitary services.....	609.0	608.3	608.9	609.9	611.1	611.3	617.9	626.7	625.9	619.1	606.7	602.8	612.3	611.1	611.1
Electric companies and systems.....	245.7	245.5	245.9	246.0	246.1	246.2	248.8	251.7	251.5	249.2	243.8	240.9	246.5	246.5	246.5
Gas companies and systems.....	153.5	153.5	153.2	154.0	154.4	154.3	155.9	158.4	158.3	156.9	153.5	153.1	154.8	155.1	155.1
Combined utility systems.....	170.6	170.5	170.9	171.4	171.9	172.1	174.2	176.6	176.3	173.8	171.0	170.8	172.5	172.7	172.7
Water, steam, and sanitary systems.....	39.2	38.8	38.9	38.5	38.7	38.7	39.0	39.8	39.8	39.8	39.2	38.4	38.0	38.4	36.7

See footnotes at end of table.

TABLE A-2. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
<b>Wholesale and retail trade</b> .....	11,974	11,921	11,837	11,917	12,774	12,166	12,014	11,942	11,878	11,832	11,848	11,720	11,740	11,865	11,582
Wholesale trade.....	3,187	3,186	3,187	3,201	3,238	3,208	3,208	3,199	3,196	3,168	3,132	3,085	3,075	3,143	3,061
Motor vehicles and automotive equipment.....		237.6	237.4	237.4	238.8	238.3	237.3	236.7	237.3	237.5	236.7	234.1	232.6	235.2	228.2
Drugs, chemicals, and allied products.....		191.9	191.4	192.6	192.8	192.7	192.1	191.7	192.1	190.7	190.2	188.5	189.1	190.5	187.0
Dry goods and apparel.....		134.7	134.2	132.9	134.7	135.3	134.6	134.0	134.9	134.8	134.1	131.9	131.7	133.5	131.5
Groceries and related products.....		496.6	497.0	500.9	506.6	501.0	512.7	514.6	512.5	508.5	497.1	475.6	472.4	494.2	487.1
Electrical goods.....		233.0	231.7	232.3	231.7	230.2	231.0	231.1	232.0	231.0	228.6	227.4	226.4	228.5	218.1
Hardware, plumbing and heating goods.....		146.4	146.0	145.7	146.5	146.1	146.5	146.5	147.2	147.3	145.8	144.1	144.1	145.1	142.3
Machinery, equipment, and supplies.....		564.1	563.9	561.0	559.9	557.9	554.5	550.9	550.1	547.2	538.9	535.5	532.1	541.7	511.8
Retail trade.....	8,787	8,735	8,650	8,716	9,536	8,958	8,806	8,743	8,682	8,664	8,716	8,635	8,605	8,722	8,521
General merchandise stores.....		1,622.3	1,584.8	1,639.7	1,716.1	1,805.8	1,694.3	1,652.1	1,602.0	1,583.8	1,605.4	1,590.2	1,617.5	1,664.0	1,627.0
Department stores.....		955.4	930.9	975.4	1,319.6	1,070.9	992.3	961.9	932.0	923.2	940.0	932.0	949.4	979.8	959.6
Limited price variety stores.....		312.2	302.6	304.8	412.4	341.9	329.7	325.4	309.9	306.0	311.2	312.0	323.1	324.6	325.3
Food stores.....		1,433.7	1,434.9	1,436.0	1,460.3	1,431.8	1,425.1	1,414.1	1,400.2	1,403.8	1,402.8	1,395.2	1,401.3	1,409.1	1,371.4
Grocery, meat, and vegetable stores.....		1,263.4	1,261.5	1,268.1	1,400.3	1,344.8	1,255.0	1,243.4	1,229.7	1,233.3	1,230.5	1,222.7	1,221.7	1,236.2	1,202.9
Apparel and accessories stores.....		627.0	592.6	612.3	744.8	639.9	620.9	614.5	589.4	583.6	610.7	608.5	665.7	620.4	617.2
Men's and boys' apparel stores.....		101.2	102.0	109.0	133.8	104.7	99.9	99.3	97.0	97.6	101.8	97.5	101.7	102.5	100.5
Women's ready-to-wear stores.....		235.2	222.7	228.1	274.7	240.7	233.5	229.7	223.1	218.3	228.2	229.3	238.6	231.4	229.3
Family clothing stores.....		91.4	90.7	97.4	122.0	97.5	93.1	91.8	86.8	87.5	91.2	90.0	92.9	93.7	96.1
Shoe stores.....		126.0	112.3	112.7	136.5	125.1	123.3	126.1	119.6	118.5	122.6	124.1	156.4	124.5	120.9
Furniture and appliance stores.....		396.0	395.6	397.1	409.5	400.9	397.4	393.6	392.4	390.3	389.7	387.2	387.5	392.9	389.5
Eating and drinking places.....		1,771.8	1,756.9	1,741.1	1,758.0	1,763.9	1,773.6	1,781.3	1,801.5	1,809.9	1,817.9	1,789.2	1,743.9	1,762.1	1,722.8
Other retail trade.....	2,884.5	2,884.8	2,890.1	2,987.3	2,916.0	2,894.7	2,887.2	2,896.4	2,892.8	2,889.6	2,864.2	2,849.2	2,873.5	2,879.5	2,792.5
Motor vehicle dealers.....		691.5	691.8	690.4	686.6	682.7	680.3	678.3	680.0	679.4	676.8	671.8	669.6	675.1	642.0
Other vehicle and accessory dealers.....		164.1	162.9	163.3	176.4	170.3	165.8	166.3	168.7	168.3	167.9	163.4	161.7	164.5	152.7
Drug stores.....		384.0	383.8	384.2	400.1	387.3	381.0	380.9	379.3	379.2	377.0	377.4	378.1	380.6	374.8
<b>Finance, insurance, and real estate</b> .....	2,913	2,895	2,885	2,875	2,880	2,878	2,884	2,887	2,919	2,916	2,885	2,858	2,842	2,866	2,798
Banking.....		750.7	748.9	746.5	746.2	744.7	743.6	743.6	752.1	749.7	739.3	730.8	730.6	738.4	714.0
Credit agencies other than banks.....		299.8	299.6	299.4	298.0	296.7	295.6	294.2	295.4	295.6	291.6	289.3	288.0	291.8	279.4
Savings and loan associations.....		90.5	90.6	91.5	89.7	89.3	88.9	88.3	89.1	89.4	87.0	85.4	85.1	87.1	81.0
Personal credit institutions.....		157.7	157.4	156.7	156.9	155.9	155.5	155.1	155.3	155.4	154.4	153.8	154.6	150.8	
Security dealers and exchanges.....		124.7	124.4	123.4	123.9	123.8	123.6	123.4	125.3	125.7	124.3	123.5	123.0	123.8	131.8
Insurance carriers.....		876.2	873.2	869.9	872.0	870.8	868.6	869.8	878.4	874.2	865.3	861.6	860.0	866.4	851.4
Life insurance.....		467.4	466.6	465.6	466.8	465.3	464.7	465.1	468.5	466.0	461.2	460.0	459.0	462.7	454.1
Accident and health insurance.....		53.3	52.9	52.6	52.2	52.1	51.9	52.0	52.6	52.6	51.9	51.4	51.4	51.8	51.1
Fire, marine, and casualty insurance.....		313.7	311.8	310.1	311.2	311.5	310.2	311.1	314.9	313.5	310.8	309.3	308.8	310.5	305.7
Insurance agents, brokers, and services.....		222.5	221.6	221.2	220.2	220.0	219.3	219.6	222.4	221.3	219.2	217.4	216.6	218.6	211.9
Real estate.....		545.4	541.8	539.6	544.1	546.4	557.1	559.0	568.4	571.3	569.2	559.5	548.2	551.1	532.9
Operative builders.....		50.7	49.8	49.8	51.3	53.8	56.4	55.9	58.4	57.9	57.3	55.2	53.0	53.5	48.1
Other finance, insurance, and real estate.....		75.7	75.2	75.0	76.0	75.8	76.1	77.0	76.7	77.8	76.4	76.1	75.4	76.1	76.9
<b>Services and miscellaneous</b> .....	8,543	8,414	8,362	8,313	8,379	8,406	8,472	8,436	8,457	8,474	8,423	8,294	8,199	8,297	7,949
Hotels and lodging places.....		609.8	605.7	590.8	593.1	603.2	639.8	672.6	766.1	766.3	692.7	626.0	600.2	641.9	596.5
Hotels, tourist courts, and motels.....		568.4	565.0	550.3	549.8	559.2	592.8	615.6	659.9	662.0	633.8	575.7	554.7	585.3	539.9
Personal services:															
Laundries, cleaning and dyeing plants.....		507.8	507.9	508.2	507.9	511.6	513.5	512.1	513.8	517.7	519.9	513.6	511.1	510.5	516.2
Miscellaneous business services:															
Advertising.....		109.1	108.7	108.0	109.0	110.0	109.7	108.6	108.9	108.9	107.6	108.1	107.7	108.5	107.9
Motion pictures.....		159.3	156.7	157.3	165.8	166.4	172.2	176.6	184.2	181.1	177.6	171.2	170.2	170.9	176.3
Motion picture filming and distributing.....		36.4	35.6	36.4	40.0	38.6	39.6	37.2	38.2	36.4	34.3	33.0	32.9	36.6	39.4
Motion picture theaters and services.....		122.9	121.1	120.9	125.8	127.8	132.6	139.4	146.0	144.7	143.3	138.2	137.3	134.3	136.9
Medical services:															
Hospitals.....		1,333.3	1,328.7	1,323.1	1,318.6	1,320.0	1,316.7	1,310.8	1,312.0	1,312.6	1,302.9	1,290.7	1,289.0	1,300.8	1,246.7
<b>Government</b> .....	9,860	9,840	9,808	9,751	9,926	9,787	9,751	9,547	9,139	9,170	9,506	9,546	9,542	9,535	9,188
Federal Government <sup>3</sup> .....	2,331	2,323	2,321	2,323	2,482	2,342	2,343	2,342	2,367	2,375	2,365	2,340	2,344	2,358	2,340
Executive.....		2,293.1	2,290.9	2,293.1	2,451.8	2,312.6	2,313.5	2,312.4	2,337.0	2,344.5	2,334.4	2,311.0	2,314.7	2,328.0	2,310.6
Department of Defense.....		936.8	937.3	938.1	939.7	940.1	941.5	943.0	951.3	953.9	951.5	949.9	951.9	949.2	963.3
Post Office Department.....		585.9	585.6	588.2	738.0	593.3	588.5	586.3	588.7	588.7	585.7	582.8	583.3	598.4	597.2
Other agencies.....		770.4	768.0	766.8	774.1	779.2	783.5	783.1	797.0	801.9	797.2	778.3	779.5	780.4	750.2
Legislative.....		24.3	24.1	24.1	24.2	24.1	24.1	24.3	24.5	24.6	24.4	23.7	23.8	24.1	23.7
Judicial.....		5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7	5.5
State and local government <sup>4</sup> .....	7,529	7,517	7,487	7,428	7,444	7,445	7,408	7,205	6,772	6,795	7,141	7,206	7,198	7,177	6,849
State government.....		1,893.0	1,884.9	1,868.9	1,866.5	1,868.6	1,858.1	1,801.6	1,744.8	1,751.7	1,790.7	1,808.7	1,805.0	1,807.2	1,728.4
State education.....		684.6	681.4	670.1	667.8	678.4	663.9	591.1	521.3	528.3	588.0	634.8	631.9	615.7	567.7
Other State government.....		1,208.4	1,203.5	1,198.8	1,198.7	1,190.2	1,194.2	1,210.5	1,223.5	1,220.7	1,202.7	1,173.9	1,173.1	1,191.4	1,158.8
Local government.....		5,624.1	5,602.4	5,559.4	5,577.7	5,576.2	5,549.4	5,403.4	5,026.7	5,043.3	5,349.9	5,397.3	5,393.2	5,369.5	5,122.1
Local education.....		3,265.7	3,248.4	3,210.3	3,228.1	3,225.9	3,197.3	3,023.4	2,601.1	2,601.1	2,976.3	3,057.4	3,057.4	3,020.6	2,832.3
Other local government.....		2,358.4	2,354.0	2,349.1	2,349.6	2,350.3	2,352.1	2,380.0	2,425.6	2,442.2	2,373.6	2,340.8	2,340.8	2,348.9	2,289.8

<sup>1</sup> Beginning with the October 19

TABLE A-3. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>

Industry	[In thousands]												Revised series; see box, p. 720.		
	1964						1963						Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
<b>Mining</b> .....		474	474	478	493	498	499	504	508	505	512	506	496	497	514
Metal mining.....		69.2	68.6	68.0	68.6	69.5	69.9	70.5	70.2	70.1	69.8	68.9	67.3	68.1	67.9
Iron ores.....		22.7	22.5	22.1	22.6	23.6	23.6	23.9	24.1	24.0	23.1	22.6	20.5	22.0	21.3
Copper ores.....		23.6	23.4	23.2	23.0	22.8	22.6	22.7	22.4	22.3	22.7	22.9	23.4	22.8	23.4
Coal mining.....		113.8	118.1	119.2	120.8	120.0	119.9	118.7	119.0	111.5	122.3	124.0	125.8	122.3	133.4
Bituminous.....		103.8	108.0	109.3	110.8	109.9	110.1	109.3	109.6	101.3	112.7	114.3	116.1	112.4	123.0
Crude petroleum and natural gas.....		201.9	201.9	205.1	209.1	206.8	204.2	209.4	211.7	215.6	214.5	210.4	205.2	208.4	214.0
Crude petroleum and natural gas fields.....		91.5	92.0	92.3	92.7	93.3	93.3	95.3	97.8	98.5	98.1	95.8	95.9	95.8	99.7
Oil and gas field services.....		110.4	109.9	112.8	116.4	113.5	110.9	114.1	113.9	117.1	116.4	114.6	109.3	112.5	114.3
Quarrying and nonmetallic mining.....		88.8	85.7	85.8	94.8	101.7	104.9	105.6	106.7	107.3	105.8	102.7	97.7	98.7	98.6
<b>Contract construction</b> .....		2,300	2,228	2,176	2,470	2,722	2,879	2,921	2,977	2,906	2,777	2,600	2,398	2,578	2,468
General building contractors.....		706.8	684.3	671.2	756.5	840.0	879.4	895.0	923.9	902.0	855.3	787.7	735.4	790.3	754.9
Heavy construction.....		396.8	380.3	363.5	457.5	554.0	626.8	645.0	656.4	639.3	613.1	558.6	474.0	526.7	515.3
Highway and street construction.....		183.4	170.3	159.4	223.3	296.4	353.4	365.5	370.9	359.3	345.4	309.8	243.5	280.1	267.7
Other heavy construction.....		213.4	210.0	204.1	234.2	257.6	273.4	279.5	285.5	280.0	267.7	248.8	230.5	246.6	247.6
Special trade contractors.....		1,196.3	1,163.2	1,141.1	1,256.4	1,328.4	1,372.3	1,381.3	1,397.0	1,364.6	1,308.6	1,253.5	1,188.5	1,261.0	1,197.5
<b>Manufacturing</b> .....		12,612	12,588	12,518	12,472	12,665	12,756	12,895	12,923	12,705	12,571	12,652	12,526	12,426	12,585
Durable goods.....		7,184	7,131	7,075	7,064	7,155	7,180	7,204	7,193	6,995	7,056	7,138	7,063	7,010	7,059
Nondurable goods.....		5,428	5,457	5,443	5,408	5,510	5,576	5,691	5,730	5,710	5,515	5,514	5,443	5,416	5,526
<b>Durable goods</b> .....															
Ordnance and accessories.....		110.3	111.9	113.9	118.1	119.0	119.4	120.0	119.3	118.0	118.2	118.4	118.1	117.5	119.1
Ammunition, except for small arms.....		64.0	65.3	66.6	69.3	69.6	69.3	69.5	69.0	67.8	67.6	67.0	66.4	65.7	67.9
Sighting and fire control equipment.....			8.6	9.0	9.4	9.6	9.7	9.9	10.1	10.5	10.7	11.4	11.8	12.4	11.3
Other ordnance and accessories.....		38.2	38.0	38.3	39.4	39.8	40.4	40.6	39.7	39.9	39.9	39.9	39.4	39.9	38.0
Lumber and wood products, except furniture.....		510.9	503.3	504.3	502.3	521.7	534.2	542.7	551.0	547.1	527.5	522.9	532.9	511.0	524.0
Logging camps and logging contractors.....		66.8	63.9	69.5	71.1	76.9	81.2	84.3	87.5	85.1	78.0	73.3	77.3	68.9	76.4
Sawmills and planing mills.....		224.1	222.6	220.9	217.2	226.7	232.7	235.6	239.3	241.0	234.4	233.4	235.3	227.0	231.0
Millwork, plywood, and related products.....		131.6	130.0	128.9	129.3	131.2	133.0	134.3	135.1	131.6	126.9	126.7	132.0	128.7	129.5
Wooden containers.....		31.2	30.6	30.2	30.3	31.4	31.2	31.8	32.4	33.3	33.3	33.4	32.8	31.9	32.0
Miscellaneous wood products.....		57.2	56.2	54.8	54.4	55.5	56.1	56.7	56.7	56.1	54.9	56.1	55.5	54.5	55.2
Furniture and fixtures.....		327.5	327.8	325.0	323.8	329.4	332.0	333.7	333.3	331.0	321.3	322.5	317.3	317.8	324.3
Household furniture.....		249.5	249.9	247.9	245.5	249.1	249.8	250.1	248.1	245.7	238.9	240.0	237.4	238.7	242.4
Office furniture.....			20.4	20.2	20.8	21.3	21.6	21.9	21.8	21.7	20.5	21.3	20.9	21.2	21.5
Partitions, office and store fixtures.....			26.4	26.2	26.1	26.8	28.3	29.6	30.9	31.1	30.4	29.3	28.4	28.0	29.2
Other furniture and fixtures.....		32.0	31.1	30.7	31.4	32.2	32.3	32.1	32.5	32.5	31.5	31.9	30.6	29.9	31.3
Stone, clay, and glass products.....		490.4	480.0	470.6	466.7	485.9	500.9	504.1	510.3	516.3	512.1	508.1	496.7	482.4	489.5
Flat glass.....			24.8	25.5	25.9	26.2	26.5	25.9	25.2	24.5	24.5	24.3	24.2	24.9	25.2
Glass and glassware, pressed or blown.....		100.7	99.3	97.5	94.3	97.7	98.5	98.4	100.5	101.2	100.6	100.1	98.0	96.9	97.7
Cement, hydraulic.....		30.3	29.5	28.4	28.6	29.9	31.7	32.5	33.7	34.4	34.4	34.0	32.7	31.8	31.7
Structural clay products.....		57.0	55.3	53.3	53.6	56.9	58.3	58.4	59.8	61.4	60.9	60.7	59.6	57.4	57.9
Pottery and related products.....			37.9	37.1	37.6	37.9	38.7	38.3	38.1	37.8	37.1	36.9	37.1	37.2	37.3
Concrete, gypsum, and plaster products.....		133.7	124.8	121.6	120.5	130.0	139.2	142.8	145.0	147.8	147.6	145.6	139.8	131.1	134.5
Other stone and mineral products.....		91.4	91.0	90.3	89.6	90.6	90.9	90.5	90.8	91.8	91.2	90.5	89.3	88.0	89.2
<b>Primary metal industries</b> .....		976.7	966.4	958.3	944.7	940.7	928.3	929.1	942.0	945.6	970.0	984.4	969.6	952.6	942.1
Blast furnace and basic steel products.....		495.9	486.6	480.2	469.8	466.6	458.9	461.9	472.2	482.6	505.0	513.0	503.1	488.7	476.2
Iron and steel foundries.....		179.5	178.2	177.2	175.1	173.4	171.3	169.8	171.4	166.0	168.3	170.4	168.6	167.4	168.3
Nonferrous smelting and refining.....		54.3	54.1	53.8	53.8	53.8	53.9	53.8	54.2	54.2	54.3	54.0	52.8	52.2	53.1
Nonferrous rolling, drawing, and extruding.....		140.5	140.5	140.4	140.0	140.8	139.2	139.0	138.9	139.5	138.7	141.8	140.0	138.8	139.3
Nonferrous foundries.....		60.2	60.5	60.4	60.0	59.8	59.1	58.8	59.2	58.4	58.8	59.3	59.2	59.3	59.2
Miscellaneous primary metal industries.....		46.3	46.5	46.3	46.0	46.3	45.9	45.8	46.1	44.9	44.9	45.9	45.9	46.2	46.0
<b>Fabricated metal products</b> .....		903.8	897.5	891.9	890.8	904.0	907.4	912.6	909.0	889.2	878.7	893.9	880.0	867.6	884.1
Metal cans.....		52.9	52.4	51.4	50.0	50.4	51.3	51.6	53.8	55.3	54.7	54.4	52.8	51.8	51.2
Cutlery, handtools, and general hardware.....		109.8	110.4	110.4	111.5	111.9	111.1	109.6	108.1	103.2	101.4	106.4	105.6	105.9	106.9
Heating equipment and plumbing fixtures.....		59.9	59.1	59.1	59.0	59.5	59.6	59.9	60.1	59.5	58.3	57.9	56.8	55.9	57.8
Fabricated structural metal products.....		239.6	235.5	233.5	233.0	239.7	244.6	249.1	253.5	252.7	247.7	245.9	239.0	230.7	234.7
Screw machine products, bolts, etc.....		69.7	69.9	69.8	69.4	69.8	69.4	69.7	70.1	69.6	68.7	70.1	69.8	69.7	69.8
Metal stampings.....		165.0	164.9	165.1	166.0	168.3	168.3	167.7	161.0	150.1	151.3	159.4	158.9	157.4	159.4
Coating, engraving, and allied services.....		61.5	60.8	59.2	59.6	60.8	61.4	61.8	60.6	58.5	57.4	58.3	57.6	56.9	58.3
Miscellaneous fabricated wire products.....		48.7	48.1	47.7	47.6	47.8	47.1	47.8	46.9	46.3	45.4	46.3	45.8	45.5	46.2
Miscellaneous fabricated metal products.....		96.7	96.4	95.7	94.7	95.8	94.6	95.4	94.9	93.8	95.2	93.7	93.8	94.2	91.8

See footnotes at end of table.

TABLE A-3. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued  
[In thousands] Revised series; see box, p. 720.

Industry	1964				1963								Annual average			
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962	
<b>Manufacturing—Continued</b>																
<i>Durable goods—Continued</i>																
Machinery.....	1,111.2	1,105.9	1,081.3	1,083.4	1,076.8	1,059.3	1,056.5	1,055.1	1,043.8	1,040.9	1,054.8	1,052.1	1,055.5	1,052.9	1,036.0	
Engines and turbines.....	57.9	57.5	56.9	56.8	57.5	57.1	56.8	57.2	56.2	55.6	55.4	55.4	56.7	56.6	55.7	
Farm machinery and equipment.....	155.1	153.9	135.9	149.8	147.6	145.6	145.4	144.8	144.8	142.7	144.1	141.6	141.0	143.2	139.6	
Construction and related machinery.....	217.8	216.3	213.4	210.5	210.2	204.6	203.4	201.7	199.9	199.1	202.4	201.3	201.4	201.7	195.4	
Metalworking machinery and equipment.....	119.5	118.7	117.9	117.3	116.6	115.8	115.0	115.2	113.6	113.8	115.6	115.3	116.0	115.2	116.8	
Special industry machinery.....	160.2	159.8	160.1	157.6	155.9	153.0	153.6	154.7	153.5	153.3	153.8	152.8	153.2	153.7	153.8	
General industrial machinery.....	89.7	89.7	90.6	90.6	90.7	89.7	90.4	89.9	89.0	88.5	89.8	90.3	92.1	91.0	97.4	
Office, computing, and accounting machines.....	70.2	70.1	69.5	68.8	68.3	68.0	68.3	67.5	66.8	68.7	70.7	71.3	69.8	68.4	69.0	
Service industry machines.....	145.3	144.7	143.4	142.2	142.8	141.2	140.0	138.9	138.7	135.1	136.3	134.5	133.4	136.3	128.0	
Miscellaneous machinery.....	1,036.1	1,035.4	1,040.1	1,050.6	1,062.0	1,064.7	1,073.5	1,067.4	1,048.3	1,040.2	1,056.9	1,048.8	1,047.7	1,057.2	1,060.8	
Electrical equipment and supplies.....	113.2	113.1	113.1	112.8	112.8	112.8	111.4	112.1	112.8	111.1	111.4	110.8	110.9	111.7	111.3	
Electric distribution equipment.....	130.2	130.0	129.1	128.9	128.9	128.6	128.5	128.8	128.0	128.1	128.5	127.8	127.3	128.0	126.7	
Electrical industrial apparatus.....	122.2	120.9	121.1	120.2	123.8	125.1	124.0	122.0	117.9	116.2	119.1	117.8	116.5	118.8	114.8	
Household appliances.....	119.1	119.9	119.2	118.5	119.4	120.8	121.1	119.8	117.1	113.6	115.0	113.4	114.4	116.4	111.6	
Electric lighting and wiring equipment.....	80.7	79.1	81.6	85.5	90.0	93.1	95.6	93.7	91.1	86.0	84.8	78.7	75.2	80.4	82.8	
Radio and TV receiving sets.....	203.4	205.0	206.2	210.3	210.7	208.3	214.7	214.8	214.8	214.3	218.8	221.9	226.2	225.4	230.4	
Communication equipment.....	189.7	189.2	189.3	191.8	192.3	192.7	193.6	192.7	194.0	189.4	194.9	194.3	193.8	193.8	198.8	
Electronic components and accessories.....	77.6	78.2	80.5	82.6	84.1	83.3	84.6	83.5	72.6	81.5	84.4	84.1	83.4	83.0	84.0	
Miscellaneous electrical equipment and supplies.....	1,167.4	1,156.5	1,147.7	1,151.6	1,162.8	1,157.0	1,149.2	1,124.8	984.1	1,098.9	1,121.1	1,120.7	1,118.0	1,113.2	1,060.7	
Transportation equipment.....	611.8	604.4	597.6	605.4	612.5	607.8	599.2	583.8	449.6	564.8	581.2	580.5	574.6	571.8	534.1	
Motor vehicles and equipment.....	357.1	350.6	359.6	362.6	366.2	363.1	361.1	356.5	351.0	349.8	352.1	350.3	353.3	355.8	350.6	
Aircraft and parts.....	121.1	118.3	118.2	115.8	115.8	117.9	119.1	117.0	118.8	121.0	126.3	127.1	121.3	118.6	118.6	
Ship and boat building and repairing.....	39.8	39.0	36.9	36.7	36.1	36.1	36.3	34.1	33.0	33.4	33.8	31.6	32.3	33.3	29.9	
Railroad equipment.....	34.4	33.3	30.9	31.6	32.1	32.1	33.5	33.4	32.1	32.1	33.0	32.0	30.7	31.0	27.6	
Other transportation equipment.....	237.6	237.5	237.0	237.2	239.9	240.6	240.2	239.9	236.5	236.6	238.8	234.8	234.5	236.9	230.4	
Instruments and related products.....	64.8	65.0	64.8	64.5	64.6	63.0	62.7	63.1	63.4	63.7	64.0	63.3	63.7	63.5	62.1	
Engineering and scientific instruments.....	31.5	31.3	31.3	30.2	30.4	30.6	30.3	30.2	29.4	29.3	29.8	29.5	29.6	29.8	29.6	
Mechanical measuring and control devices.....	38.4	38.2	37.6	37.5	37.7	37.9	37.8	37.9	37.8	36.8	37.6	37.4	37.2	37.3	34.9	
Optical and ophthalmic goods.....	43.3	43.1	43.7	44.4	44.7	44.6	44.6	44.3	45.1	44.2	43.7	42.3	41.8	43.2	41.6	
Surgical, medical, and dental equipment.....	23.0	23.3	23.6	24.7	25.9	26.3	26.0	25.3	24.4	24.5	23.5	23.3	23.3	23.2	22.9	
Photographic equipment and supplies.....	Watches and clocks.....	312.2	308.7	304.6	294.4	312.8	336.6	342.1	341.2	331.9	311.7	316.3	312.0	304.9	316.1	
Miscellaneous manufacturing industries.....	34.3	34.3	33.6	33.5	33.8	34.0	33.8	33.3	32.3	29.7	32.0	31.9	32.3	32.5	32.9	
Jewelry, silverware, and plated ware.....	77.0	73.9	68.1	80.2	98.3	105.1	102.9	98.7	88.7	88.7	82.1	80.1	86.7	85.5	85.5	
Toys, amusement and sporting goods.....	23.1	23.3	23.5	24.9	25.1	24.5	24.5	24.6	24.3	23.7	24.3	24.1	23.8	24.1	23.2	
Pens, pencils, office and art materials.....	48.1	47.7	45.1	47.0	48.5	48.5	48.8	50.0	50.0	47.0	48.2	46.4	46.5	47.5	48.0	
Costume jewelry, buttons, and notions.....	125.4	126.2	126.1	124.2	126.9	130.7	129.9	130.4	126.6	122.6	123.6	122.5	123.1	125.3	125.0	
Other manufacturing industries.....	<i>Nondurable goods</i>															
Food and kindred products.....	1,066.0	1,059.0	1,063.9	1,080.9	1,127.5	1,168.8	1,248.0	1,285.3	1,271.5	1,188.2	1,145.8	1,097.7	1,080.5	1,155.0	1,175.5	
Meat products.....	235.3	235.5	236.6	242.6	251.2	253.3	253.9	263.3	252.4	250.6	247.5	243.0	240.3	247.5	251.6	
Dairy products.....	139.2	138.1	136.4	136.5	139.3	140.9	143.6	147.7	153.4	154.9	153.6	147.3	145.4	146.1	152.2	
Canned and preserved food, except meats.....	87.9	88.5	88.4	90.0	89.9	90.3	94.2	95.1	96.1	95.6	94.2	91.9	88.9	92.1	91.5	
Grain mill products.....	165.1	164.6	164.2	163.5	168.5	169.4	170.7	170.0	171.4	172.1	170.9	167.3	165.9	168.8	168.4	
Bakery products.....	56.0	59.1	60.8	60.5	65.7	67.9	67.9	65.4	61.0	55.0	57.4	55.7	56.1	61.1	60.1	
Sugar.....	108.7	108.2	106.4	107.5	112.5	114.0	117.2	115.7	117.8	118.8	116.5	111.2	109.1	112.4	111.7	
Confectionery and related products.....	91.5	92.7	92.8	93.3	95.2	98.3	99.6	96.8	93.5	92.4	92.3	91.7	92.5	94.5	95.8	
Beverages.....	66.1	70.2	73.9	76.4	83.3	87.1	93.9	94.8	87.8	63.1	63.8	64.8	66.9	77.1	79.1	
Miscellaneous food and kindred products.....	31.1	31.1	31.6	31.9	31.7	31.7	32.2	31.9	31.5	31.5	31.0	31.2	31.5	31.4	31.4	
Tobacco manufactures.....	23.5	22.7	21.1	21.8	22.1	21.8	22.1	21.8	21.4	20.4	21.2	21.2	21.4	21.5	22.2	
Cigarettes.....	796.6	798.8	795.1	788.4	795.3	802.0	804.4	802.7	803.1	791.6	802.5	796.0	795.3	797.2	812.4	
Textile mill products.....	213.4	215.6	215.7	215.8	216.8	216.2	216.7	216.5	216.5	215.2	215.8	215.4	215.6	216.3	223.4	
Cotton broad woven fabrics.....	76.8	77.1	77.2	77.0	77.3	76.9	76.0	75.5	75.7	74.3	75.4	74.5	74.0	75.1	73.0	
Silk and synthetic broad woven fabrics.....	41.4	40.6	41.1	40.7	40.3	40.1	41.4	41.9	43.1	43.6	44.5	44.4	44.7	43.1	45.9	
Weaving and finishing broad woolsens.....	24.2	24.0	23.9	23.8	23.9	24.0	24.1	23.9	23.7	22.8	23.8	23.6	23.5	23.6	24.2	
Narrow fabrics and smallwares.....	192.5	191.1	186.9	182.2	186.2	194.3	197.3	197.4	197.4	194.8	196.7	194.0	192.2	192.9	198.1	
Knitting.....	63.6	64.4	64.1	64.2	64.6	64.4	63.6	63.6	63.5	62.8	63.2	63.2	63.6	63.6	64.3	
Finishing textiles, except wool and knit.....	32.2	32.0	31.5	32.2	32.2	32.3	32.2	31.5	31.4	30.6	30.6	30.7	31.4	31.5	31.2	
Floor covering.....	99.0	99.5	99.1	98.4	98.6	97.9	97.3	97.2	97.3	93.5	96.5	96.2	94.9	96.0	95.6	
Yarn and thread.....	54.0	54.3	55.1	54.8	55.4	55.9	55.8	55.2	54.5	54.0	55.5	55.0	55.4	55.2	55.9	
Miscellaneous textile goods.....	See footnotes at end of table.															

See footnotes at end of table.

TABLE A-3. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 720.

Industry	1964				1963									Annual average	
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
<b>Manufacturing—Continued</b>															
<i>Nondurable goods—Continued</i>															
Apparel and related products.....	1,144.8	1,178.3	1,174.4	1,135.8	1,150.2	1,161.0	1,180.3	1,179.6	1,182.9	1,132.9	1,139.6	1,141.7	1,135.3	1,150.9	1,125.4
Men's and boys' suits and coats.....	96.5	102.7	102.8	102.5	103.0	100.8	101.3	103.7	104.5	102.0	106.2	105.4	103.9	103.9	104.9
Men's and boys' furnishings.....	300.9	300.9	298.2	292.6	296.1	298.8	302.6	304.9	309.4	299.8	303.3	300.2	297.3	299.1	289.6
Women's, misses', and juniors' outerwear.....	347.1	368.2	368.2	348.4	348.5	348.5	355.9	356.7	361.2	342.6	336.8	346.1	349.0	350.0	342.2
Women's and children's undergarments.....	105.7	106.5	105.7	103.9	107.8	111.9	111.2	109.1	107.0	99.9	102.5	102.5	102.8	105.1	103.1
Hats, caps, and millinery.....	71.5	31.5	31.7	29.2	27.6	26.5	29.1	28.9	30.6	28.6	27.0	26.0	27.3	28.7	29.2
Girls' and children's outerwear.....	71.5	74.8	71.8	69.9	69.9	70.2	71.3	70.9	72.6	72.4	73.6	71.1	66.9	71.1	70.2
Fur goods and miscellaneous apparel.....	63.6	62.1	58.2	62.2	66.1	68.2	67.5	67.5	65.5	62.8	62.9	61.4	61.2	63.2	63.9
Miscellaneous fabricated textile products.....	133.8	133.4	130.9	129.2	135.1	138.2	140.7	137.9	132.1	124.8	127.3	129.0	126.9	129.8	122.4
Paper and allied products.....	485.9	485.1	483.1	484.3	490.9	491.7	492.7	495.1	495.4	487.1	491.5	484.3	483.0	488.0	486.0
Paper and pulp.....	169.1	169.8	169.7	170.7	172.8	172.6	173.1	174.4	176.8	174.5	175.6	172.1	171.3	173.1	175.2
Paperboard.....	54.3	54.3	53.9	53.8	54.2	54.3	54.2	54.3	54.6	54.1	54.3	54.1	53.1	54.0	52.9
Converted paper and paperboard products.....	111.7	110.5	109.9	110.1	111.6	111.2	111.8	113.4	112.5	109.6	110.1	109.2	109.9	110.5	108.5
Paperboard containers and boxes.....	150.8	150.5	149.6	149.7	152.3	153.6	153.6	153.0	151.5	148.9	151.5	148.9	148.7	150.5	149.4
Printing, publishing, and allied industries.....	598.8	598.7	594.2	592.3	602.1	598.2	599.3	597.2	592.4	588.9	592.4	589.8	588.4	590.1	594.0
Newspaper publishing and printing.....	166.1	165.1	164.1	163.4	167.1	165.1	165.6	164.6	163.7	163.5	163.9	163.1	161.7	161.0	166.5
Periodical publishing and printing.....	27.5	27.3	27.2	27.2	27.5	27.6	27.8	27.6	26.8	26.4	27.0	27.9	28.6	27.8	28.5
Books.....	48.7	48.0	46.8	46.8	46.3	45.1	45.6	46.3	45.7	44.3	54.2	45.0	44.7	45.1	44.3
Commercial printing.....	237.3	237.5	235.2	236.7	239.1	238.4	237.6	235.5	232.6	231.9	233.2	232.5	232.2	234.3	233.8
Bookbinding and related industries.....	40.1	39.8	39.4	38.2	40.3	39.9	40.7	41.2	41.9	41.6	41.5	40.8	40.4	40.6	39.6
Other publishing and printing industries.....	79.7	80.1	80.2	80.0	81.8	82.1	82.0	82.0	81.7	81.2	81.6	80.5	80.8	81.3	81.4
Chemicals and allied products.....	535.0	528.3	521.1	519.0	521.8	522.4	526.1	527.3	527.5	524.7	527.3	530.0	531.9	524.2	517.2
Industrial chemicals.....	164.6	162.6	162.4	162.6	162.8	163.0	163.1	164.3	165.8	165.5	166.5	165.1	164.8	164.3	165.0
Plastics and synthetics, except glass.....	118.9	117.4	116.6	116.7	116.9	116.2	116.1	115.8	115.5	115.1	115.0	113.5	111.3	111.4	110.0
Drugs.....	62.5	62.6	62.1	63.2	63.3	63.5	63.2	63.3	63.8	63.4	63.2	62.5	62.2	62.7	60.0
Soap, cleaners, and toilet goods.....	60.5	59.8	59.5	58.0	60.3	61.1	63.2	62.8	62.0	60.1	59.7	58.7	59.3	60.4	58.6
Paints, varnishes, and allied products.....	36.8	36.6	36.2	35.9	36.2	36.3	36.2	37.1	38.0	38.1	37.6	36.8	36.4	36.6	36.0
Agricultural chemicals.....	42.7	39.4	35.1	33.2	31.7	30.9	32.2	31.4	29.5	29.1	32.3	40.3	44.9	33.7	32.9
Other chemical products.....	49.0	49.9	49.2	49.4	50.6	51.4	51.7	52.6	52.9	53.4	53.0	53.1	53.0	52.5	54.6
Petroleum refining and related industries.....	114.8	114.2	114.2	114.0	115.7	117.9	120.0	121.4	123.3	122.1	121.7	120.6	119.1	119.5	125.3
Petroleum refining.....	82.2	82.4	82.6	82.7	83.3	83.6	84.3	85.3	86.5	85.7	85.5	85.2	85.8	85.1	100.9
Other petroleum and coal products.....	22.6	21.8	21.6	21.3	22.4	24.3	25.7	26.1	26.8	26.4	26.2	25.4	23.3	24.4	24.3
Rubber and miscellaneous plastic products.....	319.1	317.3	315.2	312.9	315.3	318.4	317.0	314.9	310.1	306.7	319.1	317.0	315.2	315.0	314.3
Tires and inner tubes.....	69.7	69.1	68.8	67.9	68.0	67.0	64.8	64.5	64.0	68.9	71.9	71.5	71.4	68.9	72.1
Other rubber products.....	126.5	125.7	125.7	125.6	127.0	128.0	127.2	126.5	124.6	120.8	127.3	126.2	125.9	126.3	120.6
Miscellaneous plastic products.....	122.9	122.5	120.7	119.4	120.3	123.4	125.0	123.9	121.5	117.0	119.9	119.3	117.9	119.8	115.6
Leather and leather products.....	300.6	307.1	307.9	303.9	308.2	308.7	309.1	311.2	316.0	309.3	309.8	301.4	300.5	308.9	318.6
Leather tanning and finishing.....	27.6	27.4	27.6	26.4	27.9	27.8	27.6	27.5	27.6	26.8	27.7	27.0	26.8	27.4	28.0
Footwear, except rubber.....	205.4	210.4	211.7	210.8	210.3	207.6	205.8	208.4	213.0	210.5	210.3	206.6	206.2	209.8	215.7
Other leather products.....	67.6	69.3	68.6	66.7	70.0	73.3	75.7	75.3	75.4	72.0	71.8	67.8	67.5	71.7	74.9
<b>Transportation and public utilities:</b>															
<i>Local and interurban passenger transit:</i>															
Local and suburban transportation.....	76.1	82.4	82.7	82.9	83.3	83.6	83.6	82.6	82.7	83.3	83.9	83.0	83.4	83.4	86.3
Intercity and rural buslines.....	37.5	37.6	39.0	38.4	38.1	38.7	40.0	40.6	40.6	39.8	38.5	37.5	37.5	38.7	38.5
Motor freight transportation and storage.....	800.9	802.2	800.5	829.0	840.0	850.8	851.0	838.9	837.9	829.6	796.0	787.2	815.7	803.9	803.9
Pipeline transportation.....	16.5	16.5	16.5	16.6	16.7	16.8	17.2	17.6	17.6	17.6	17.6	17.1	17.2	17.2	18.2
<i>Communication:</i>															
Telephone communication.....	554.2	550.9	548.0	549.2	548.9	555.2	557.3	564.4	566.5	559.5	555.3	554.1	555.6	559.5	559.5
Telegraph communication <sup>3</sup> .....	22.9	22.9	23.0	23.2	23.3	23.5	23.8	23.9	24.1	24.3	24.3	24.7	24.9	24.3	26.9
Radio and television broadcasting.....	86.2	85.5	86.4	85.8	84.7	85.1	85.7	85.3	84.4	83.6	81.5	81.3	83.3	79.9	79.9
Electric, gas, and sanitary services.....	529.3	528.8	529.3	531.0	532.4	533.1	539.3	548.0	547.8	541.3	529.5	526.4	534.7	537.1	537.1
Electric companies and systems.....	208.8	208.6	209.0	209.4	209.7	209.9	212.2	215.0	214.9	213.0	207.8	205.6	210.4	211.4	211.4
Gas companies and systems.....	134.9	134.9	134.8	135.6	135.9	135.9	137.4	139.9	140.0	138.7	135.4	135.2	136.6	137.6	137.6
Combined utility systems.....	151.5	151.5	151.7	152.5	153.0	153.5	155.6	158.1	157.9	155.3	152.7	152.3	154.0	156.2	156.2
Water, steam, and sanitary systems.....	34.1	33.8	33.8	33.5	33.8	33.8	34.1	35.0	35.0	34.3	33.6	33.3	33.6	32.0	32.0

See footnotes at end of table.

TABLE A-3. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued

Industry	[In thousands]												Revised series; see box below.	
	1964				1963								Annual average	
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963
<b>Wholesale and retail trade<sup>4</sup></b> .....	8,997	8,930	9,025	9,871	9,268	9,115	9,041	8,966	8,914	8,926	8,829	8,898	8,993	8,805
Wholesale trade.....	2,715	2,720	2,733	2,773	2,746	2,750	2,741	2,739	2,714	2,680	2,636	2,630	2,690	2,630
Motor vehicles and automotive equip- ment.....	199.9	200.1	200.0	201.2	201.1	200.6	200.6	201.3	201.8	201.0	198.3	197.1	199.1	192.8
Drugs, chemicals, and allied products.....	158.8	158.7	159.3	161.0	160.0	159.3	159.0	159.6	158.2	157.8	156.5	157.1	158.2	156.4
Dry goods and apparel.....	111.3	110.9	109.7	111.3	111.8	111.3	110.7	111.9	111.7	110.9	109.0	108.8	110.4	109.6
Groceries and related products.....	437.8	438.5	442.6	448.3	442.6	453.1	454.2	452.7	448.8	437.8	418.4	415.9	436.0	431.1
Electrical goods.....	196.9	196.9	196.5	197.3	196.5	198.1	198.2	200.1	199.3	197.9	197.0	196.7	197.3	191.0
Hardware, plumbing and heating goods.....	125.8	125.6	125.5	126.4	126.0	126.6	126.9	127.5	127.8	126.3	124.7	124.7	125.6	123.2
Machinery, equipment, and supplies.....	478.2	478.5	476.6	476.0	475.0	472.1	469.8	468.8	466.4	458.1	452.9	452.5	460.8	436.5
<b>Retail trade<sup>4</sup></b> .....	6,282	6,210	6,292	7,098	6,522	6,365	6,300	6,227	6,200	6,246	6,193	6,268	6,303	6,175
General merchandise stores.....	1,476.7	1,439.0	1,495.4	2,030.3	1,662.5	1,551.2	1,513.3	1,466.3	1,448.7	1,469.4	1,453.0	1,480.1	1,526.8	1,496.8
Department stores.....	872.6	848.1	891.3	1,233.6	987.1	907.6	879.5	852.7	843.6	860.3	851.7	869.9	888.7	881.4
Limited price variety stores.....	286.7	277.0	281.6	389.0	318.6	305.9	302.2	286.8	285.1	288.2	289.2	304.2	301.3	304.1
<b>Food stores</b> .....	1,336.5	1,335.7	1,335.1	1,361.0	1,334.7	1,328.8	1,318.0	1,305.4	1,308.5	1,308.6	1,301.3	1,305.6	1,313.4	1,280.2
Grocery, meat, and vegetable stores.....	1,174.1	1,171.0	1,176.0	1,187.8	1,171.1	1,166.8	1,155.7	1,143.1	1,149.4	1,144.6	1,137.2	1,135.2	1,149.1	1,120.5
Apparel and accessories stores.....	566.6	533.0	551.8	684.2	580.0	561.7	555.1	531.6	525.2	552.1	550.5	608.0	561.9	560.3
Men's and boys' apparel stores.....	91.1	92.0	92.0	123.6	94.6	90.3	89.5	87.2	87.9	82.4	83.2	91.4	92.9	81.4
Women's ready-to-wear stores.....	213.7	210.8	206.8	253.2	219.2	212.7	208.6	202.7	197.2	207.1	208.4	217.9	210.6	209.0
Family clothing stores.....	85.0	84.3	90.8	114.9	90.8	86.1	85.1	80.3	81.0	84.4	83.4	86.0	86.9	88.9
Shoe stores.....	110.9	97.2	97.5	121.7	110.4	108.6	111.2	105.2	104.1	108.2	110.0	142.6	110.2	107.6
Furniture and appliance stores.....	350.9	351.1	352.5	364.8	356.1	353.2	349.5	349.0	347.3	346.7	343.8	344.0	349.2	347.2
<b>Other retail trade</b> .....	2,551.0	2,550.8	2,557.1	2,657.7	2,589.0	2,570.4	2,563.8	2,575.1	2,570.4	2,568.8	2,544.5	2,530.7	2,552.6	2,490.5
Motor vehicle dealers.....	598.8	599.3	598.4	696.1	592.6	590.9	589.8	592.2	591.7	589.2	585.2	582.2	587.3	559.9
Other vehicle and accessory dealers.....	140.7	139.1	139.8	152.4	146.6	141.6	142.3	144.4	143.8	143.6	140.0	137.9	140.5	129.6
Drug stores.....	353.4	353.6	354.3	371.9	358.9	352.9	352.5	351.6	350.8	348.8	349.6	349.7	352.7	348.0
<b>Finance, insurance, and real estate:</b>														
Banking.....	632.2	630.8	629.3	630.4	629.8	629.2	629.3	637.8	636.2	626.3	618.2	618.2	624.9	606.7
Security dealers and exchanges.....				113.5	113.5	113.4	113.3	115.2	115.6	114.3	113.4	112.9	113.7	122.3
Insurance carriers.....				779.6	779.0	777.0	778.7	787.2	783.8	775.3	772.6	770.9	776.5	768.0
Life insurance.....				420.7	422.0	419.1	419.8	422.9	420.8	416.4	415.6	414.5	417.9	413.0
Accident and health insurance.....				46.5	46.5	46.2	46.3	47.0	46.9	46.2	45.8	45.6	46.2	45.8
Fire, marine, and casualty insurance.....				276.6	276.7	275.8	276.9	280.8	279.8	277.1	276.1	275.6	276.8	273.9
<b>Services and miscellaneous:</b>														
Hotels and lodging places:														
Hotels, tourist courts, and motels.....	531.1	528.2	513.3	515.8	525.0	557.2	580.7	622.7	624.4	597.4	541.8	521.5	550.9	509.2
Personal services:														
Laundries, cleaning and dyeing plants <sup>5</sup> .....	451.0	450.1	447.7	371.6	374.8	376.4	376.0	378.0	381.1	382.2	376.0	374.4	374.1	377.7
Motion pictures:														
Motion picture filming and distribution.....	24.3	22.5	23.1	25.9	24.8	24.8	23.7	23.9	23.6	22.6	21.6	20.8	23.3	24.6

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, and coverage of these series, see footnote 1, table A-2.

<sup>2</sup> For mining and manufacturing, data refer to production and related workers; for contract construction, to construction workers; and for all other industries, to nonsupervisory workers.

<sup>3</sup> Production and related workers include working foremen and all nonsupervisory workers (including leadman and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial and watchmen 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.

<sup>4</sup> Construction workers include working foremen, journeymen, mechanics, apprentices, laborers, etc., engaged in new work, alterations, demolition,

repair, and maintenance, etc., at the site of construction or working in shop or yards at jobs (such as precutting and preassembling) ordinarily performed by members of the construction trades.

<sup>5</sup> Nonsupervisory workers include employees (not above the working supervisory level) such as office and clerical workers, repairmen, salespersons, operators, drivers, attendants, service employees, linemen, laborers, janitors, watchmen, and similar occupational levels, and other employees whose services are closely associated with those of the employees listed.

<sup>6</sup> Preliminary.

<sup>7</sup> Data relate to nonsupervisory employees except messengers.

<sup>8</sup> Excludes eating and drinking places.

<sup>9</sup> Beginning January 1964, data relate to nonsupervisory workers and are not comparable with the production worker levels of prior years.

### Caution

The revised series on employment, hours and earnings, and labor turnover in non-agricultural establishments should not be compared with those published in issues prior to October 1963. (See footnote 1, table A-2, and "Technical Note, Revision of Establishment Employment Statistics, 1963," appearing in the October 1963 *Monthly Labor Review*, p. 1194.) Moreover, when the figures are again adjusted to new benchmarks, the data presented in this issue should not be compared with those in later issues which reflect the adjustments.

Comparable data for earlier periods are published in *Employment and Earnings Statistics for the United States, 1909-62* (BLS Bulletin 1312-1), which is available at depository libraries or which may be purchased from the Superintendent of Documents for \$3.50. For an individual industry, earlier data may be obtained upon request to the Bureau.

TABLE A-4. Employees in nonagricultural establishments, by industry division and selected groups, seasonally adjusted<sup>1</sup>

Industry division and group	1964				1963								
	Apr. <sup>2</sup>	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.
	Total.....	58,471	58,268	58,183	57,850	57,748	57,580	57,646	57,453	57,344	57,340	57,194	57,000
Mining.....	627	624	624	623	630	630	629	632	635	640	639	640	639
Contract construction.....	3,124	3,157	3,169	3,017	3,069	3,057	3,066	3,071	3,083	3,069	3,046	3,019	3,005
Manufacturing.....	17,285	17,244	17,175	17,119	17,127	17,061	17,119	17,076	17,033	17,103	17,075	17,095	17,037
Durable goods.....	9,863	9,812	9,750	9,726	9,737	9,688	9,718	9,705	9,652	9,701	9,685	9,683	9,660
Ordnance and accessories.....	263	265	270	276	276	275	277	275	275	277	278	276	274
Lumber and wood products, except furniture.....	594	605	601	596	598	595	589	588	578	584	559	592	588
Furniture and fixtures.....	399	400	395	394	394	392	391	392	393	392	390	388	387
Stone, clay, and glass products.....	619	622	618	612	612	614	611	610	616	615	612	612	607
Primary metal industries.....	1,201	1,183	1,177	1,169	1,166	1,155	1,155	1,164	1,176	1,208	1,202	1,184	1,174
Fabricated metal products.....	1,192	1,185	1,176	1,164	1,164	1,162	1,164	1,165	1,162	1,159	1,156	1,151	1,148
Machinery.....	1,575	1,569	1,547	1,559	1,555	1,548	1,545	1,531	1,525	1,512	1,508	1,506	1,504
Electrical equipment and supplies.....	1,572	1,561	1,559	1,564	1,566	1,557	1,571	1,574	1,574	1,587	1,593	1,597	1,595
Transportation equipment.....	1,670	1,644	1,631	1,621	1,629	1,619	1,647	1,635	1,580	1,618	1,623	1,614	1,623
Instruments and related products.....	378	377	375	375	375	373	373	373	375	375	375	370	370
Miscellaneous manufacturing industries.....	400	401	401	396	397	398	395	398	398	394	389	393	390
Nondurable goods.....	7,422	7,432	7,425	7,393	7,390	7,373	7,401	7,371	7,381	7,402	7,390	7,412	7,377
Food and kindred products.....	1,725	1,737	1,743	1,741	1,741	1,733	1,742	1,728	1,728	1,730	1,732	1,743	1,738
Tobacco manufactures.....	89	90	89	88	91	95	89	86	91	87	88	89	90
Textile mill products.....	895	899	897	891	888	889	890	888	887	891	889	889	891
Apparel and related products.....	1,308	1,310	1,310	1,299	1,295	1,291	1,312	1,306	1,302	1,317	1,306	1,317	1,296
Paper and allied products.....	626	627	627	624	624	620	622	622	623	623	620	620	618
Printing, publishing, and allied industries.....	947	944	942	940	939	931	934	935	937	935	936	934	929
Chemicals and allied products.....	875	876	872	872	871	870	871	869	870	870	868	864	862
Petroleum refining and related industries.....	185	185	185	186	188	189	189	190	189	188	187	188	188
Rubber and miscellaneous plastic products.....	422	416	412	407	405	406	402	402	404	408	414	417	416
Leather and leather products.....	350	348	348	345	348	347	352	352	350	353	350	351	349
Transportation and public utilities.....	3,943	3,932	3,934	3,923	3,915	3,928	3,937	3,950	3,941	3,936	3,919	3,909	3,890
Wholesale and retail trade.....	12,244	12,093	12,143	12,072	11,963	11,941	11,935	11,922	11,907	11,884	11,864	11,825	11,784
Wholesale trade.....	3,232	3,225	3,216	3,214	3,190	3,176	3,173	3,170	3,155	3,159	3,148	3,129	3,119
Retail trade.....	9,012	8,868	8,927	8,858	8,773	8,765	8,762	8,752	8,752	8,725	8,716	8,696	8,665
Finance, insurance, and real estate.....	2,925	2,918	2,911	2,904	2,892	2,887	2,887	2,873	2,873	2,870	2,865	2,864	2,853
Service and miscellaneous.....	8,543	8,551	8,515	8,474	8,447	8,423	8,430	8,377	8,373	8,349	8,282	8,228	8,199
Government.....	9,780	9,749	9,712	9,718	9,705	9,653	9,643	9,552	9,499	9,489	9,504	9,480	9,466
Federal.....	2,326	2,328	2,321	2,349	2,349	2,347	2,352	2,347	2,348	2,351	2,349	2,345	2,339
State and local.....	7,454	7,421	7,391	7,369	7,356	7,306	7,291	7,205	7,151	7,138	7,155	7,135	7,127

<sup>1</sup> For coverage of the series, see footnote 1, table A-2.  
<sup>2</sup> Preliminary.

NOTE: The seasonal adjustment method used is described in "New Seasonal Adjustment Factors for Labor Force Components," *Monthly Labor Review*, August 1960, pp. 822-827.

TABLE A-5. Production workers in manufacturing industries, by major industry group, seasonally adjusted<sup>1</sup>

Major industry group	1964				1963								
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.
	Manufacturing.....	12,790	12,764	12,697	12,639	12,653	12,590	12,649	12,611	12,575	12,650	12,628	12,647
Durable goods.....	7,245	7,207	7,148	7,120	7,129	7,081	7,110	7,097	7,051	7,103	7,086	7,081	7,070
Ordnance and accessories.....	110	112	114	118	118	117	119	119	119	119	120	119	118
Lumber and wood products, except furniture.....	528	540	539	535	536	532	526	525	517	503	498	530	528
Furniture and fixtures.....	332	332	329	328	327	325	325	326	326	326	325	323	322
Stone, clay, and glass products.....	497	503	499	492	494	495	491	490	496	498	493	492	489
Primary metal industries.....	976	958	954	945	943	932	931	939	953	984	977	962	952
Fabricated metal products.....	918	912	903	894	897	891	895	895	891	891	888	883	881
Machinery.....	1,096	1,093	1,072	1,085	1,081	1,074	1,074	1,061	1,058	1,045	1,042	1,040	1,041
Electrical equipment and supplies.....	1,055	1,045	1,041	1,045	1,047	1,041	1,051	1,049	1,051	1,061	1,069	1,068	1,067
Transportation equipment.....	1,172	1,151	1,137	1,124	1,129	1,116	1,143	1,136	1,079	1,118	1,122	1,112	1,123
Instruments and related products.....	240	239	238	237	238	238	237	237	240	241	240	237	236
Miscellaneous manufacturing industries.....	321	322	322	317	319	320	317	320	321	317	312	315	313
Nondurable goods.....	5,545	5,557	5,549	5,519	5,524	5,509	5,539	5,514	5,524	5,547	5,542	5,566	5,534
Food and kindred products.....	1,136	1,149	1,154	1,154	1,155	1,148	1,159	1,143	1,149	1,148	1,151	1,158	1,152
Tobacco manufactures.....	77	78	77	75	80	82	77	73	79	75	75	77	78
Textile mill products.....	802	805	804	798	795	796	795	793	793	797	797	798	800
Apparel and related products.....	1,162	1,162	1,162	1,152	1,148	1,144	1,164	1,159	1,154	1,169	1,160	1,171	1,153
Paper and allied products.....	489	491	489	489	488	488	488	488	490	490	489	488	486
Printing, publishing, and allied industries.....	602	601	598	596	597	590	591	593	594	594	594	595	591
Chemicals and allied products.....	527	527	526	524	525	524	527	526	527	527	527	525	524
Petroleum refining and related industries.....	116	116	116	116	118	119	120	120	120	119	120	120	120
Rubber and miscellaneous plastic products.....	327	321	317	312	310	311	308	309	310	315	321	324	323
Leather and leather products.....	307	307	306	304	306	307	310	310	308	311	309	310	307

<sup>1</sup> For definition of production workers, see footnote 1, table A-3.  
<sup>2</sup> Preliminary.

NOTE: The seasonal adjustment method used is described in "New Seasonal Adjustment Factors for Labor Force Components," *Monthly Labor Review*, August 1960, pp. 822-827.

TABLE A-6. Unemployment insurance and employment service program operations <sup>1</sup>

[All items except average benefit amounts are in thousands]

Item	1964			1963									
	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.
Employment service: <sup>2</sup>													
New applications for work.....	874	916	1,037	793	827	953	878	829	928	1,096	911	904	861
Nonfarm placements.....	478	414	443	432	493	662	664	611	572	577	612	581	496
State unemployment insurance programs:													
Initial claims <sup>3 4</sup> .....	1,136	1,181	1,848	1,865	1,200	1,157	957	1,086	1,351	973	1,079	1,216	1,127
Insured unemployment <sup>5</sup> (average weekly volume) <sup>6</sup> .....	2,050	2,243	2,395	1,972	1,542	1,333	1,261	1,419	1,493	1,468	1,624	1,918	2,298
Rate of insured unemployment <sup>7</sup> .....	4.9	5.3	5.7	4.7	3.6	3.1	3.0	3.4	3.6	3.5	3.9	4.7	5.6
Weeks of unemployment compensated.....	8,303	8,060	9,186	6,705	4,733	4,923	4,650	5,368	5,695	5,308	6,732	7,919	9,091
Average weekly benefit amount for total unemployment.....	\$36.26	\$36.24	\$36.07	\$35.78	\$35.37	\$35.15	\$34.93	\$34.67	\$34.43	\$34.34	\$34.91	\$35.54	\$35.80
Total benefits paid.....	\$292,618	\$283,809	\$319,302	\$232,954	\$164,977	\$171,967	\$163,126	\$186,814	\$195,632	\$188,189	\$235,851	\$274,798	\$316,422
Unemployment compensation for ex-service-men: <sup>8 9</sup>													
Initial claims <sup>3 6</sup> .....	28	29	39	39	29	31	28	29	31	22	20	23	25
Insured unemployment <sup>6</sup> (average weekly volume).....	67	72	73	60	48	43	42	45	44	42	47	58	71
Weeks of unemployment compensated.....	261	284	307	231	164	174	170	184	176	181	203	267	303
Total benefits paid.....	\$8,593	\$9,586	\$10,241	\$7,622	\$5,396	\$5,857	\$5,727	\$6,202	\$5,909	\$6,269	\$6,760	\$8,797	\$9,932
Unemployment compensation for Federal civilian employees: <sup>9 10</sup>													
Initial claims <sup>3</sup> .....	11	13	20	15	13	14	12	12	19	12	11	13	11
Insured unemployment <sup>3</sup> (average weekly volume).....	38	40	39	34	32	29	28	29	30	26	28	31	35
Weeks of unemployment compensated.....	154	157	165	143	111	120	114	123	110	113	119	137	150
Total benefits paid.....	\$5,596	\$5,768	\$6,109	\$5,369	\$4,297	\$4,723	\$4,540	\$4,844	\$4,387	\$4,941	\$4,678	\$5,241	\$5,591
Railroad unemployment insurance:													
Applications <sup>11</sup> .....	5	7	13	12	11	12	15	15	46	11	4	4	5
Insured unemployment (average weekly volume).....	45	51	53	47	45	41	41	37	39	32	39	49	57
Number of payments <sup>12</sup> .....	109	111	125	110	86	98	85	90	79	77	99	118	138
Average amount of benefit payment <sup>13</sup> .....	\$80.06	\$80.33	\$80.49	\$79.04	\$78.60	\$77.05	\$76.90	\$77.96	\$76.07	\$73.87	\$74.44	\$77.11	\$80.24
Total benefits paid <sup>14</sup> .....	\$8,466	\$8,784	\$9,930	\$8,590	\$6,672	\$7,475	\$6,416	\$6,906	\$5,852	\$5,563	\$7,333	\$9,005	\$11,004
All programs: <sup>15</sup>													
Insured unemployment <sup>6</sup> .....	2,201	2,410	2,563	2,122	1,686	1,476	1,408	1,568	1,651	1,628	1,799	2,089	2,465

<sup>1</sup> Includes data for Puerto Rico, beginning January 1961 when the Common wealth's program became part of the Federal-State UI system.

<sup>2</sup> Includes Guam and the Virgin Islands.

<sup>3</sup> Initial claims are notices filed by workers to indicate they are starting periods of unemployment. Excludes transitional claims.

<sup>4</sup> Includes interstate claims for the Virgin Islands.

<sup>5</sup> Number of workers reporting the completion of at least 1 week of unemployment.

<sup>6</sup> Initial claims and State insured unemployment include data under the program for Puerto Rican sugar cane workers.

<sup>7</sup> The rate is the number of insured unemployed expressed as a percent of the average covered employment in a 12-month period.

<sup>8</sup> Excludes data on claims and payments made jointly with other programs.

<sup>9</sup> Includes the Virgin Islands.

<sup>10</sup> Excludes data on claims and payments made jointly with State programs.

<sup>11</sup> 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.

<sup>12</sup> Payments are for unemployment in 14-day registration periods.

<sup>13</sup> The average amount is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments.

<sup>14</sup> Adjusted for recovery of overpayments and settlement of underpayments.

<sup>15</sup> Represents an unduplicated count of insured unemployment under the State, Ex-service-men and UCFE programs and the Railroad Unemployment Insurance Act.

SOURCE: U.S. Department of Labor, Bureau of Employment Security for all items except railroad unemployment insurance, which is prepared by the U.S. Railroad Retirement Board.

## B.—Labor Turnover

TABLE B-1. Labor turnover rates, by major industry group<sup>1</sup>

Major industry group	[Per 100 employees]													Revised series; see box, p. 720.	
	1964			1963										Annual average	
	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	1963	1962
	Accessions: Total														
<b>Manufacturing:</b>															
Actual.....	3.5	3.4	3.6	2.5	2.9	3.9	4.8	4.8	4.3	4.8	4.0	3.9	3.5	3.9	4.1
Seasonally adjusted.....	3.8	4.0	3.7	3.9	3.6	3.9	3.9	3.7	4.0	3.9	3.8	4.1	3.8	-----	-----
Durable goods.....	3.5	3.3	3.4	2.4	2.7	3.6	4.5	4.2	3.7	4.2	3.8	3.5	3.6	3.8	3.8
Ordnance and accessories.....	1.9	2.0	1.8	1.6	2.0	2.7	2.8	2.7	2.6	2.9	2.5	2.3	2.1	2.4	2.9
Lumber and wood products, except furniture.....	4.7	4.8	4.4	2.8	3.5	4.9	6.3	6.8	5.7	7.9	7.3	6.6	6.0	5.6	5.5
Furniture and fixtures.....	4.9	4.2	4.2	2.7	3.3	4.8	5.6	5.9	5.5	4.8	4.5	4.4	3.8	4.4	4.5
Stone, clay, and glass products.....	4.7	3.7	3.6	2.0	2.5	3.1	3.4	3.8	4.2	5.1	4.4	5.7	4.7	3.8	3.8
Primary metal industries.....	2.7	3.2	3.5	2.6	2.5	2.6	2.5	2.4	2.4	3.3	3.5	3.8	3.6	3.0	2.8
Fabricated metal products.....	4.0	3.6	3.9	2.6	3.0	4.0	4.9	4.9	4.3	4.9	4.2	4.3	3.8	4.0	4.1
Machinery.....	3.0	3.0	3.0	2.4	2.6	2.9	3.4	3.0	2.9	3.4	2.7	2.7	2.6	2.9	3.0
Electrical equipment and supplies.....	3.0	2.6	2.9	2.2	2.5	3.2	3.7	3.7	3.2	3.6	2.9	2.9	2.7	3.0	3.6
Transportation equipment.....	3.6	3.5	3.4	2.5	2.9	4.0	7.0	5.5	3.6	4.1	3.8	3.8	3.5	4.0	4.7
Instruments and related products.....	2.8	2.3	2.6	2.0	2.0	2.7	3.4	3.1	3.4	3.9	3.1	2.6	2.5	2.8	2.7
Miscellaneous manufacturing industries.....	5.5	5.3	5.8	2.4	3.7	5.6	6.8	6.6	7.0	5.5	5.2	5.7	5.1	5.4	5.6
Nondurable goods.....	3.5	3.5	3.8	2.5	3.1	4.3	5.1	5.4	5.1	5.5	4.2	3.9	3.5	4.1	4.3
Food and kindred products.....	4.0	4.0	4.0	3.0	3.9	6.5	8.1	9.1	7.5	8.9	5.6	4.9	4.3	5.8	6.4
Tobacco manufactures.....	3.2	4.0	5.1	7.0	4.4	5.9	13.1	24.5	8.3	3.1	2.4	1.8	2.6	6.6	6.4
Textile mill products.....	3.6	3.6	3.4	2.2	3.0	4.0	4.2	4.3	4.0	4.0	3.9	3.6	3.5	3.6	3.6
Apparel and related products.....	4.7	5.2	5.9	3.3	4.5	5.0	5.5	5.8	7.1	5.7	5.9	5.1	4.7	5.3	5.5
Paper and allied products.....	2.6	2.2	2.4	1.8	2.0	2.6	3.0	2.9	2.9	4.0	2.7	2.7	2.4	2.6	2.6
Printing, publishing, and allied industries.....	2.7	2.8	3.0	2.1	2.5	3.0	3.5	3.2	3.2	4.0	2.8	2.8	2.6	2.9	3.0
Chemicals and allied products.....	2.5	1.9	1.8	1.3	1.3	1.8	2.2	1.9	2.2	3.3	2.0	2.6	2.4	2.1	2.1
Petroleum refining and related industries.....	1.2	1.3	1.4	.7	.9	1.2	1.4	1.3	1.9	3.0	2.0	2.1	1.6	1.5	1.4
Rubber and miscellaneous plastic products.....	3.4	3.1	3.5	2.3	2.6	3.8	4.3	4.3	4.5	4.0	3.7	3.8	3.4	3.6	3.8
Leather and leather products.....	4.4	4.6	5.6	3.5	4.1	4.8	4.8	5.4	6.6	6.3	5.6	4.4	4.1	5.0	5.0
<b>Nonmanufacturing:</b>															
Metal mining.....	2.8	2.7	3.1	1.8	2.5	2.7	2.6	2.8	2.7	3.8	3.6	5.7	2.9	3.1	2.9
Coal mining.....	1.4	1.5	2.6	1.4	1.7	1.8	2.3	2.9	2.1	1.5	2.1	2.2	2.5	2.1	1.7
	Accessions: New hires														
<b>Manufacturing:</b>															
Actual.....	2.2	2.0	2.0	1.4	1.8	2.6	3.1	3.2	2.7	3.3	2.5	2.3	2.0	2.4	2.5
Seasonally adjusted.....	2.6	2.5	2.4	2.5	2.3	2.4	2.3	2.4	2.4	2.4	2.4	2.6	2.4	-----	-----
Durable goods.....	2.1	1.9	1.9	1.3	1.7	2.4	2.8	2.6	2.3	2.9	2.3	2.2	1.8	2.1	2.3
Ordnance and accessories.....	1.1	1.2	1.0	1.0	1.3	1.8	2.0	1.9	1.7	1.9	1.4	1.3	1.1	1.5	2.0
Lumber and wood products, except furniture.....	3.3	3.3	3.0	2.0	2.9	4.2	5.5	5.9	4.7	6.3	5.5	4.6	3.7	4.2	3.9
Furniture and fixtures.....	3.6	3.1	3.1	1.8	2.7	4.0	4.8	4.9	4.4	4.0	3.5	3.3	2.7	3.5	3.5
Stone, clay, and glass products.....	2.3	1.7	1.6	1.1	1.5	2.0	2.4	2.8	3.0	3.7	2.8	2.8	2.1	2.3	2.2
Primary metal industries.....	1.5	1.5	1.3	.8	.8	1.1	1.3	1.2	1.2	2.1	1.7	1.4	1.0	1.2	1.1
Fabricated metal products.....	2.3	2.1	2.2	1.6	2.0	2.9	3.5	3.2	2.8	3.2	2.6	2.4	2.0	2.5	2.4
Machinery.....	2.4	2.2	2.2	1.6	1.7	2.0	2.2	1.9	1.9	2.5	1.9	1.9	1.8	1.9	2.0
Electrical equipment and supplies.....	1.6	1.5	1.6	1.3	1.6	2.2	2.6	2.3	1.9	2.4	1.7	1.6	1.5	1.9	2.3
Transportation equipment.....	2.0	1.6	1.7	1.2	1.6	2.3	2.5	1.9	1.8	2.4	1.8	1.9	1.7	1.9	2.1
Instruments and related products.....	1.8	1.5	1.6	1.3	1.4	2.0	2.4	2.1	2.2	3.1	2.0	1.8	1.7	2.0	2.0
Miscellaneous manufacturing industries.....	2.7	2.9	3.0	1.5	2.7	4.4	5.2	4.8	4.1	3.7	3.2	3.2	2.6	3.4	3.8
Nondurable goods.....	2.2	2.1	2.1	1.4	1.9	2.9	3.5	3.8	3.2	3.8	2.7	2.4	2.2	2.7	2.8
Food and kindred products.....	2.3	2.1	2.1	1.6	2.3	4.0	5.3	6.5	4.6	5.9	3.5	2.8	2.2	3.6	3.8
Tobacco manufactures.....	1.9	2.1	1.8	4.0	2.3	3.8	8.5	14.4	3.3	1.8	1.3	1.1	1.6	3.8	3.2
Textile mill products.....	2.4	2.3	2.1	1.4	2.1	2.9	3.1	3.2	2.8	3.0	2.8	2.5	2.2	2.5	2.5
Apparel and related products.....	3.0	3.2	3.1	1.6	2.4	3.4	3.8	3.9	4.0	3.6	3.6	3.4	3.2	3.3	3.5
Paper and allied products.....	1.7	1.4	1.4	1.1	1.3	2.1	2.4	2.2	2.1	3.1	1.9	1.7	1.5	1.8	1.8
Printing, publishing, and allied industries.....	2.0	2.1	2.1	1.5	1.9	2.4	2.9	2.5	2.5	3.0	2.1	2.0	1.9	2.2	2.3
Chemicals and allied products.....	1.7	1.3	1.2	.8	.9	1.3	1.6	1.4	1.6	2.6	1.4	1.8	1.6	1.5	1.5
Petroleum refining and related industries.....	.6	.7	.6	.5	.7	.8	1.1	1.0	1.6	2.4	1.5	1.3	.9	1.1	1.0
Rubber and miscellaneous plastic products.....	2.0	1.9	1.9	1.3	1.7	2.8	3.2	2.9	2.6	2.7	2.4	2.1	1.9	2.3	2.4
Leather and leather products.....	2.5	2.7	3.2	2.3	2.6	3.4	3.6	3.9	4.2	3.9	3.2	2.6	2.3	3.1	3.1
<b>Nonmanufacturing:</b>															
Metal mining.....	1.8	1.7	1.7	1.0	1.3	1.7	1.9	1.8	1.5	2.7	1.6	1.7	1.5	1.7	1.5
Coal mining.....	.8	.7	1.1	.7	.8	1.0	1.2	1.1	.9	.7	.8	.8	.8	.9	.8

See footnotes at end of table.

TABLE B-1. Labor turnover rates, by major industry group<sup>1</sup>—Continued

[Per 100 employees]

Revised series; see box, p. 720.

Major industry group	1964			1963										Annual average	
	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	1963	1962
Separations: Total															
<b>Manufacturing:</b>															
Actual.....	3.4	3.3	4.0	3.7	3.8	4.1	4.9	4.7	4.1	3.4	3.6	3.6	3.5	3.9	4.1
Seasonally adjusted.....	3.7	3.8	4.0	3.7	3.7	3.7	5.9	4.2	4.0	3.8	4.0	4.0	3.8	3.9	3.8
Durable goods.....	3.1	3.1	3.8	3.4	3.5	3.7	4.3	4.7	4.0	3.2	3.3	3.3	3.3	3.6	3.8
Ordnance and accessories.....	3.6	3.1	3.9	2.1	2.4	2.5	3.2	2.8	2.2	2.4	2.3	2.4	4.2	2.7	2.7
Lumber and wood products, except furniture.....	5.6	4.7	6.1	4.9	5.8	5.5	7.1	7.3	5.2	5.1	5.0	5.2	5.4	5.5	5.6
Furniture and fixtures.....	4.2	4.0	4.7	3.8	4.0	4.9	5.0	5.3	4.3	4.2	4.4	4.5	4.5	4.4	4.6
Stone, clay, and glass products.....	3.0	3.3	4.7	4.9	4.0	3.9	4.6	4.3	3.3	3.2	3.1	3.0	2.9	3.8	4.1
Primary metal industries.....	1.9	2.0	2.5	2.2	2.7	3.5	4.1	4.1	3.6	2.0	2.1	2.1	2.1	2.8	3.3
Fabricated metal products.....	3.4	3.5	4.2	3.7	4.0	4.3	4.8	4.5	4.6	3.5	3.7	3.5	3.8	4.0	4.2
Machinery.....	2.4	2.2	2.6	1.9	2.3	2.7	3.3	3.4	2.8	2.8	3.0	2.6	2.5	2.7	2.8
Electrical equipment and supplies.....	3.2	3.4	3.7	3.0	3.5	3.4	4.0	3.6	3.2	3.1	3.0	3.1	3.6	3.4	3.3
Transportation equipment.....	3.3	3.4	4.3	3.6	3.1	3.5	3.9	7.5	5.9	3.5	3.7	3.9	3.5	4.1	4.6
Instruments and related products.....	2.7	2.6	3.3	2.5	2.4	2.7	3.7	3.0	3.0	2.3	2.7	2.3	2.4	2.7	2.6
Miscellaneous manufacturing industries.....	4.0	3.9	5.9	10.4	7.2	5.3	5.4	5.5	5.2	4.2	4.5	4.8	4.2	5.5	6.0
Nondurable goods.....	3.8	3.5	4.1	4.1	4.3	4.7	5.6	4.8	4.3	3.8	4.0	3.9	3.7	4.2	4.4
Food and kindred products.....	4.8	4.9	5.5	5.5	6.6	7.5	9.2	6.5	5.8	4.8	4.6	4.8	4.9	5.9	6.2
Tobacco manufactures.....	6.8	9.0	7.3	11.0	11.9	8.6	4.2	4.3	2.6	2.2	4.0	3.9	7.0	6.3	6.7
Textile mill products.....	3.5	3.2	3.8	3.3	3.6	4.0	4.5	4.6	3.8	3.3	3.9	3.7	3.5	3.8	3.7
Apparel and related products.....	5.4	4.3	5.3	5.7	5.3	5.5	5.8	5.8	6.4	5.6	5.8	6.0	4.8	5.5	5.8
Paper and allied products.....	2.2	2.4	2.9	2.6	2.7	2.8	4.2	3.4	2.5	2.2	2.5	2.5	2.5	2.8	2.8
Printing, publishing, and allied industries.....	2.4	2.6	3.2	2.5	2.7	3.1	3.8	3.5	2.6	3.0	3.0	2.6	2.7	2.9	2.9
Chemicals and allied products.....	1.7	1.6	1.9	1.7	1.8	2.0	3.1	2.5	1.8	2.1	2.6	1.9	1.7	2.0	2.1
Petroleum refining and related industries.....	1.2	1.4	1.5	2.3	1.8	1.8	3.1	2.1	1.7	1.8	1.7	1.6	1.8	2.0	1.8
Rubber and miscellaneous plastic products.....	3.7	3.1	3.9	3.9	3.7	3.7	4.4	4.1	4.3	3.3	3.5	3.2	3.7	3.7	3.6
Leather and leather products.....	5.3	4.2	5.3	5.3	4.1	4.8	5.8	5.9	5.6	4.1	4.9	5.9	4.7	5.0	5.2
<b>Nonmanufacturing:</b>															
Metal mining.....	2.0	2.2	2.4	3.1	3.3	3.1	3.9	2.9	2.6	2.5	3.1	3.0	3.1	3.1	3.5
Coal mining.....	1.7	1.8	2.7	2.0	1.5	1.4	1.9	1.8	2.6	1.8	2.2	2.8	2.5	2.1	2.8
Separations: Quits															
<b>Manufacturing:</b>															
Actual.....	1.2	1.1	1.2	0.8	1.1	1.5	2.4	2.1	1.4	1.4	1.4	1.3	1.2	1.4	1.4
Seasonally adjusted.....	1.5	1.5	1.5	1.3	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4
Durable goods.....	1.1	.9	1.0	.7	1.0	1.3	2.0	1.8	1.2	1.2	1.3	1.1	1.0	1.2	1.2
Ordnance and accessories.....	.8	.8	1.0	.6	.7	1.0	1.7	1.3	1.0	1.0	1.0	.8	.9	1.0	1.2
Lumber and wood products, except furniture.....	2.0	1.9	1.9	1.5	2.1	2.9	4.5	4.9	2.9	3.0	3.0	2.6	2.2	2.7	2.4
Furniture and fixtures.....	2.2	1.7	1.9	1.2	1.7	2.3	3.0	3.1	2.1	1.9	2.3	2.2	1.9	2.1	2.1
Stone, clay, and glass products.....	1.0	.8	.9	.6	1.0	1.2	2.2	1.9	1.3	1.3	1.3	1.1	.9	1.2	1.2
Primary metal industries.....	.6	.5	.6	.4	.5	.6	1.2	1.1	.7	.6	.7	.6	.5	.6	.6
Fabricated metal products.....	1.2	1.0	1.1	.8	1.0	1.4	2.2	1.9	1.2	1.2	1.3	1.2	1.1	1.3	1.3
Machinery.....	1.0	.9	.9	.6	.8	1.0	1.6	1.4	.9	.9	1.0	1.0	.9	1.0	1.0
Electrical equipment and supplies.....	1.0	1.0	1.1	.9	1.1	1.3	2.0	1.7	1.2	1.2	1.2	1.1	1.1	1.2	1.4
Transportation equipment.....	.8	.7	.8	.6	.7	.9	1.5	1.2	.9	.9	.9	.8	.8	.9	1.0
Instruments and related products.....	.9	.8	1.1	.8	.9	1.1	2.0	1.6	1.2	1.1	1.3	1.0	1.0	1.2	1.2
Miscellaneous manufacturing industries.....	1.5	1.4	1.5	1.1	1.6	2.3	3.0	2.9	1.8	1.8	1.8	1.6	1.5	1.8	2.0
Nondurable goods.....	1.4	1.3	1.4	1.0	1.3	1.8	2.8	2.4	1.7	1.6	1.7	1.5	1.4	1.6	1.7
Food and kindred products.....	1.3	1.3	1.4	1.0	1.5	2.2	3.8	2.8	1.9	1.7	1.6	1.4	1.4	1.8	1.9
Tobacco manufactures.....	.9	.9	1.0	.7	.8	1.0	1.3	1.5	.8	.7	.8	.8	.7	.9	.9
Textile mill products.....	1.8	1.6	1.6	1.1	1.6	2.2	2.8	2.8	2.1	1.9	2.1	2.0	1.7	1.9	1.9
Apparel and related products.....	1.9	1.8	1.9	1.3	1.8	2.3	2.8	3.1	2.5	2.2	2.4	2.3	2.0	2.2	2.3
Paper and allied products.....	.9	.8	.9	.7	.9	1.2	2.6	1.9	1.0	1.0	1.0	.9	.9	1.1	1.1
Printing, publishing, and allied industries.....	1.2	1.2	1.4	1.0	1.1	1.4	2.2	2.0	1.3	1.5	1.5	1.3	1.2	1.4	1.5
Chemicals and allied products.....	.6	.6	.6	.4	.5	.7	1.9	1.3	.7	.7	.8	.7	.6	.8	.8
Petroleum refining and related industries.....	.3	.4	.4	.3	.4	.6	1.7	1.1	.7	.8	.7	.6	.5	.7	.7
Rubber and miscellaneous plastic products.....	1.2	1.1	1.1	.8	1.1	1.6	2.3	2.0	1.4	1.4	1.4	1.3	1.1	1.4	1.4
Leather and leather products.....	2.0	1.9	2.0	1.5	1.9	2.5	3.1	3.3	2.5	2.2	2.4	2.3	2.0	2.3	2.3
<b>Nonmanufacturing:</b>															
Metal mining.....	1.1	1.0	1.1	.7	.8	1.2	2.3	1.9	1.3	1.4	1.5	1.4	1.2	1.3	1.2
Coal mining.....	.5	.4	.4	.3	.4	.5	.6	.6	.5	.3	.4	.5	.4	.4	.4

See footnotes at end of table.

TABLE B-1. Labor turnover rates, by major industry group<sup>1</sup>—Continued

[Per 100 employees]

Revised series; see box, p. 720.

Major industry group	1964			1963									Annual average		
	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	1963	1962
	Separations: Layoffs														
Manufacturing:															
Actual.....	1.6	1.5	2.0	2.3	2.1	1.9	1.8	1.9	2.0	1.4	1.5	1.6	1.7	1.8	2.0
Seasonally adjusted.....	1.7	1.7	1.8	1.8	1.8	1.7	1.8	2.0	1.9	1.7	1.8	1.8	1.8	1.8	2.0
Durable goods.....	1.4	1.5	2.0	2.1	1.8	1.6	1.4	2.1	2.1	1.3	1.3	1.4	1.6	1.7	1.9
Ordnance and accessories.....	2.4	1.9	2.3	1.0	1.1	.9	1.0	.9	.7	.9	.8	1.1	2.7	1.2	.9
Lumber and wood products, except furniture.....	2.8	2.0	3.3	2.7	2.9	1.7	1.5	1.4	1.5	1.2	1.1	1.8	2.5	1.9	2.4
Furniture and fixtures.....	1.2	1.5	2.0	2.0	1.6	1.7	1.1	1.3	1.4	1.6	1.3	1.5	1.8	1.6	1.8
Stone, clay, and glass products.....	1.4	1.9	3.1	3.7	2.4	2.0	1.7	1.6	1.2	1.2	1.2	1.2	1.4	1.9	2.2
Primary metal industries.....	.7	.7	1.1	1.3	1.6	2.1	2.2	2.3	2.2	.7	.8	.8	1.0	1.5	2.1
Fabricated metal products.....	1.5	1.8	2.3	2.3	2.3	2.1	1.8	1.7	2.6	1.5	1.7	1.7	2.0	2.0	2.2
Machinery.....	.8	.7	.8	.7	.9	1.1	1.0	1.3	1.3	1.2	1.4	1.0	1.0	1.1	1.2
Electrical equipment and supplies.....	1.5	1.7	1.8	1.5	1.6	1.2	1.1	1.1	1.3	1.1	1.2	1.3	1.7	1.4	1.1
Transportation equipment.....	1.6	1.8	2.4	2.3	1.7	1.6	1.5	5.4	4.0	1.7	1.9	2.2	1.9	2.4	2.8
Instruments and related products.....	1.2	1.0	1.5	1.2	.9	.9	.8	.8	1.3	.6	.7	.7	.7	.9	.7
Miscellaneous manufacturing industries.....	1.9	1.9	3.7	8.6	4.7	2.1	1.6	1.7	2.6	1.7	2.0	2.4	2.0	2.9	3.1
Nondurable goods.....	1.9	1.6	2.1	2.6	2.4	2.3	2.2	1.7	1.9	1.5	1.7	1.8	1.7	2.0	2.1
Food and kindred products.....	2.9	3.0	3.4	3.9	4.5	4.6	4.6	2.9	3.2	2.5	2.4	2.8	2.9	3.5	3.7
Tobacco manufactures.....	5.5	7.4	5.4	9.9	10.7	7.0	2.5	2.2	1.3	1.2	2.7	2.6	5.8	5.0	5.3
Textile mill products.....	1.1	1.0	1.5	1.6	1.5	1.2	1.0	1.1	1.1	.8	1.1	1.1	1.2	1.2	1.2
Apparel and related products.....	2.9	1.7	2.6	3.8	2.8	2.5	2.3	1.9	3.0	2.6	2.6	3.0	2.1	2.6	2.7
Paper and allied products.....	.8	1.0	1.3	1.4	1.2	.9	.9	.9	.8	.6	.9	.9	1.1	1.0	1.0
Printing, publishing, and allied industries.....	.8	.9	1.2	1.2	1.1	1.2	1.0	1.0	.8	.9	1.1	.9	1.0	1.0	1.0
Chemicals and allied products.....	.7	.6	.7	.9	.9	.7	.7	.7	.7	.9	1.4	.8	.6	.8	.8
Petroleum refining and related industries.....	.3	.6	.6	1.5	1.0	.8	.8	.6	.4	.3	.5	.5	.7	.7	.6
Rubber and miscellaneous plastic products.....	1.8	1.2	2.0	2.4	2.0	1.2	1.3	1.4	2.1	1.2	1.3	1.2	1.8	1.6	1.5
Leather and leather products.....	2.5	1.6	2.4	3.2	1.5	1.7	1.9	1.6	2.3	1.1	1.7	2.9	2.0	2.0	2.1
Nonmanufacturing:															
Metal mining.....	.3	.4	.6	1.9	1.9	1.2	.8	.5	.6	.4	.8	.9	1.4	1.1	1.5
Coal mining.....	.8	1.0	1.4	1.4	.7	.5	.8	.7	1.6	1.0	1.4	1.8	1.6	1.2	1.9

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2.

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 for the following reasons: (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.

<sup>2</sup> Preliminary.

## C.—Earnings and Hours

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Mining		\$113.16	\$115.09	\$115.36	\$116.48	\$113.99	\$116.75	\$117.04	\$115.08	\$112.06	\$117.85	\$114.39	\$112.75	\$114.40	\$110.70
Metal mining		122.54	122.51	123.09	122.51	119.89	120.60	121.06	118.08	116.69	118.85	117.71	117.50	118.66	117.45
Iron ores		128.54	126.89	129.07	127.93	120.43	120.43	127.20	119.65	119.50	124.14	120.08	117.80	120.96	122.19
Copper ores		128.91	128.74	127.28	126.69	128.17	130.23	124.66	125.27	121.98	122.69	122.55	124.12	124.56	120.70
Coal mining		115.02	121.09	124.97	125.85	117.94	121.68	123.48	118.18	108.19	128.74	122.14	117.73	119.95	113.09
Bituminous		117.12	123.52	127.12	128.40	119.45	123.48	124.97	119.32	110.21	130.60	124.66	119.81	121.59	114.50
Crude petroleum and natural gas fields		112.25	112.94	112.71	113.79	113.10	113.05	113.67	113.32	112.36	113.36	110.62	111.45	111.99	109.20
Crude petroleum and natural gas fields		120.13	121.25	122.43	121.54	120.54	119.43	122.07	119.31	120.30	123.31	117.74	120.30	120.01	115.46
Oil and gas field services		105.41	106.52	104.66	107.75	106.40	108.43	106.64	107.56	105.46	105.04	104.49	103.52	105.35	103.63
Quarrying and nonmetallic mining		106.46	105.96	102.34	105.33	108.24	115.04	114.50	114.33	113.83	112.91	110.32	106.56	109.03	105.43
Contract construction		128.12	127.09	122.08	124.96	125.58	134.98	132.90	132.70	130.90	129.79	128.06	124.58	127.57	122.47
General building contractors		120.27	118.29	111.52	115.93	116.53	124.58	121.88	122.02	120.62	118.58	117.85	115.84	117.72	112.50
Heavy construction		121.52	123.31	118.95	118.17	124.00	138.65	136.85	137.03	135.22	132.13	126.96	122.36	128.03	122.31
Highway and street construction		113.68	114.94	110.88	109.08	119.99	137.81	135.06	134.67	133.62	130.09	123.68	117.74	125.16	118.37
Other heavy construction		128.18	129.81	124.69	126.92	128.38	140.34	137.78	140.68	136.92	134.60	131.02	127.98	131.54	126.48
Special trade contractors		134.63	133.81	129.24	133.48	131.38	139.49	137.64	137.25	136.14	135.75	134.67	131.40	133.59	128.50
Manufacturing		\$101.81	101.40	101.15	99.90	102.41	100.85	100.53	98.42	99.23	100.37	99.23	97.36	99.38	96.56
Durable goods		111.24	110.29	109.88	109.21	111.90	110.00	109.71	109.45	107.01	108.09	109.82	108.36	106.37	104.70
Nondurable goods		89.60	89.67	89.04	87.85	90.17	89.10	88.98	89.38	88.40	88.36	88.36	87.52	85.97	85.54
Average weekly hours															
Mining		41.0	41.4	41.2	41.6	41.3	42.3	42.1	42.0	41.2	42.7	41.9	41.3	41.6	41.0
Metal mining		42.4	42.1	42.3	42.1	41.2	41.3	41.6	41.0	40.8	41.7	41.3	40.8	41.2	41.5
Iron ores		41.2	40.8	41.5	41.4	39.1	39.1	41.3	39.1	38.8	40.7	39.5	38.0	39.4	39.8
Copper ores		44.3	43.2	43.0	42.8	43.3	43.7	42.4	42.9	42.8	42.9	43.0	43.4	43.1	42.8
Coal mining		36.4	38.2	39.3	39.7	37.8	39.0	39.2	38.0	38.2	41.0	39.4	38.1	38.8	36.6
Bituminous		36.6	38.6	39.6	40.0	37.8	39.2	39.3	38.0	38.2	41.2	39.7	38.4	38.9	36.7
Crude petroleum and natural gas fields		42.2	42.3	41.9	42.3	42.2	42.5	42.1	42.6	42.4	42.3	41.9	41.9	42.1	42.0
Crude petroleum and natural gas fields		41.0	41.1	41.5	41.2	41.0	40.9	41.1	41.0	41.2	41.8	40.6	41.2	41.1	40.8
Oil and gas field services		43.2	43.3	42.2	43.1	43.1	43.9	43.0	43.9	43.4	42.7	43.0	42.6	43.0	43.0
Quarrying and nonmetallic mining		43.1	42.9	41.1	42.3	44.0	46.2	45.8	46.1	45.9	45.9	45.4	44.4	44.5	44.3
Contract construction		36.5	35.9	34.1	35.3	36.4	38.9	38.3	38.8	38.5	38.4	38.0	37.3	37.3	37.0
General building contractors		35.9	35.1	32.8	34.3	35.1	37.3	36.6	37.2	37.0	36.6	36.6	36.2	36.0	35.6
Heavy construction		39.2	38.9	36.6	36.7	40.0	43.6	42.9	43.5	43.2	42.9	41.9	41.2	41.3	40.5
Highway and street construction		39.2	38.7	36.0	35.3	40.4	44.6	44.0	44.3	44.1	43.8	42.5	41.9	42.0	41.1
Other heavy construction		39.2	39.1	37.0	38.0	39.5	42.4	41.5	42.5	42.0	41.8	41.2	40.5	40.6	39.9
Special trade contractors		35.9	35.4	34.1	35.5	35.7	37.7	37.2	37.5	37.4	37.5	37.1	36.5	36.5	36.3
Manufacturing		40.4	40.4	40.3	39.8	40.8	40.5	40.7	40.5	40.5	40.8	40.5	39.9	40.4	40.4
Durable goods		41.2	41.0	41.0	40.6	41.6	41.2	41.4	41.0	41.1	41.6	41.2	40.6	41.1	40.9
Nondurable goods		39.3	39.5	39.4	38.7	39.9	39.6	39.9	40.0	39.8	39.8	39.6	38.9	39.6	39.6
Average hourly earnings															
Mining		\$2.76	\$2.78	\$2.80	\$2.80	\$2.76	\$2.76	\$2.78	\$2.74	\$2.72	\$2.76	\$2.73	\$2.73	\$2.75	\$2.70
Metal mining		2.89	2.91	2.91	2.91	2.91	2.92	2.91	2.88	2.86	2.85	2.85	2.88	2.88	2.83
Iron ores		3.12	3.11	3.11	3.09	3.08	3.08	3.08	3.06	3.08	3.05	3.04	3.10	3.07	3.07
Copper ores		2.91	2.98	2.96	2.96	2.96	2.98	2.94	2.92	2.85	2.86	2.85	2.86	2.89	2.82
Coal mining		3.16	3.17	3.18	3.17	3.12	3.12	3.15	3.11	3.14	3.10	3.09	3.12	3.12	3.09
Bituminous		3.20	3.20	3.21	3.21	3.16	3.15	3.18	3.14	3.17	3.14	3.12	3.12	3.15	3.12
Crude petroleum and natural gas fields		2.66	2.67	2.69	2.69	2.68	2.66	2.70	2.66	2.65	2.68	2.64	2.66	2.66	2.60
Crude petroleum and natural gas fields		2.93	2.95	2.95	2.95	2.94	2.92	2.97	2.91	2.92	2.95	2.90	2.92	2.92	2.83
Oil and gas field services		2.44	2.46	2.48	2.50	2.47	2.47	2.48	2.45	2.43	2.46	2.43	2.43	2.45	2.41
Quarrying and nonmetallic mining		2.47	2.47	2.49	2.49	2.46	2.49	2.50	2.48	2.48	2.46	2.43	2.40	2.45	2.38
Contract construction		3.51	3.54	3.58	3.54	3.45	3.47	3.47	3.42	3.40	3.38	3.37	3.34	3.42	3.31
General building contractors		3.35	3.37	3.40	3.38	3.32	3.34	3.33	3.28	3.26	3.24	3.22	3.20	3.27	3.16
Heavy construction		3.10	3.17	3.25	3.22	3.10	3.18	3.19	3.15	3.13	3.08	3.03	2.97	3.10	3.02
Highway and street construction		2.90	2.97	3.08	3.09	2.97	3.09	3.09	3.04	3.03	2.97	2.91	2.81	2.98	2.88
Other heavy construction		3.27	3.32	3.37	3.34	3.25	3.31	3.32	3.31	3.26	3.22	3.18	3.16	3.24	3.17
Special trade contractors		3.75	3.78	3.79	3.76	3.68	3.70	3.70	3.68	3.64	3.62	3.63	3.60	3.66	3.54
Manufacturing		\$2.52	2.51	2.51	2.51	2.49	2.47	2.47	2.43	2.45	2.46	2.45	2.44	2.46	2.39
Durable goods		2.70	2.69	2.68	2.69	2.67	2.65	2.65	2.61	2.63	2.64	2.63	2.62	2.63	2.56
Nondurable goods		2.28	2.27	2.26	2.27	2.26	2.25	2.23	2.24	2.21	2.22	2.22	2.21	2.22	2.16

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
<i>Durable goods</i>															
Ordnance and accessories.....	\$118.99	\$119.39	\$119.29	\$121.18	\$123.26	\$120.36	\$121.13	\$121.01	\$119.31	\$117.74	\$118.24	\$117.67	\$115.14	\$119.60	\$116.31
Ammunition, except for small arms.....	119.30	119.70	120.60	124.12	125.63	122.51	122.89	121.77	121.95	118.96	119.65	117.50	116.24	120.25	116.69
Sighting and fire control equipment.....		131.78	131.05	128.15	129.78	128.75	129.48	129.36	123.83	121.09	120.10	122.01	119.20	125.36	126.18
Other ordnance and accessories.....	116.24	116.52	115.02	114.62	117.29	114.77	116.05	116.90	114.24	114.93	115.36	116.90	112.19	115.77	112.84
Lumber and wood products, except furniture.....	82.59	81.99	81.97	79.90	83.20	82.97	85.68	86.50	84.45	82.42	82.62	80.60	78.41	81.80	79.20
Sawmills and planing mills.....	77.20	76.61	75.85	73.53	76.03	76.02	78.34	79.15	77.36	74.96	76.07	73.97	71.82	74.80	71.71
Millwork, plywood, and related products.....	91.91	91.91	91.88	89.02	91.72	90.83	90.64	91.27	90.06	89.66	90.29	90.07	87.94	89.40	87.12
Wooden containers.....	68.28	67.94	66.18	64.84	68.17	67.49	70.18	70.00	69.64	70.14	69.14	68.31	66.73	68.04	66.17
Miscellaneous wood products.....	77.30	76.52	75.92	74.24	76.14	75.74	76.07	76.45	74.89	74.48	74.85	73.89	72.36	74.30	72.54
Furniture and fixtures.....	83.03	82.01	82.21	79.59	85.06	83.43	84.03	84.03	83.20	81.19	81.39	79.60	78.01	81.39	79.37
Household furniture.....	79.13	78.74	78.94	75.25	81.87	79.68	80.26	80.06	78.62	76.52	76.70	74.99	74.21	77.30	75.07
Office furniture.....		95.65	96.82	94.40	99.17	94.37	97.34	98.47	96.23	94.71	96.93	94.71	92.63	95.35	92.57
Partitions, office and store fixtures.....		102.05	100.36	100.62	102.26	101.89	104.38	105.67	109.10	107.64	105.37	101.75	98.39	103.42	103.57
Other furniture and fixtures.....	87.94	86.27	85.41	83.71	87.56	86.30	85.68	86.11	85.90	82.21	82.82	82.42	81.19	83.64	81.41
Average weekly hours															
Ordnance and accessories.....	40.2	40.2	40.3	40.8	41.5	40.8	41.2	41.3	41.0	40.6	41.2	41.0	40.4	41.1	41.1
Ammunition, except for small arms.....	39.9	39.9	40.2	41.1	41.6	40.7	41.1	41.0	41.2	40.6	41.4	40.8	40.5	40.9	40.8
Sighting and fire control equipment.....		40.8	40.7	40.3	41.2	41.4	41.5	42.0	40.6	39.7	39.9	40.4	39.6	41.1	42.2
Other ordnance and accessories.....	40.5	40.6	40.5	40.5	41.3	40.7	41.3	41.6	40.8	40.9	41.2	41.6	40.5	41.2	41.3
Lumber and wood products, except furniture.....	39.9	39.8	39.6	38.6	40.0	39.7	40.8	40.8	40.6	40.6	40.9	39.9	39.6	40.1	39.8
Sawmills and planing mills.....	40.0	39.9	39.3	37.9	39.6	39.8	40.8	40.8	40.5	40.3	40.9	40.2	39.9	40.0	39.4
Millwork, plywood, and related products.....	41.4	41.4	41.2	40.1	41.5	41.1	41.2	41.3	41.5	41.7	41.8	41.7	40.9	41.2	40.9
Wooden containers.....	39.7	39.5	38.7	37.7	40.1	39.7	40.8	40.7	41.7	42.0	41.4	41.4	40.2	40.5	40.1
Miscellaneous wood products.....	40.9	40.7	40.6	39.7	40.5	40.5	40.9	41.1	40.7	40.7	40.9	40.6	40.2	40.6	40.3
Furniture and fixtures.....	40.9	40.6	40.7	39.4	41.9	41.3	41.6	41.6	41.6	40.8	40.9	40.2	39.8	40.9	40.7
Household furniture.....	41.0	40.8	40.9	39.4	42.2	41.5	41.8	41.7	41.6	40.7	40.8	40.1	39.9	40.9	40.8
Office furniture.....		40.7	41.2	40.0	42.2	40.5	41.6	41.9	41.3	41.0	41.6	41.0	40.1	41.1	40.6
Partitions, office and store fixtures.....		39.4	38.9	39.0	40.1	39.8	40.3	40.8	41.8	41.4	41.0	39.9	39.2	40.4	41.1
Other furniture and fixtures.....	40.9	40.5	40.1	39.3	41.3	40.9	40.8	41.4	41.9	40.3	40.8	40.4	39.8	40.6	40.3
Average hourly earnings															
Ordnance and accessories.....	\$2.96	\$2.97	\$2.96	\$2.97	\$2.97	\$2.95	\$2.94	\$2.93	\$2.91	\$2.90	\$2.87	\$2.87	\$2.85	\$2.91	\$2.83
Ammunition, except for small arms.....	2.99	3.00	3.00	3.02	3.02	3.01	2.99	2.97	2.96	2.93	2.89	2.88	2.87	2.94	2.86
Sighting and fire control equipment.....		3.23	3.22	3.18	3.15	3.11	3.12	3.08	3.05	3.05	3.01	3.02	3.01	3.05	2.99
Other ordnance and accessories.....	2.87	2.87	2.84	2.83	2.84	2.82	2.81	2.81	2.80	2.81	2.80	2.81	2.77	2.81	2.72
Lumber and wood products, except furniture.....	2.07	2.06	2.07	2.07	2.08	2.09	2.10	2.12	2.08	2.03	2.02	2.02	1.98	2.04	1.99
Sawmills and planing mills.....	1.93	1.92	1.93	1.94	1.92	1.91	1.92	1.94	1.91	1.86	1.86	1.84	1.80	1.87	1.82
Millwork, plywood, and related products.....	2.22	2.22	2.23	2.22	2.21	2.21	2.20	2.21	2.17	2.15	2.15	2.16	2.15	2.17	2.13
Wooden containers.....	1.72	1.72	1.71	1.72	1.70	1.70	1.72	1.72	1.67	1.67	1.67	1.65	1.66	1.68	1.65
Miscellaneous wood products.....	1.89	1.88	1.87	1.87	1.88	1.87	1.86	1.86	1.84	1.83	1.83	1.82	1.80	1.83	1.80
Furniture and fixtures.....	2.03	2.02	2.02	2.02	2.03	2.02	2.02	2.02	2.00	1.99	1.99	1.98	1.96	1.99	1.95
Household furniture.....	1.93	1.93	1.93	1.91	1.94	1.92	1.92	1.92	1.89	1.88	1.88	1.87	1.86	1.89	1.84
Office furniture.....		2.35	2.35	2.36	2.35	2.33	2.34	2.35	2.33	2.31	2.33	2.31	2.31	2.32	2.28
Partitions, office and store fixtures.....		2.59	2.58	2.56	2.55	2.56	2.59	2.59	2.61	2.60	2.57	2.55	2.51	2.56	2.52
Other furniture and fixtures.....	2.15	2.13	2.13	2.13	2.12	2.11	2.10	2.08	2.05	2.04	2.03	2.04	2.04	2.06	2.02

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box p. 720.

Industry	1964				1963									Annual average	
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
Durable goods—Continued															
Stone, clay, and glass products.....	\$103.66	\$102.00	\$101.75	\$99.50	\$101.50	\$103.75	\$105.67	\$104.50	\$104.33	\$104.33	\$104.41	\$103.07	\$101.11	\$102.42	\$98.57
Flat glass.....	139.06	140.56	137.90	135.74	143.45	142.35	139.06	133.00	133.45	139.40	133.51	131.66	135.20	126.01	
Glass and glassware, pressed or blown.....	102.47	101.15	100.90	100.00	98.39	100.50	100.50	98.85	100.90	100.25	101.00	100.10	98.00	99.75	98.33
Cement, hydraulic.....	118.24	116.97	116.00	116.81	117.26	120.30	117.83	118.28	116.47	118.86	116.05	116.48	119.99	116.60	112.75
Structural clay products.....	90.69	88.29	87.89	85.06	88.29	90.45	91.12	90.45	90.69	90.71	90.92	90.71	90.27	89.40	86.69
Pottery and related products.....	92.27	92.40	90.02	92.10	92.23	90.09	89.54	87.85	89.01	90.16	90.46	88.37	89.77	86.85	
Concrete, gypsum, and plaster products.....	105.08	100.53	99.31	96.19	100.86	105.78	112.50	111.05	111.15	110.45	110.01	108.62	103.92	105.65	100.96
Other stone and mineral products.....	106.85	105.92	104.49	102.82	104.33	103.75	104.92	104.25	103.25	104.00	102.92	102.26	100.61	102.18	98.33
Primary metal industries.....	129.58	127.51	126.18	125.77	126.38	123.42	122.41	123.73	123.02	125.77	129.55	127.30	127.82	124.64	119.80
Blast furnace and basic steel products.....	139.52	135.53	133.87	133.06	131.41	128.58	127.59	130.35	130.28	135.20	140.70	138.28	141.70	133.06	127.40
Iron and steel foundries.....	119.28	119.13	118.71	117.87	120.81	116.20	115.08	114.29	111.49	111.78	115.45	112.98	110.15	113.01	106.52
Nonferrous smelting and refining.....	118.24	118.40	118.98	120.25	119.97	119.39	118.98	120.25	119.11	118.12	117.45	118.43	120.12	118.56	114.95
Nonferrous rolling, drawing, and extruding.....	119.85	119.85	119.43	120.98	123.12	120.56	119.14	119.43	118.44	119.00	120.83	118.72	115.23	118.72	116.05
Nonferrous foundries.....	109.18	109.59	108.24	108.50	110.77	108.62	108.21	107.42	106.71	105.41	107.38	106.45	105.01	107.12	104.55
Miscellaneous primary metal industries.....	132.93	132.51	131.88	130.41	134.19	130.73	130.21	130.52	125.56	128.44	129.16	127.10	125.05	128.54	124.50
Average weekly hours															
Stone, clay, and glass products.....	41.3	40.8	40.7	39.8	40.6	41.5	42.1	41.8	41.9	41.9	42.1	41.9	41.1	41.3	40.9
Flat glass.....	40.9	41.1	40.8	40.4	41.7	41.5	40.9	39.7	39.6	41.0	39.5	39.3	40.0	38.3	
Glass and glassware, pressed or blown.....	40.5	40.3	40.2	40.0	39.2	40.2	39.7	40.2	40.1	40.4	40.2	39.2	39.9	40.3	
Cement, hydraulic.....	41.2	40.9	40.7	40.7	41.0	41.2	41.2	41.5	41.3	42.0	41.3	41.6	42.1	41.2	
Structural clay products.....	41.6	40.5	40.5	39.2	40.5	41.3	41.8	41.3	41.6	41.8	41.9	41.8	41.6	41.2	
Pottery and related products.....	39.6	40.0	38.8	39.7	40.1	39.0	39.1	38.7	38.7	39.2	39.5	39.1	39.2	39.3	
Concrete, gypsum, and plaster products.....	42.2	41.2	40.7	39.1	41.0	43.0	45.0	44.6	45.0	44.9	44.9	44.7	43.3	43.3	
Other stone and mineral products.....	41.9	41.7	41.3	40.8	41.4	41.5	41.8	41.7	41.3	41.6	41.5	41.4	40.9	41.2	
Primary metal industries.....	41.8	41.4	41.1	41.1	41.3	40.6	40.4	40.7	40.6	41.1	42.2	41.6	41.5	41.0	
Blast furnace and basic steel products.....	41.4	40.7	40.2	40.2	39.7	39.2	38.9	39.5	39.6	40.6	42.0	41.4	41.8	40.2	
Iron and steel foundries.....	42.6	42.7	42.7	42.4	43.3	42.1	42.0	41.9	41.6	41.4	42.6	42.0	41.1	41.7	
Nonferrous smelting and refining.....	41.2	41.4	41.6	41.9	41.8	41.6	41.6	41.9	41.5	41.3	41.5	41.7	42.0	41.6	
Nonferrous rolling, drawing, and extruding.....	42.2	42.2	42.2	42.6	43.2	42.6	42.4	42.5	42.3	42.5	43.0	42.4	41.6	42.4	
Nonferrous foundries.....	41.2	41.2	41.0	41.1	41.8	41.3	41.3	41.0	41.2	40.7	41.3	41.1	40.7	41.2	
Miscellaneous primary metal industries.....	42.2	42.2	42.0	41.4	42.6	41.9	41.6	41.7	40.9	41.3	41.8	41.4	41.0	41.6	
Average hourly earnings															
Stone, clay, and glass products.....	\$2.51	\$2.50	\$2.50	\$2.60	\$2.50	\$2.50	\$2.51	\$2.50	\$2.49	\$2.49	\$2.48	\$2.46	\$2.46	\$2.48	\$2.41
Flat glass.....	3.40	3.42	3.38	3.36	3.44	3.43	3.40	3.35	3.37	3.40	3.38	3.35	3.38	3.29	
Glass and glassware, pressed or blown.....	2.53	2.51	2.51	2.50	2.51	2.50	2.49	2.51	2.50	2.50	2.49	2.50	2.50	2.44	
Cement, hydraulic.....	2.87	2.86	2.85	2.87	2.86	2.92	2.86	2.85	2.82	2.83	2.81	2.80	2.85	2.83	
Structural clay products.....	2.18	2.18	2.17	2.17	2.18	2.19	2.18	2.19	2.18	2.17	2.17	2.17	2.17	2.13	
Pottery and related products.....	2.33	2.31	2.32	2.32	2.32	2.30	2.31	2.29	2.27	2.30	2.30	2.29	2.26	2.29	
Concrete, gypsum, and plaster products.....	2.49	2.44	2.44	2.46	2.46	2.46	2.50	2.49	2.47	2.46	2.45	2.43	2.40	2.44	
Other stone and mineral products.....	2.55	2.54	2.53	2.52	2.52	2.50	2.51	2.50	2.50	2.50	2.48	2.47	2.46	2.41	
Primary metal industries.....	3.10	3.08	3.07	3.06	3.06	3.04	3.03	3.04	3.03	3.06	3.07	3.06	3.08	3.04	
Blast furnace and basic steel products.....	3.37	3.33	3.33	3.31	3.31	3.28	3.28	3.30	3.29	3.33	3.35	3.34	3.39	3.31	
Iron and steel foundries.....	2.80	2.79	2.78	2.78	2.79	2.76	2.74	2.73	2.68	2.70	2.71	2.69	2.68	2.71	
Nonferrous smelting and refining.....	2.87	2.86	2.86	2.87	2.87	2.87	2.86	2.87	2.87	2.86	2.83	2.84	2.86	2.85	
Nonferrous rolling, drawing, and extruding.....	2.84	2.84	2.83	2.84	2.85	2.83	2.81	2.81	2.80	2.80	2.81	2.80	2.77	2.80	
Nonferrous foundries.....	2.65	2.66	2.64	2.64	2.65	2.63	2.62	2.62	2.59	2.59	2.60	2.59	2.58	2.60	
Miscellaneous primary metal industries.....	3.15	3.14	3.14	3.15	3.15	3.12	3.13	3.13	3.07	3.11	3.09	3.07	3.05	3.09	

See footnotes at end of table

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>1</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
Durable goods—Continued															
Fabricated metal products.....	\$110.12	\$109.86	\$109.18	\$108.79	\$111.04	\$109.56	\$109.93	\$110.20	\$108.32	\$107.53	\$108.84	\$108.32	\$104.75	\$108.05	\$104.81
Metal cans.....	132.44	129.32	128.83	131.63	129.44	129.44	125.63	132.01	135.39	132.07	131.94	128.65	125.14	128.17	126.30
Cutlery, handtools, and general hardware.....	106.30	105.63	106.14	105.52	109.46	108.42	105.32	104.81	101.50	100.35	103.98	104.24	99.70	103.73	99.14
Heating equipment and plumbing fixtures.....	100.33	101.75	103.20	99.94	102.87	102.62	105.06	104.04	102.82	102.47	103.22	100.15	97.86	101.56	98.55
Fabricated structural metal products.....	108.79	108.39	107.45	106.13	109.03	108.36	109.25	109.93	109.78	108.58	108.84	107.53	104.64	107.27	104.60
Screw machine products, bolts, etc.....	112.04	112.30	112.56	110.56	110.24	107.68	109.56	109.65	108.45	106.75	108.80	108.38	105.08	108.03	106.00
Metal stampings.....	121.13	120.13	119.71	121.13	123.26	119.71	120.25	117.70	112.74	113.98	116.75	116.47	112.06	116.47	111.76
Coating, engraving, and allied services.....	97.27	95.27	96.70	95.27	97.84	96.64	96.74	98.05	94.89	93.73	95.63	95.63	92.80	94.94	93.34
Miscellaneous fabricated wire products.....	99.77	98.57	98.09	97.36	99.84	97.58	97.82	98.71	96.52	96.22	97.64	97.58	95.51	97.58	96.64
Miscellaneous fabricated metal products.....	106.63	105.44	105.44	104.00	106.75	104.90	107.53	108.05	106.08	105.71	105.93	106.45	104.23	105.67	103.53
Machinery.....	121.26	121.55	120.56	118.71	120.70	117.88	117.04	117.32	115.23	115.51	117.04	115.79	113.85	116.20	113.01
Engines and turbines.....	125.76	128.44	124.84	123.51	129.79	127.20	123.93	126.48	121.50	122.21	123.73	122.41	119.30	123.73	119.88
Farm machinery and equipment.....	118.85	119.56	117.29	116.81	112.16	113.00	112.61	110.16	110.28	111.79	109.07	111.66	111.93	107.69	111.59
Construction and related machinery.....	123.26	121.40	116.90	118.14	119.56	117.18	116.90	116.90	116.20	115.93	117.18	115.93	113.57	115.79	112.34
Metalworking machinery and equipment.....	140.12	139.50	138.60	134.64	135.28	130.33	128.44	127.71	125.83	128.30	130.52	128.90	128.17	129.33	125.57
Special industry machinery.....	112.36	113.16	112.20	110.62	114.48	110.56	110.56	111.09	108.52	109.20	110.33	109.13	107.17	109.98	106.77
General industrial machinery.....	117.58	118.43	118.14	116.60	120.13	117.03	116.62	117.04	114.40	113.16	114.54	112.61	110.16	113.71	110.83
Office, computing, and accounting machines.....	116.11	115.53	116.76	113.47	115.02	118.78	119.07	119.07	116.97	117.14	116.57	115.59	114.33	116.40	113.15
Service industry machines.....	107.68	105.82	106.23	104.12	106.45	103.57	103.83	104.86	104.60	103.22	103.57	103.98	101.15	103.12	100.12
Miscellaneous machinery.....	114.59	115.13	113.74	112.94	114.01	112.25	112.46	111.51	110.83	110.56	112.99	112.04	109.36	111.51	109.13
Average weekly hours															
Fabricated metal products.....	41.4	41.3	41.2	40.9	41.9	41.5	41.8	41.9	41.5	41.2	41.7	41.5	40.6	41.4	41.1
Metal cans.....	43.0	42.4	42.1	42.6	42.3	42.5	41.6	43.0	44.1	43.3	43.4	42.6	41.3	42.3	42.1
Cutlery, handtools, and general hardware.....	41.2	41.1	41.3	40.9	42.1	41.7	41.3	41.1	40.6	40.3	41.1	41.2	40.2	41.0	40.8
Heating equipment and plumbing fixtures.....	39.5	39.9	40.0	39.5	40.5	40.4	41.2	40.8	40.8	40.5	40.8	39.9	39.3	40.3	39.9
Fabricated structural metal products.....	40.9	40.9	40.7	40.2	41.3	41.2	41.7	41.8	41.9	41.6	41.7	41.2	40.4	41.1	40.7
Screw machine products, bolts, etc.....	42.6	42.7	42.8	42.2	42.4	41.9	42.3	42.5	42.2	41.7	42.5	42.5	41.7	42.2	42.4
Metal stampings.....	42.5	42.3	42.3	42.5	43.4	42.6	43.1	42.8	41.6	41.6	42.3	42.2	41.2	42.2	41.7
Coating, engraving, and allied services.....	40.7	40.2	40.8	40.2	41.6	41.3	41.7	41.9	40.9	40.4	41.4	41.2	40.7	41.1	41.3
Miscellaneous fabricated wire products.....	41.4	40.9	40.7	40.4	41.6	41.0	41.1	41.3	40.9	40.6	41.2	41.0	40.3	41.0	41.3
Miscellaneous fabricated metal products.....	40.7	40.4	40.4	40.0	40.9	40.5	41.2	41.4	40.8	40.5	40.9	41.1	40.4	40.8	40.6
Machinery.....	42.4	42.5	42.3	41.8	42.5	41.8	41.8	41.9	41.6	41.7	42.1	41.8	41.4	41.8	41.7
Engines and turbines.....	40.7	41.3	40.4	40.1	41.6	40.9	40.5	41.2	40.1	40.6	40.7	40.4	39.9	40.7	40.5
Farm machinery and equipment.....	41.7	42.1	41.3	41.1	40.2	40.5	40.8	40.5	40.1	40.8	40.1	40.9	40.7	40.6	40.6
Construction and related machinery.....	42.8	42.3	41.6	41.6	42.1	41.7	41.6	41.6	41.5	41.7	42.0	41.7	41.0	41.5	41.3
Metalworking machinery and equipment.....	45.2	45.0	45.0	44.0	44.5	43.3	43.1	43.0	42.8	43.2	43.8	43.4	43.3	43.4	43.3
Special industry machinery.....	42.4	42.7	42.5	41.9	43.2	42.2	42.2	42.4	41.9	42.0	42.6	42.3	41.7	42.3	42.2
General industrial machinery.....	41.4	41.7	41.6	41.2	42.3	41.5	41.5	41.8	41.3	41.0	41.5	41.1	40.5	41.2	41.2
Office, computing, and accounting machines.....	39.9	39.7	40.4	39.4	39.8	41.1	41.2	41.2	40.9	41.1	40.9	40.7	40.4	40.7	40.7
Service industry machines.....	41.1	40.7	40.7	40.2	41.1	40.3	40.4	40.8	40.7	40.8	41.1	41.1	40.3	40.6	40.7
Miscellaneous machinery.....	42.6	42.8	42.6	42.3	42.7	42.2	42.6	42.4	42.3	42.2	42.8	42.6	41.9	42.4	42.3
Average hourly earnings															
Fabricated metal products.....	\$2.66	\$2.66	\$2.65	\$2.66	\$2.65	\$2.64	\$2.63	\$2.61	\$2.61	\$2.61	\$2.61	\$2.58	\$2.61	\$2.55	
Metal cans.....	3.08	3.05	3.06	3.09	3.06	3.06	3.02	3.07	3.07	3.05	3.04	3.02	3.03	3.03	3.00
Cutlery, handtools, and general hardware.....	2.58	2.57	2.57	2.58	2.60	2.60	2.55	2.55	2.50	2.49	2.53	2.53	2.48	2.53	2.43
Heating equipment and plumbing fixtures.....	2.54	2.55	2.58	2.53	2.54	2.54	2.55	2.55	2.52	2.53	2.53	2.51	2.49	2.52	2.47
Fabricated structural metal products.....	2.66	2.65	2.64	2.64	2.64	2.63	2.62	2.63	2.62	2.61	2.61	2.61	2.59	2.61	2.57
Screw machine products, bolts, etc.....	2.63	2.63	2.63	2.62	2.60	2.57	2.59	2.58	2.57	2.56	2.56	2.55	2.52	2.56	2.50
Metal stampings.....	2.85	2.84	2.83	2.85	2.84	2.81	2.79	2.75	2.71	2.74	2.76	2.76	2.72	2.76	2.68
Coating, engraving, and allied services.....	2.39	2.37	2.37	2.37	2.34	2.34	2.32	2.34	2.32	2.32	2.31	2.31	2.28	2.31	2.26
Miscellaneous fabricated wire products.....	2.41	2.41	2.41	2.41	2.40	2.38	2.38	2.39	2.36	2.37	2.37	2.38	2.37	2.38	2.34
Miscellaneous fabricated metal products.....	2.62	2.61	2.61	2.60	2.61	2.59	2.61	2.61	2.60	2.61	2.59	2.59	2.58	2.59	2.55
Machinery.....	2.86	2.86	2.85	2.84	2.84	2.82	2.80	2.80	2.77	2.77	2.78	2.77	2.75	2.78	2.71
Engines and turbines.....	3.09	3.11	3.09	3.08	3.12	3.11	3.06	3.07	3.03	3.01	3.04	3.03	2.99	3.04	2.96
Farm machinery and equipment.....	2.85	2.84	2.84	2.83	2.83	2.70	2.79	2.76	2.72	2.75	2.74	2.72	2.73	2.75	2.65
Construction and related machinery.....	2.88	2.87	2.81	2.84	2.84	2.81	2.81	2.81	2.80	2.78	2.79	2.78	2.77	2.79	2.72
Metalworking machinery and equipment.....	3.10	3.10	3.08	3.06	3.04	3.01	2.98	2.97	2.94	2.97	2.98	2.97	2.96	2.98	2.90
Special industry machinery.....	2.65	2.65	2.64	2.64	2.65	2.62	2.62	2.62	2.59	2.60	2.59	2.58	2.57	2.60	2.53
General industrial machinery.....	2.84	2.84	2.84	2.83	2.84	2.82	2.81	2.80	2.77	2.76	2.76	2.74	2.72	2.76	2.69
Office, computing, and accounting machines.....	2.91	2.91	2.89	2.88	2.89	2.89	2.89	2.89	2.86	2.85	2.85	2.84	2.83	2.86	2.78
Service industry machines.....	2.62	2.60	2.61	2.59	2.59	2.57	2.57	2.57	2.57	2.53	2.52	2.53	2.51	2.54	2.46
Miscellaneous machinery.....	2.69	2.69	2.67	2.67	2.67	2.66	2.64	2.63	2.62	2.62	2.64	2.63	2.61	2.63	2.58

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
<i>Durable goods—Continued</i>															
Electrical equipment and supplies.....	\$100.90	\$100.90	\$100.90	\$100.40	\$102.41	\$100.60	\$100.28	\$100.53	\$98.74	\$98.89	\$99.88	\$98.74	\$96.87	\$99.38	\$97.44
Electric distribution equipment.....	108.95	109.75	110.29	107.33	113.97	109.61	109.33	108.92	109.18	106.11	107.98	106.11	103.34	107.04	102.87
Electrical industrial apparatus.....	108.88	107.94	106.75	106.49	107.79	104.90	104.60	106.30	104.04	105.63	105.73	104.81	102.36	104.70	102.00
Household appliances.....	107.74	107.47	106.80	105.20	109.88	106.93	108.39	110.92	107.71	110.68	111.22	108.39	106.25	108.12	104.23
Electric lighting and wiring equipment.....	94.33	93.93	94.40	93.14	96.70	94.87	94.37	95.06	93.32	92.86	94.02	93.09	90.00	93.26	90.85
Radio and TV receiving sets.....	85.63	85.86	86.46	87.86	87.25	86.63	86.72	86.33	85.72	86.76	86.33	86.46	83.00	85.85	85.75
Communication equipment.....	110.43	109.62	109.35	108.95	110.29	109.08	108.26	108.67	106.67	105.60	106.92	105.99	103.88	106.92	106.97
Electronic components and accessories.....	84.99	85.17	84.96	83.67	84.16	84.19	84.40	82.97	82.37	81.72	82.76	82.97	82.14	82.76	82.00
Miscellaneous electrical equipment and supplies.....	106.52	107.06	109.48	112.74	114.09	111.64	110.39	108.09	100.40	106.49	109.82	106.23	102.94	107.83	106.66
Transportation equipment.....	128.63	126.38	126.99	127.41	133.30	132.68	131.52	127.80	121.58	125.58	126.90	125.76	121.54	126.42	122.22
Motor vehicles and equipment.....	135.36	130.62	132.51	133.77	143.49	142.20	139.60	132.19	122.51	130.54	132.62	131.89	125.44	132.68	127.67
Aircraft and parts.....	124.01	123.11	123.82	123.71	124.92	124.20	124.38	124.68	122.84	122.13	121.72	120.30	118.90	122.43	119.97
Ship and boat building and repairing.....	121.18	123.37	120.39	118.80	120.50	124.01	123.30	124.01	122.10	120.39	121.77	122.01	119.25	121.06	114.97
Railroad equipment.....	-----	126.17	126.38	123.82	124.34	124.22	122.71	124.34	116.79	125.36	122.91	119.80	119.10	121.71	118.10
Other transportation equipment.....	-----	91.58	90.72	87.64	92.21	89.33	93.60	94.73	94.02	94.02	93.86	93.21	91.17	91.84	86.22
Average weekly hours															
Electrical equipment and supplies.....	40.2	40.2	40.2	40.0	40.8	40.4	40.6	40.7	40.3	40.2	40.6	40.3	39.7	40.4	40.6
Electric distribution equipment.....	40.5	40.8	41.0	40.2	41.9	40.9	41.1	41.1	41.2	40.5	40.9	40.5	39.9	40.7	40.5
Electrical industrial apparatus.....	41.4	41.2	40.9	40.8	41.3	40.5	40.7	41.2	40.8	41.1	41.3	41.1	40.3	40.9	40.8
Household appliances.....	40.2	40.1	40.0	39.4	41.0	40.2	40.9	41.7	40.8	41.3	41.5	40.9	40.4	40.8	40.4
Electric lighting and wiring equipment.....	39.8	39.8	40.0	39.3	40.8	40.2	40.5	40.8	40.4	40.2	40.7	40.3	39.3	40.2	40.2
Radio and TV receiving sets.....	38.4	38.5	38.6	39.4	39.3	39.2	39.6	39.6	39.5	39.8	39.6	39.3	37.9	39.2	39.7
Communication equipment.....	40.9	40.6	40.5	40.5	41.0	40.7	40.7	40.7	40.1	40.0	40.5	40.3	39.8	40.5	41.3
Electronic components and accessories.....	39.9	39.8	39.7	39.1	39.7	39.9	40.0	39.7	39.6	39.1	39.6	39.7	39.3	39.6	40.0
Miscellaneous electrical equipment and supplies.....	39.6	39.8	40.7	41.6	42.1	41.5	41.5	41.1	40.0	40.8	41.6	40.7	39.9	41.0	41.5
Transportation equipment.....	41.9	41.3	41.5	41.5	43.0	42.8	42.7	41.9	40.8	42.0	42.3	42.2	41.2	42.0	42.0
Motor vehicles and equipment.....	42.7	41.6	42.2	42.2	44.7	44.3	43.9	42.1	40.3	42.8	43.2	43.1	41.4	42.8	42.7
Aircraft and parts.....	41.2	40.9	41.0	41.1	41.5	41.4	41.6	41.7	41.5	41.4	41.4	41.2	41.0	41.5	41.8
Ship and boat building and repairing.....	40.8	41.4	40.4	40.0	40.3	41.2	41.1	41.2	40.7	40.4	41.0	41.5	40.7	40.9	40.2
Railroad equipment.....	-----	40.7	40.9	40.2	40.5	40.2	40.1	40.9	38.8	41.1	40.7	40.2	40.1	40.3	39.9
Other transportation equipment.....	-----	40.7	40.5	39.3	40.8	39.7	41.6	42.1	41.6	41.6	41.9	41.8	40.7	41.0	40.1
Average hourly earnings															
Electrical equipment and supplies.....	\$2.51	\$2.51	\$2.51	\$2.51	\$2.51	\$2.49	\$2.47	\$2.47	\$2.45	\$2.46	\$2.46	\$2.45	\$2.44	\$2.46	\$2.40
Electric distribution equipment.....	2.69	2.69	2.69	2.67	2.72	2.68	2.66	2.65	2.65	2.62	2.64	2.62	2.59	2.63	2.54
Electrical industrial apparatus.....	2.63	2.62	2.61	2.61	2.61	2.59	2.57	2.58	2.55	2.57	2.56	2.55	2.54	2.56	2.50
Household appliances.....	2.68	2.68	2.67	2.67	2.68	2.66	2.65	2.66	2.64	2.68	2.68	2.65	2.63	2.65	2.58
Electric lighting and wiring equipment.....	2.37	2.36	2.36	2.37	2.37	2.36	2.33	2.33	2.31	2.31	2.31	2.31	2.29	2.32	2.26
Radio and TV receiving sets.....	2.23	2.23	2.24	2.23	2.22	2.21	2.19	2.18	2.17	2.18	2.18	2.20	2.19	2.19	2.16
Communication equipment.....	2.70	2.70	2.70	2.69	2.69	2.68	2.66	2.67	2.66	2.64	2.64	2.63	2.61	2.64	2.59
Electronic components and accessories.....	2.13	2.14	2.14	2.14	2.12	2.11	2.11	2.09	2.08	2.09	2.09	2.09	2.09	2.09	2.05
Miscellaneous electrical equipment and supplies.....	2.69	2.69	2.69	2.71	2.71	2.69	2.66	2.63	2.51	2.61	2.64	2.61	2.58	2.63	2.57
Transportation equipment.....	3.07	3.06	3.06	3.07	3.10	3.10	3.08	3.05	2.98	2.99	3.00	2.98	2.95	3.01	2.91
Motor vehicles and equipment.....	3.17	3.14	3.14	3.17	3.21	3.21	3.18	3.14	3.04	3.05	3.07	3.06	3.03	3.10	2.99
Aircraft and parts.....	3.01	3.01	3.02	3.01	3.01	3.00	2.99	2.99	2.96	2.95	2.94	2.92	2.90	2.95	2.87
Ship and boat building and repairing.....	2.97	2.98	2.98	2.97	2.99	3.01	3.00	3.01	3.00	2.98	2.97	2.94	2.93	2.96	2.86
Railroad equipment.....	-----	3.10	3.09	3.08	3.07	3.09	3.06	3.04	3.01	3.05	3.02	2.98	2.97	3.02	2.96
Other transportation equipment.....	-----	2.25	2.24	2.23	2.26	2.25	2.25	2.25	2.26	2.26	2.24	2.23	2.24	2.24	2.15

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series, see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
Durable goods—Continued															
Instruments and related products.....	\$101.81	\$101.40	\$101.66	\$99.90	\$102.91	\$102.91	\$102.75	\$102.75	\$101.34	\$100.94	\$101.84	\$100.94	\$99.14	\$101.59	\$99.80
Engineering and scientific instruments.....	-----	116.93	117.22	115.31	120.06	119.65	120.22	119.65	118.94	116.85	119.11	115.87	114.86	118.53	115.64
Mechanical measuring and control devices.....	103.53	103.12	102.47	100.30	103.48	104.24	104.14	104.24	102.41	101.50	103.07	102.56	100.10	102.16	98.98
Optical and ophthalmic goods.....	92.70	92.29	92.96	92.21	95.15	94.05	95.15	94.28	92.32	92.13	93.44	94.08	93.02	93.86	89.62
Surgical, medical, and dental equipment.....	86.80	85.75	85.79	83.42	86.00	86.00	85.60	87.10	85.22	85.65	86.30	84.21	82.58	85.01	84.45
Photographic equipment and supplies.....	-----	117.14	117.26	115.75	118.71	117.31	117.31	116.33	113.70	114.80	113.40	113.15	111.78	115.08	114.26
Watches and clocks.....	-----	81.15	81.24	80.98	83.16	81.93	82.78	83.79	83.35	82.32	82.50	84.14	82.50	83.13	83.37
Miscellaneous manufacturing industries															
Jewelry, silverware, and plated ware.....	81.95	82.37	82.16	79.87	82.39	81.59	81.40	80.60	79.60	79.18	80.19	79.40	79.17	80.39	78.21
Toys, amusement, and sporting goods.....	89.87	89.24	87.96	84.37	94.30	92.06	92.13	90.20	87.23	86.29	88.70	87.02	85.54	88.70	84.82
Pens, pencils, office and art materials.....	-----	73.92	73.53	71.60	72.39	73.14	73.68	72.71	71.74	71.42	72.17	72.37	71.63	72.37	71.37
Costume jewelry, buttons, and notions.....	-----	78.21	78.80	75.24	78.39	78.00	78.76	76.64	79.38	77.81	79.38	77.41	76.43	75.00	74.82
Other manufacturing industries.....	88.36	89.24	88.58	86.85	89.02	87.82	88.04	87.20	86.80	86.15	86.58	86.00	85.10	86.58	84.82
Average weekly hours															
Instruments and related products.....	40.4	40.4	40.5	39.8	41.0	41.0	41.1	41.1	40.7	40.7	40.9	40.7	40.3	40.8	40.9
Engineering and scientific instruments.....	-----	40.6	40.7	39.9	41.4	41.4	41.6	41.4	41.3	41.0	41.5	40.8	40.3	41.3	41.3
Mechanical measuring and control devices.....	40.6	40.6	40.5	39.8	40.9	41.2	41.0	41.2	40.8	40.6	40.9	40.7	40.2	40.7	40.4
Optical and ophthalmic goods.....	41.2	41.2	41.5	40.8	42.1	41.8	42.1	41.9	41.4	41.5	41.9	42.0	41.9	41.9	41.3
Surgical, medical, and dental equipment.....	40.0	39.7	39.9	38.8	40.0	40.0	40.0	40.7	40.2	40.4	40.9	40.1	39.7	40.1	40.6
Photographic equipment and supplies.....	-----	41.1	41.0	40.9	41.8	41.6	41.6	41.4	40.9	41.0	40.5	40.7	40.5	41.1	41.7
Watches and clocks.....	-----	38.1	38.5	38.2	39.6	39.2	39.8	39.9	39.5	39.2	39.1	39.5	39.1	39.4	39.7
Miscellaneous manufacturing industries															
Jewelry, silverware, and plated ware.....	39.4	39.6	39.5	38.4	39.8	39.8	40.1	39.9	39.8	39.2	39.7	39.5	39.0	39.6	39.7
Toys, amusement, and sporting goods.....	40.3	40.2	39.8	38.7	42.1	41.1	41.5	41.0	40.2	39.4	40.5	40.1	39.6	40.5	40.2
Pens, pencils, office and art materials.....	-----	38.3	38.1	37.1	38.1	38.7	39.4	39.3	39.2	38.4	38.8	38.7	38.1	38.7	39.0
Costume jewelry, buttons, and notions.....	-----	39.5	39.6	38.0	40.2	40.0	40.6	39.1	40.5	39.7	40.5	39.9	39.6	40.0	39.8
Other manufacturing industries.....	39.8	40.2	39.9	39.3	40.1	40.1	40.2	40.0	39.8	39.1	40.1	39.4	38.9	39.7	39.6
Average hourly earnings															
Instruments and related products.....	\$2.52	\$2.51	\$2.51	\$2.51	\$2.51	\$2.51	\$2.50	\$2.50	\$2.49	\$2.48	\$2.49	\$2.48	\$2.46	\$2.49	\$2.44
Engineering and scientific instruments.....	-----	2.88	2.88	2.89	2.90	2.89	2.89	2.89	2.88	2.65	2.87	2.84	2.85	2.87	2.80
Mechanical measuring and control devices.....	2.55	2.54	2.53	2.52	2.53	2.53	2.54	2.53	2.51	2.50	2.52	2.52	2.49	2.51	2.45
Optical and ophthalmic goods.....	2.25	2.24	2.24	2.26	2.26	2.25	2.26	2.25	2.23	2.22	2.23	2.24	2.22	2.24	2.17
Surgical, medical, and dental equipment.....	2.17	2.16	2.15	2.15	2.15	2.15	2.14	2.14	2.12	2.12	2.11	2.10	2.08	2.12	2.08
Photographic equipment and supplies.....	-----	2.85	2.86	2.83	2.84	2.82	2.82	2.81	2.78	2.80	2.80	2.78	2.76	2.80	2.74
Watches and clocks.....	-----	2.13	2.11	2.12	2.10	2.09	2.08	2.10	2.11	2.10	2.11	2.13	2.11	2.11	2.10
Miscellaneous manufacturing industries															
Jewelry, silverware, and plated ware.....	2.08	2.08	2.08	2.08	2.07	2.05	2.03	2.02	2.00	2.02	2.02	2.01	2.03	2.03	1.97
Toys, amusement, and sporting goods.....	2.23	2.22	2.21	2.18	2.24	2.24	2.22	2.20	2.17	2.19	2.19	2.17	2.16	2.19	2.11
Pens, pencils, office and art materials.....	-----	1.93	1.93	1.93	1.90	1.89	1.87	1.85	1.83	1.86	1.86	1.87	1.88	1.87	1.83
Costume jewelry, buttons, and notions.....	-----	1.98	1.99	1.98	1.95	1.95	1.94	1.96	1.96	1.96	1.96	1.94	1.93	1.95	1.88
Other manufacturing industries.....	2.22	2.22	2.22	2.21	2.22	2.19	2.19	2.18	2.17	2.17	2.17	2.15	2.16	2.17	2.11

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
	Average weekly earnings														
<b>Manufacturing—Continued</b>															
<i>Nondurable goods</i>															
Food and kindred products.....	\$96.32	\$95.60	\$95.68	\$95.91	\$96.59	\$95.94	\$94.35	\$95.68	\$93.98	\$95.63	\$95.17	\$94.66	\$92.40	\$94.48	\$91.62
Meat products.....	102.26	103.06	101.24	105.11	108.20	107.95	101.84	104.68	99.22	100.94	101.43	101.11	97.66	101.93	98.66
Dairy products.....	101.22	100.74	101.46	100.67	100.32	99.66	99.48	101.15	98.79	99.92	99.92	98.33	97.02	98.75	96.05
Canned and preserved food, except meats.....	74.26	74.70	74.34	73.63	71.39	77.03	80.40	78.38	75.08	73.06	74.03	72.96	75.45	73.53	73.53
Grain mill products.....	105.90	104.06	104.59	108.09	106.28	108.38	108.31	107.81	105.73	107.87	105.33	103.01	99.49	105.02	101.92
Bakery products.....	94.80	94.56	94.64	93.62	95.34	94.64	94.71	95.34	94.37	96.17	95.53	94.19	92.00	93.90	91.30
Sugar.....	101.53	101.53	94.92	98.12	95.90	94.61	94.50	104.09	107.87	107.26	104.49	110.14	105.18	100.74	97.75
Confectionery and related products.....	79.76	78.00	78.99	76.58	78.21	77.81	80.19	82.00	79.79	79.60	81.00	77.62	75.64	78.80	76.61
Beverages.....	108.00	107.33	106.62	103.88	106.13	107.20	108.26	107.69	108.73	112.25	111.25	107.30	106.11	107.18	103.31
Miscellaneous food and kindred products.....	94.85	94.28	96.60	95.18	96.13	96.78	95.27	94.37	94.53	93.66	92.57	92.60	90.67	93.70	91.38
Tobacco manufactures.....	79.17	75.60	68.84	72.69	74.86	73.13	71.46	71.46	73.57	78.76	81.81	78.17	68.71	73.73	71.41
Cigarettes.....	87.66	75.37	91.26	93.67	93.67	96.82	89.55	93.06	97.06	93.37	98.75	96.29	82.95	92.20	89.54
Cigars.....	65.67	66.50	57.73	63.24	63.18	63.73	61.85	61.69	60.42	61.44	58.46	53.72	60.64	60.44	57.82
Textile mill products.....	71.46	71.63	71.98	70.40	72.69	72.28	71.04	69.83	69.19	68.68	69.70	69.02	67.26	69.43	68.21
Cotton broad woven fabrics.....	71.28	72.21	73.08	72.31	73.78	73.35	69.97	67.40	67.65	66.66	67.32	66.99	66.50	68.30	66.75
Silk and synthetic broad woven fabrics.....	78.74	77.04	77.58	76.68	79.20	78.84	75.62	74.30	74.04	73.10	74.39	74.91	72.49	74.65	73.44
Weaving and finishing broad wools.....	76.78	74.56	75.26	75.30	75.81	71.94	73.71	74.85	73.89	76.49	77.04	76.31	74.21	75.40	77.17
Narrow fabrics and smallwares.....	71.96	71.91	72.57	69.74	73.46	72.51	72.10	71.58	70.47	71.28	72.04	71.28	69.26	71.34	70.93
Knitting.....	65.11	64.68	64.34	60.45	62.79	64.30	65.30	64.80	63.90	62.76	63.41	62.37	59.94	62.65	61.44
Finishing textiles, except wool, knit.....	80.51	82.64	83.66	78.74	84.44	83.76	80.51	78.73	78.02	75.89	80.89	79.27	78.35	79.76	78.07
Floor covering.....	74.88	74.88	74.64	72.18	77.83	78.74	77.15	78.01	75.60	73.75	75.30	72.67	71.73	75.18	73.04
Yarn and thread.....	64.88	64.72	65.37	64.40	66.33	66.08	64.94	63.67	63.43	63.90	64.53	63.65	62.16	63.59	62.22
Miscellaneous textile goods.....	81.81	81.60	80.99	81.20	83.80	83.20	82.96	80.95	80.75	80.95	83.95	80.95	78.76	81.14	78.91
Average weekly hours															
Food and kindred products.....	40.3	40.0	40.2	40.3	41.1	41.0	41.2	41.6	41.4	41.2	40.8	40.0	40.0	40.9	40.9
Meat products.....	40.1	40.1	39.7	40.9	42.6	42.5	41.4	42.0	41.0	41.2	41.4	41.1	39.7	41.1	40.6
Dairy products.....	42.0	41.8	42.1	41.6	41.8	41.7	41.8	42.5	42.4	42.7	42.7	42.2	42.0	42.2	42.5
Canned and preserved food, except meats.....	36.4	36.8	36.8	37.0	36.8	39.1	40.4	40.4	38.9	36.9	37.2	36.3	38.3	38.3	38.7
Grain mill products.....	43.4	43.0	43.4	44.3	44.1	44.6	45.7	45.3	44.8	45.9	45.4	44.4	42.7	44.5	44.7
Bakery products.....	40.0	39.9	40.1	39.5	40.4	40.1	40.3	40.4	40.5	41.1	41.0	40.6	40.0	40.3	40.4
Sugar.....	38.9	38.9	38.9	41.4	43.2	43.2	42.0	40.5	42.3	41.9	41.3	42.2	40.3	41.8	42.5
Confectionery and related products.....	39.1	39.0	39.3	38.1	39.7	39.7	40.5	41.0	40.3	39.6	40.5	39.2	38.2	39.8	39.9
Beverages.....	40.3	39.9	39.6	39.2	39.6	40.0	40.7	40.6	41.5	42.2	42.3	40.8	40.5	40.6	40.2
Miscellaneous food, kindred product.....	41.6	41.9	42.7	42.3	43.3	43.4	43.5	42.7	42.2	42.0	41.7	41.9	41.4	42.4	42.7
Tobacco manufactures.....	39.0	37.8	35.3	36.9	39.4	38.9	39.7	39.7	40.2	38.8	40.3	38.7	34.7	38.6	38.6
Cigarettes.....	37.3	31.8	39.0	40.2	41.2	38.6	39.6	41.3	39.9	42.2	40.8	35.6	39.4	39.1	39.1
Cigars.....	39.8	40.3	35.2	38.8	39.0	39.1	38.9	38.8	38.0	38.4	37.0	34.0	37.9	37.3	37.3
Textile mill products.....	40.6	40.7	40.9	40.0	41.3	41.3	41.3	40.6	40.7	40.4	41.0	40.6	39.8	40.6	40.6
Cotton broad woven fabrics.....	41.2	41.5	42.0	41.8	42.4	42.4	41.9	40.6	41.0	40.4	40.8	40.6	40.3	40.9	40.7
Silk and synthetic broad woven fabrics.....	43.5	42.8	43.1	42.6	44.0	43.8	43.4	42.7	42.8	42.5	43.0	43.3	41.9	42.9	42.7
Weaving and finishing broad wools.....	41.5	40.3	40.9	40.7	41.2	39.1	40.5	40.9	40.6	41.8	42.1	41.7	41.0	41.2	42.4
Narrow fabrics and smallwares.....	40.2	40.4	41.0	39.4	41.5	41.2	41.2	40.9	40.5	41.2	41.4	41.2	40.5	41.0	41.0
Knitting.....	38.3	38.5	38.3	36.2	37.6	38.5	39.1	38.8	39.2	38.5	39.9	38.5	37.0	38.2	38.4
Finishing textiles, except wool, knit.....	41.5	42.6	42.9	40.8	43.3	43.4	42.6	42.1	41.5	40.8	42.8	42.4	41.9	42.2	42.4
Floor covering.....	41.6	41.7	40.8	41.3	43.0	43.5	43.1	43.1	42.0	41.2	41.6	40.6	40.3	42.0	41.1
Yarn and thread.....	40.3	40.2	40.6	40.0	41.2	41.3	41.1	40.3	40.4	40.7	41.1	40.8	40.1	40.5	40.2
Miscellaneous textile goods.....	40.7	40.8	40.7	40.6	41.9	41.6	41.9	41.3	41.2	41.3	42.4	41.3	40.6	41.4	41.5
Average hourly earnings															
Food and kindred products.....	\$2.39	\$2.39	\$2.38	\$2.38	\$2.35	\$2.34	\$2.29	\$2.30	\$2.27	\$2.31	\$2.31	\$2.32	\$2.31	\$2.31	\$2.24
Meat products.....	2.55	2.57	2.55	2.57	2.54	2.54	2.46	2.49	2.42	2.45	2.46	2.46	2.48	2.43	2.43
Dairy products.....	2.41	2.41	2.41	2.42	2.40	2.39	2.38	2.38	2.33	2.34	2.34	2.33	2.31	2.34	2.26
Canned and preserved food, except meats.....	2.04	2.03	2.02	1.99	1.94	1.97	1.99	1.94	1.93	1.98	1.99	2.01	1.97	1.97	1.90
Grain mill products.....	2.44	2.42	2.41	2.44	2.41	2.43	2.37	2.38	2.36	2.35	2.32	2.32	2.33	2.36	2.28
Bakery products.....	2.37	2.37	2.36	2.37	2.36	2.36	2.35	2.36	2.33	2.34	2.33	2.32	2.30	2.33	2.26
Sugar.....	2.61	2.44	2.37	2.22	2.19	2.25	2.57	2.55	2.50	2.53	2.61	2.61	2.41	2.30	2.30
Confectionery and related products.....	2.04	2.00	2.01	2.01	1.97	1.96	1.98	2.00	1.98	2.01	2.00	1.98	1.98	1.98	1.92
Beverages.....	2.68	2.69	2.69	2.65	2.68	2.68	2.66	2.65	2.62	2.66	2.63	2.63	2.62	2.64	2.57
Miscellaneous food, kindred products.....	2.28	2.25	2.26	2.25	2.22	2.23	2.19	2.21	2.24	2.23	2.22	2.21	2.19	2.21	2.14
Tobacco manufactures.....	2.03	2.00	1.95	1.97	1.90	1.88	1.80	1.83	2.03	2.03	2.02	1.98	1.91	1.85	1.85
Cigarettes.....	2.35	2.37	2.34	2.33	2.35	2.35	2.32	2.35	2.34	2.34	2.36	2.33	2.34	2.29	2.29
Cigars.....	1.65	1.65	1.64	1.63	1.62	1.63	1.59	1.59	1.59	1.60	1.58	1.58	1.60	1.55	1.55
Textile mill products.....	1.76	1.76	1.76	1.76	1.76	1.75	1.72	1.72	1.70	1.70	1.70	1.69	1.69	1.71	1.68
Cotton broad woven fabrics.....	1.73	1.74	1.74	1.73	1.74	1.73	1.67	1.66	1.65	1.65	1.65	1.65	1.65	1.67	1.64
Silk and synthetic broad woven fabrics.....	1.81	1.80	1.80	1.80	1.80	1.80	1.74	1.74	1.73	1.72	1.73	1.73	1.73	1.74	1.72
Weaving and finishing broad wools.....	1.85	1.85	1.84	1.85	1.84	1.84	1.82	1.83	1.82	1.83	1.83	1.83	1.81	1.83	1.82
Narrow fabrics and smallwares.....	1.79	1.78	1.77	1.77	1.77	1.76	1.75	1.75	1.74	1.73	1.74	1.73	1.71	1.74	1.73
Knitting.....	1.70	1.68	1.68	1.67	1.67	1.67	1.67	1.67	1.63	1.63	1.63	1.62	1.62	1.64	1.60
Finishing textiles, except wool, knit.....	1.94	1.94	1.95	1.93	1.95	1.93	1.89	1.87	1.88	1.86	1.89	1.87	1.87	1.89	1.85
Floor covering.....	1.80	1.80	1.79	1.80	1.81	1.81	1.79	1.81	1.80	1.79	1.81	1.79	1.78	1.79	1.76
Yarn and thread.....	1.61	1.61	1.61	1.61	1.61	1.60	1.58	1.58	1.57	1.57	1.57	1.56	1.55	1.57	1.54
Miscellaneous textile goods.....	2.01	2.00	1.99	2.00</											

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>a</sup>	Mar. <sup>a</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Manufacturing—Continued															
Average weekly earnings															
Nondurable goods—Continued															
Apparel and related products.....	\$63.54	\$64.97	\$64.61	\$60.00	\$63.54	\$63.01	\$64.25	\$64.25	\$63.30	\$61.71	\$61.35	\$61.52	\$60.16	\$62.09	\$61.18
Men's and boys' suits and coats.....	75.33	75.87	76.08	73.78	77.70	76.59	77.38	76.38	77.07	74.87	78.17	74.03	70.76	74.87	72.54
Men's and boys' furnishings.....	55.94	56.92	56.24	53.00	55.57	54.96	55.87	56.17	55.01	54.58	54.05	53.91	52.48	54.31	53.53
Women's, misses', and juniors' outerwear.....	67.55	69.38	68.60	61.50	64.80	63.74	67.18	67.18	66.97	65.17	62.68	64.33	64.67	65.32	64.45
Women's and children's undergarments.....	59.04	59.13	58.00	53.61	58.60	60.00	60.58	60.64	58.59	55.94	56.00	56.15	53.86	57.41	55.48
Hats, caps, and millinery.....	57.80	73.89	75.22	66.35	65.08	64.07	67.10	67.26	68.07	66.79	64.79	62.48	60.16	65.69	65.52
Girls' and children's outerwear.....	58.08	59.73	59.27	53.27	55.54	56.45	58.08	57.32	56.27	56.15	56.61	55.85	52.44	55.80	54.72
Fur goods and miscellaneous apparel.....	66.80	64.80	62.61	67.66	69.73	69.55	66.98	65.87	64.62	64.80	63.19	58.47	65.16	64.98	
Miscellaneous fabricated textile products.....	67.28	68.20	67.66	67.16	70.41	69.63	69.27	69.60	66.78	64.53	66.85	66.47	64.90	66.85	64.26
Paper and allied products.....	108.77	106.60	107.10	106.09	108.36	107.43	108.43	107.32	106.82	106.21	104.55	102.24	105.90	102.00	102.00
Paper and pulp.....	119.03	118.86	119.41	118.43	119.24	119.41	119.51	119.34	120.42	117.31	116.87	114.23	117.75	112.92	112.92
Paperboard.....	121.00	121.83	122.27	121.44	122.64	120.12	121.76	121.11	121.04	122.03	119.97	117.48	115.01	118.90	114.22
Converted paper and paperboard products.....	94.48	94.94	94.99	94.71	98.18	95.49	95.76	95.99	94.92	92.74	93.60	91.84	90.09	93.79	90.64
Paperboard containers and boxes.....	97.00	96.12	96.59	95.58	98.23	98.05	99.88	99.64	97.67	96.05	97.44	94.99	92.75	96.28	94.24
Printing, publishing, and allied industries.....	113.58	113.58	111.93	110.67	113.98	110.78	111.74	112.71	111.27	110.02	110.69	110.21	108.97	110.30	107.62
Newspaper publishing and printing.....	115.75	113.98	113.04	111.28	118.24	114.61	114.30	113.98	112.89	111.91	113.20	113.52	111.19	112.53	110.35
Periodical publishing and printing.....	105.93	105.93	104.90	103.97	105.01	101.27	104.66	107.94	108.52	105.78	105.97	106.14	103.28	104.49	99.85
Books.....	115.35	116.03	114.07	113.10	114.65	112.81	113.68	115.34	112.71	112.03	112.32	112.02	110.58	112.61	110.15
Commercial printing.....	90.78	89.86	88.32	88.31	90.02	88.46	88.17	88.39	88.08	87.40	88.24	88.69	87.17	88.01	85.91
Bookbinding and related industries.....	117.56	117.95	117.18	115.50	117.41	113.28	113.87	114.43	114.94	113.87	112.60	112.01	111.81	113.96	110.59
Other publishing and printing industries.....															
Average weekly hours															
Apparel and related products.....	36.1	36.5	36.3	33.9	35.9	35.8	36.3	36.3	36.8	36.3	36.3	36.4	35.6	36.1	36.2
Men's and boys' suits and coats.....	35.7	36.3	36.4	35.3	37.0	36.3	36.5	36.2	36.7	36.1	37.4	37.2	36.1	36.7	37.2
Men's and boys' furnishings.....	36.8	37.2	37.0	35.1	36.8	36.4	37.0	37.2	38.2	37.9	37.8	37.7	36.7	37.2	37.7
Women's, misses', and juniors' outerwear.....	35.0	35.4	35.0	31.7	33.4	33.2	34.1	34.1	34.7	34.3	33.7	34.4	34.4	34.2	34.1
Women's and children's undergarments.....	36.0	36.5	35.8	33.3	36.4	37.5	38.1	37.9	37.8	36.8	36.6	36.7	35.2	36.8	36.5
Hats, caps, and millinery.....	35.9	37.7	37.8	34.2	35.5	35.4	35.5	35.4	36.1	36.4	35.7	33.8	35.7	36.2	36.2
Girls' and children's outerwear.....	36.3	37.1	33.5	35.6	35.6	36.3	35.6	36.3	36.7	37.0	36.5	34.5	36.0	36.0	
Fur goods and miscellaneous apparel.....	36.5	36.2	34.4	35.8	36.7	36.8	36.4	36.8	35.9	36.0	35.5	34.6	36.0	36.1	
Miscellaneous fabricated textile products.....	37.8	38.1	37.8	36.5	38.9	38.9	38.7	39.1	38.6	37.3	38.2	38.2	37.3	38.2	37.8
Paper and allied products.....	42.2	42.3	42.5	42.1	43.0	42.8	43.2	43.2	43.1	42.9	43.0	42.5	41.9	42.7	42.5
Paper and pulp.....	43.6	43.7	43.9	43.7	44.0	43.9	44.1	44.2	44.2	44.6	44.1	44.1	43.6	44.1	43.6
Paperboard.....	44.0	44.3	44.3	44.0	44.4	44.0	44.6	44.2	44.5	44.7	44.6	44.0	43.4	44.2	44.1
Converted paper and paperboard products.....	40.9	41.1	41.3	41.0	42.5	41.7	42.0	42.1	42.0	41.4	41.6	41.0	40.4	41.5	41.2
Paperboard containers and boxes.....	41.1	40.9	41.1	40.5	41.8	41.9	42.5	42.4	42.1	41.4	42.0	41.3	40.5	41.5	41.7
Printing, publishing, and allied industries.....	38.5	38.5	38.2	37.9	38.9	38.2	38.4	38.6	38.5	38.2	38.3	38.4	38.1	38.3	38.3
Newspaper publishing and printing.....	36.4	36.3	36.0	35.7	37.3	36.5	36.4	36.3	36.3	36.1	36.4	36.5	36.1	36.3	36.3
Periodical publishing and printing.....	39.7	39.6	39.0	39.9	39.9	39.9	40.3	40.2	40.2	40.4	40.1	39.5	39.3	39.8	39.7
Books.....	40.9	40.5	40.3	40.7	39.1	40.1	41.2	41.9	41.0	40.6	41.3	40.5	40.5	40.1	40.1
Commercial printing.....	39.1	39.2	38.8	38.6	39.4	38.9	39.2	39.5	39.0	38.9	39.0	38.9	38.8	39.1	39.2
Bookbinding and related industries.....	39.3	38.9	38.4	37.9	38.8	38.8	38.5	38.6	38.8	38.5	38.7	38.9	38.4	38.6	38.7
Other publishing and printing industries.....	38.8	38.8	38.8	38.5	39.4	38.4	38.6	38.4	38.7	38.3	38.3	38.1	37.9	38.5	38.4
Average hourly earnings															
Apparel and related products.....	\$1.76	\$1.78	\$1.78	\$1.77	\$1.77	\$1.76	\$1.77	\$1.77	\$1.72	\$1.70	\$1.69	\$1.69	\$1.69	\$1.72	\$1.69
Men's and boys' suits and coats.....	2.11	2.09	2.09	2.09	2.10	2.11	2.12	2.11	2.10	2.06	2.09	2.09	1.99	2.04	1.95
Men's and boys' furnishings.....	1.52	1.53	1.52	1.51	1.51	1.51	1.51	1.51	1.44	1.44	1.43	1.43	1.43	1.46	1.42
Women's, misses', and juniors' outerwear.....	1.93	1.96	1.96	1.94	1.94	1.92	1.97	1.97	1.93	1.90	1.86	1.87	1.88	1.91	1.89
Women's and children's undergarments.....	1.64	1.62	1.62	1.61	1.61	1.60	1.59	1.60	1.55	1.52	1.53	1.53	1.53	1.56	1.52
Hats, caps, and millinery.....	1.96	1.96	1.99	1.94	1.85	1.81	1.89	1.90	1.87	1.85	1.78	1.75	1.78	1.84	1.81
Girls' and children's outerwear.....	1.61	1.60	1.61	1.59	1.56	1.58	1.60	1.61	1.55	1.53	1.53	1.53	1.52	1.55	1.52
Fur goods and miscellaneous apparel.....	1.83	1.79	1.82	1.89	1.90	1.89	1.84	1.79	1.80	1.80	1.78	1.69	1.81	1.80	
Miscellaneous fabricated textile products.....	1.78	1.79	1.79	1.84	1.81	1.79	1.79	1.78	1.73	1.75	1.74	1.74	1.75	1.70	
Paper and allied products.....	2.53	2.52	2.52	2.52	2.52	2.51	2.51	2.49	2.49	2.47	2.46	2.44	2.48	2.40	
Paper and pulp.....	2.73	2.72	2.72	2.71	2.71	2.72	2.71	2.70	2.70	2.70	2.66	2.65	2.62	2.67	
Paperboard.....	2.75	2.75	2.76	2.76	2.76	2.73	2.73	2.74	2.72	2.73	2.69	2.67	2.67	2.59	
Converted paper and paperboard products.....	2.31	2.31	2.30	2.31	2.31	2.29	2.28	2.28	2.26	2.24	2.25	2.24	2.23	2.26	
Paperboard containers and boxes.....	2.36	2.35	2.35	2.36	2.35	2.34	2.35	2.35	2.32	2.32	2.32	2.30	2.29	2.32	
Printing, publishing, and allied industries.....	2.95	2.95	2.93	2.92	2.93	2.90	2.91	2.92	2.89	2.88	2.89	2.87	2.86	2.81	
Newspaper publishing and printing.....	3.18	3.14	3.14	3.12	3.17	3.14	3.14	3.14	3.11	3.10	3.11	3.11	3.08	3.10	
Periodical publishing and printing.....	3.01	2.98	2.98	2.93	2.93	2.92	2.94	3.00	2.91	2.94	2.88	2.85	2.89	2.90	
Books.....	2.59	2.59	2.58	2.58	2.59	2.59	2.61	2.62	2.59	2.58	2.61	2.57	2.55	2.53	
Commercial printing.....	2.95	2.96	2.94	2.93	2.91	2.90	2.90	2.92	2.89	2.88	2.88	2.87	2.85	2.88	
Bookbinding and related industries.....	2.81	2.81	2.80	2.83	2.82	2.28	2.29	2.29	2.27	2.27	2.28	2.28	2.27	2.28	
Other publishing and printing industries.....	3.03	3.04	3.02	3.00	2.98	2.95	2.95	2.98	2.97	2.96	2.94	2.94	2.95	2.96	

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964					1963								Annual average	
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Manufacturing—Continued															
Nondurable goods—Continued															
Chemicals and allied products.....	\$114.13	\$114.40	\$113.99	\$113.85	\$115.09	\$113.85	\$113.85	\$114.13	\$113.02	\$113.98	\$113.42	\$112.59	\$113.40	\$112.88	\$109.98
Industrial chemicals.....	129.17	129.17	128.75	128.86	130.42	129.27	129.79	128.96	127.71	128.33	127.60	126.58	130.82	128.44	124.68
Plastics and synthetics, except glass.....	114.39	114.66	113.42	112.88	114.66	112.74	112.47	112.88	112.32	114.09	113.94	111.76	113.55	112.32	109.52
Drugs.....	102.26	102.06	102.11	101.40	101.75	100.60	101.18	100.53	99.63	100.04	99.38	98.98	100.53	98.40	98.40
Soap, cleaners, and toilet goods.....	105.73	106.39	106.66	106.27	107.83	106.86	106.60	108.62	107.68	106.75	107.27	105.41	103.83	106.08	103.89
Paints, varnishes, and allied products.....	108.73	108.21	107.01	104.78	106.45	105.93	106.71	106.14	105.98	107.84	106.50	108.36	103.48	105.22	101.59
Agricultural chemicals.....	94.79	97.18	95.05	93.48	94.79	93.26	93.29	94.16	91.10	91.74	92.44	97.83	99.70	93.53	88.39
Other chemical products.....	109.71	110.12	110.39	111.61	111.83	110.46	109.67	110.20	108.68	109.56	107.94	107.59	105.37	108.00	103.75
Petroleum refining and related industries.....	132.70	131.56	132.07	132.16	132.89	132.39	131.77	134.20	130.21	133.98	133.25	131.57	133.77	131.77	126.88
Petroleum refining.....	138.69	137.53	137.94	138.69	139.86	139.44	136.53	139.70	134.39	138.94	138.53	137.03	140.95	137.45	131.43
Other petroleum and coal products.....	107.87	106.77	105.75	102.56	103.63	105.83	114.04	113.26	115.20	115.26	113.09	110.12	104.83	108.28	107.75
Rubber and miscellaneous plastic products.....	101.75	101.50	101.09	101.25	105.08	102.91	101.93	102.67	100.86	100.04	100.53	99.23	98.25	100.78	100.04
Tires and inner tubes.....	132.59	131.13	127.79	130.84	141.19	137.53	134.06	134.97	132.84	130.73	128.88	124.66	126.88	131.30	130.47
Other rubber products.....	87.28	87.53	88.25	89.06	100.36	98.49	93.81	99.49	96.63	94.40	97.27	96.22	94.40	97.27	95.53
Miscellaneous plastic products.....	89.86	88.58	88.80	87.74	90.09	88.17	87.98	89.25	88.62	87.76	87.56	87.13	85.24	87.56	85.90
Leather and leather products.....	65.88	68.24	68.76	66.95	69.63	66.50	67.66	67.13	67.41	66.12	66.70	64.42	62.13	66.00	64.67
Leather tanning and finishing.....	93.15	91.83	90.97	90.35	94.58	92.57	93.52	91.94	90.23	90.23	93.75	91.76	59.38	91.13	87.42
Footwear, except rubber.....	62.66	65.82	66.50	65.25	67.12	63.51	64.21	64.03	65.15	64.39	64.30	61.20	59.33	63.44	62.66
Other leather products.....	64.03	66.15	66.85	63.53	66.64	66.12	67.86	66.09	65.49	63.07	64.09	62.56	60.52	64.30	62.58
Average weekly hours															
Chemicals and allied products.....	41.5	41.6	41.3	41.1	41.7	41.4	41.4	41.5	41.4	41.6	41.7	41.7	42.0	41.5	41.5
Industrial chemicals.....	41.4	41.4	41.4	41.3	41.8	41.7	41.6	41.6	41.6	41.8	41.7	41.5	42.2	41.7	41.7
Plastics and synthetics, except glass.....	41.9	42.0	41.7	41.5	42.0	41.6	41.5	41.5	41.6	42.1	42.2	41.7	41.9	41.6	41.8
Drugs.....	40.1	40.5	40.2	40.4	40.7	40.4	40.8	40.7	40.5	40.3	40.5	40.4	40.4	40.7	41.0
Soap, cleaners, and toilet goods.....	40.2	40.3	40.4	39.8	41.0	41.1	41.0	41.3	41.1	40.9	41.1	40.7	40.4	40.8	40.9
Paints, varnishes, and allied products.....	41.5	41.3	41.0	40.3	41.1	40.9	41.2	41.3	41.4	41.8	41.6	42.0	40.9	41.1	40.8
Agricultural chemicals.....	44.5	45.2	43.4	42.3	42.7	42.2	42.6	42.8	41.6	41.7	42.6	45.5	48.4	43.5	42.7
Other chemical products.....	41.4	41.4	41.5	41.8	42.2	42.0	41.7	41.9	41.8	42.3	42.0	41.7	41.0	41.7	41.5
Petroleum refining and related industries.....	41.6	41.5	41.4	41.3	41.4	41.5	41.7	42.2	41.6	42.4	42.3	41.9	42.2	41.7	41.6
Petroleum refining.....	41.4	41.3	41.3	41.4	41.5	41.5	41.0	41.7	40.6	41.6	41.6	41.4	42.2	41.4	41.2
Other petroleum and coal products.....	42.3	42.2	41.8	40.7	40.8	41.5	44.2	43.9	45.0	45.2	44.7	43.7	42.1	42.8	43.1
Rubber and miscellaneous plastic products.....	40.7	40.6	40.6	40.5	41.7	41.0	41.1	41.4	41.0	40.5	40.7	40.5	40.1	40.8	41.0
Tires and inner tubes.....	40.3	40.1	39.2	39.8	42.4	41.3	40.5	40.9	40.5	40.1	39.9	39.2	39.9	40.4	40.9
Other rubber products.....	40.2	40.3	40.6	40.6	41.3	40.7	41.0	41.1	40.6	40.0	40.7	40.6	40.0	40.7	41.0
Miscellaneous plastic products.....	41.6	41.2	41.3	41.0	41.9	41.2	41.5	41.9	41.8	41.2	41.3	41.1	40.4	41.3	41.1
Leather and leather products.....	36.2	37.7	38.2	37.4	38.9	37.2	37.8	37.5	38.3	38.0	37.9	36.6	35.5	37.5	37.6
Leather tanning and finishing.....	40.5	40.1	39.9	39.8	41.3	40.6	41.2	40.5	40.1	40.1	41.3	40.6	39.9	40.5	40.1
Footwear, except rubber.....	35.4	37.4	38.0	37.5	38.8	36.5	36.9	36.8	38.1	38.1	37.6	36.0	34.9	37.1	37.3
Other leather products.....	36.8	37.8	38.2	36.3	38.3	38.0	39.0	38.2	38.3	37.1	37.7	36.8	35.6	37.4	37.7
Average hourly earnings															
Chemicals and allied products.....	\$2.75	\$2.75	\$2.76	\$2.77	\$2.76	\$2.75	\$2.75	\$2.75	\$2.73	\$2.74	\$2.72	\$2.70	\$2.72	\$2.72	\$2.65
Industrial chemicals.....	3.12	3.12	3.11	3.12	3.12	3.10	3.12	3.10	3.07	3.07	3.06	3.05	3.10	3.08	2.99
Plastics and synthetics, except glass.....	2.73	2.73	2.72	2.72	2.73	2.71	2.71	2.72	2.70	2.71	2.70	2.68	2.71	2.70	2.62
Drugs.....	2.55	2.52	2.54	2.51	2.50	2.49	2.48	2.47	2.46	2.47	2.47	2.46	2.45	2.47	2.40
Soap, cleaners, and toilet goods.....	2.63	2.64	2.64	2.67	2.63	2.60	2.60	2.63	2.62	2.61	2.61	2.59	2.57	2.60	2.54
Paints, varnishes, and allied products.....	2.62	2.62	2.61	2.60	2.59	2.59	2.59	2.57	2.56	2.58	2.56	2.58	2.53	2.56	2.49
Agricultural chemicals.....	2.13	2.15	2.19	2.21	2.22	2.21	2.19	2.20	2.19	2.20	2.17	2.15	2.06	2.15	2.07
Other chemical products.....	2.65	2.66	2.66	2.67	2.65	2.63	2.63	2.63	2.60	2.59	2.57	2.58	2.57	2.59	2.50
Petroleum refining and related industries.....	3.19	3.17	3.19	3.20	3.21	3.19	3.16	3.18	3.13	3.16	3.15	3.14	3.17	3.16	3.05
Petroleum refining.....	3.35	3.33	3.34	3.35	3.37	3.36	3.33	3.35	3.31	3.34	3.33	3.31	3.34	3.32	3.19
Other petroleum and coal products.....	2.55	2.53	2.53	2.52	2.54	2.55	2.58	2.58	2.56	2.55	2.53	2.52	2.49	2.53	2.50
Rubber and miscellaneous plastic products.....	2.50	2.50	2.49	2.50	2.52	2.51	2.48	2.48	2.46	2.47	2.47	2.45	2.45	2.47	2.44
Tires and inner tubes.....	3.29	3.27	3.26	3.28	3.33	3.33	3.31	3.30	3.28	3.26	3.23	3.18	3.18	3.25	3.10
Other rubber products.....	2.42	2.42	2.42	2.44	2.43	2.42	2.41	2.42	2.38	2.36	2.39	2.37	2.36	2.39	2.33
Miscellaneous plastic products.....	2.16	2.15	2.15	2.14	2.15	2.14	2.12	2.13	2.12	2.13	2.12	2.12	2.11	2.12	2.09
Leather and leather products.....	1.82	1.81	1.80	1.79	1.79	1.79	1.79	1.79	1.76	1.74	1.76	1.76	1.75	1.76	1.72
Leather tanning and finishing.....	2.30	2.29	2.28	2.27	2.29	2.28	2.27	2.27	2.25	2.25	2.26	2.26	2.24	2.25	2.18
Footwear, except rubber.....	1.77	1.76	1.75	1.74	1.73	1.74	1.74	1.74	1.71	1.69	1.71	1.70	1.70	1.71	1.68
Other leather products.....	1.74	1.75	1.75	1.75	1.74	1.74	1.74	1.73	1.71	1.70	1.70	1.70	1.70	1.71	1.66

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Transportation and public utilities:															
Railroad transportation:															
Class I railroads <sup>3</sup>					\$119.54	\$118.71	\$120.01	\$117.04	\$118.53	\$120.18	\$116.48	\$119.46	\$118.25	\$118.40	\$115.87
Local and interurban passenger transit:															
Local and suburban transportation	\$98.49	\$101.68	\$103.32	102.24	102.41	102.48	102.30	103.28	103.09	103.63	102.48	100.38	101.70	100.11	100.11
Intercity and rural buslines	121.76	123.65	130.98	120.51	123.38	126.44	138.70	134.06	133.44	124.27	122.69	123.12	125.86	118.40	118.40
Motor freight transportation and storage	119.89	118.49	116.24	120.67	117.29	120.13	120.12	119.71	118.85	118.58	117.31	115.36	117.31	113.30	113.30
Pipeline transportation	141.58	141.75	142.88	141.51	139.47	136.49	140.15	134.94	138.65	140.56	137.16	138.45	138.38	132.76	132.76
Communication:															
Telephone communication	103.48	102.56	102.18	103.36	106.08	105.04	105.30	102.26	102.36	102.00	101.24	99.94	102.40	98.95	98.95
Telegraph communication <sup>4</sup>	113.28	113.13	111.51	112.59	111.90	112.17	112.86	112.71	112.98	113.25	110.30	108.16	110.92	107.78	107.78
Radio and television broadcasting	137.28	136.42	135.68	137.86	134.85	137.07	135.93	132.10	132.10	132.10	131.66	135.04	133.96	127.20	127.20
Electric, gas, and sanitary services	123.71	123.00	124.09	124.92	123.79	122.96	123.37	121.42	121.13	121.42	119.72	119.31	121.13	116.85	116.85
Electric companies and systems	125.97	124.94	125.25	125.55	123.41	123.60	124.01	123.26	124.09	123.55	121.66	120.42	122.36	118.24	118.24
Gas companies and systems	114.49	114.77	116.90	117.16	117.16	115.36	116.47	111.93	111.93	112.74	112.20	111.24	113.57	108.53	108.53
Combined utility systems	133.90	133.25	135.66	136.18	135.34	134.37	134.92	132.07	130.19	131.14	129.15	129.05	131.65	126.59	126.59
Water, steam, and sanitary systems	98.57	98.98	98.64	100.02	100.26	100.14	98.06	97.88	97.64	97.41	95.94	96.70	98.29	94.66	94.66
Average weekly hours															
Transportation and public utilities:															
Railroad transportation:					43.0	42.7	43.8	42.1	43.1	43.7	41.9	43.6	43.0	42.9	42.6
Class I railroads <sup>3</sup>					43.0	42.7	43.8	42.1	43.1	43.7	41.9	43.6	43.0	42.9	42.6
Local and interurban passenger transit:															
Local and suburban transportation	40.7	41.5	42.0	41.9	41.8	42.0	42.1	42.5	42.6	43.0	42.7	42.0	42.2	42.6	42.6
Intercity and rural buslines	41.7	42.2	44.4	41.7	42.4	43.6	46.7	45.6	45.7	43.3	42.9	42.9	43.7	42.9	42.9
Motor freight transportation and storage	41.2	41.0	40.5	41.9	41.3	42.3	42.0	42.3	41.7	42.2	41.6	41.2	41.6	41.5	41.5
Pipeline transportation	40.8	40.5	41.9	40.9	40.9	40.5	41.1	40.4	40.9	41.1	40.7	40.6	40.7	40.6	40.6
Communication:															
Telephone communication	39.8	39.6	39.3	39.6	40.8	40.4	40.5	40.1	40.3	40.0	39.7	39.5	40.0	39.9	39.9
Telegraph communication <sup>4</sup>	41.8	41.9	41.3	41.7	41.6	41.7	41.8	41.9	42.0	42.1	42.1	41.6	41.7	42.1	42.1
Radio and television broadcasting	39.0	39.2	39.1	39.5	39.2	39.5	39.4	39.2	39.2	39.2	39.3	39.6	39.4	38.9	38.9
Electric, gas, and sanitary services	41.1	41.0	41.5	41.5	41.4	41.4	41.4	41.3	41.2	41.3	41.0	41.0	41.2	41.0	41.0
Electric companies and systems	41.3	41.1	41.2	41.3	41.0	41.2	41.2	41.5	41.5	41.6	41.1	41.1	41.2	41.2	41.2
Gas companies and systems	40.6	40.7	41.6	41.4	41.4	41.2	41.3	40.7	40.7	40.7	40.8	40.6	41.0	40.8	40.8
Combined utility systems	41.2	41.0	42.0	41.9	41.9	41.6	41.9	41.4	41.2	41.5	41.0	41.1	41.4	41.1	41.1
Water, steam, and sanitary systems	40.9	40.9	41.1	41.5	41.6	41.9	41.2	41.3	41.2	41.1	41.0	40.8	41.3	40.8	40.8
Average hourly earnings															
Transportation and public utilities:															
Railroad transportation:					\$2.78	\$2.78	\$2.74	\$2.78	\$2.75	\$2.75	\$2.78	\$2.74	\$2.75	\$2.76	\$2.72
Class I railroads <sup>3</sup>					\$2.78	\$2.78	\$2.74	\$2.78	\$2.75	\$2.75	\$2.78	\$2.74	\$2.75	\$2.76	\$2.72
Local and interurban passenger transit:															
Local and suburban transportation	\$2.42	\$2.45	\$2.46	2.44	2.45	2.44	2.43	2.43	2.42	2.41	2.40	2.39	2.41	2.35	2.35
Intercity and rural buslines	2.92	2.93	2.95	2.89	2.91	2.90	2.97	2.94	2.92	2.87	2.86	2.87	2.88	2.76	2.76
Motor freight transportation and storage	2.91	2.89	2.87	2.88	2.84	2.84	2.86	2.83	2.85	2.81	2.82	2.80	2.82	2.73	2.73
Pipeline transportation	3.47	3.50	3.41	3.46	3.41	3.37	3.41	3.34	3.39	3.42	3.37	3.41	3.40	3.27	3.27
Communication:															
Telephone communication	2.60	2.59	2.60	2.61	2.60	2.60	2.60	2.55	2.54	2.55	2.55	2.53	2.56	2.48	2.48
Telegraph communication <sup>4</sup>	2.71	2.70	2.70	2.70	2.69	2.69	2.70	2.69	2.69	2.69	2.62	2.60	2.66	2.56	2.56
Radio and television broadcasting	3.52	3.48	3.47	3.49	3.44	3.47	3.45	3.37	3.37	3.37	3.35	3.41	3.40	3.27	3.27
Electric, gas, and sanitary services	3.01	3.00	2.99	3.01	2.99	2.97	2.98	2.94	2.94	2.92	2.92	2.91	2.94	2.85	2.85
Electric companies and systems	3.05	3.04	3.04	3.04	3.01	3.00	3.01	2.97	2.99	2.97	2.96	2.98	2.97	2.87	2.87
Gas companies and systems	2.82	2.82	2.81	2.83	2.83	2.80	2.82	2.75	2.75	2.77	2.75	2.74	2.77	2.66	2.66
Combined utility systems	3.25	3.25	3.23	3.25	3.23	3.23	3.22	3.19	3.16	3.16	3.15	3.14	3.18	3.08	3.08
Water, steam, and sanitary systems	2.41	2.42	2.40	2.41	2.41	2.39	2.38	2.37	2.37	2.37	2.34	2.37	2.38	2.32	2.32

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
	Average weekly earnings														
Wholesale and retail trade <sup>3</sup>		\$78.11	\$78.69	\$78.11	\$77.60	\$77.75	\$77.95	\$78.36	\$78.79	\$78.79	\$78.19	\$77.39	\$76.62	\$77.59	\$75.08
Wholesale trade		101.00	100.75	100.10	101.43	100.85	100.94	100.69	99.72	99.55	100.12	99.47	98.58	99.47	96.22
Motor vehicles and automotive equipment		95.91	95.26	95.26	96.79	96.14	96.33	96.33	95.11	94.89	94.66	94.66	94.24	95.08	92.82
Drugs, chemicals, and allied products		102.80	102.94	103.06	103.31	102.51	102.26	102.26	100.65	100.60	100.65	99.75	99.50	101.05	97.84
Dry goods and apparel		95.13	93.37	91.27	92.48	92.63	93.99	94.49	92.37	90.86	90.64	90.64	92.38	91.99	92.48
Groceries and related products		94.94	94.71	94.53	95.34	95.04	93.75	94.43	93.83	94.75	94.47	93.38	92.61	93.38	89.86
Electrical goods		107.59	107.33	106.80	109.74	106.52	105.04	104.26	103.06	102.40	102.77	101.85	101.71	103.83	101.59
Hardware, plumbing, and heating goods		96.63	96.15	96.22	97.34	97.03	96.39	97.10	95.82	95.65	96.05	95.65	95.00	95.41	92.97
Machinery, equipment, and supplies		108.26	108.95	107.33	110.15	109.75	110.97	110.56	108.50	107.68	109.06	108.09	107.16	108.65	104.14
Retail trade <sup>4</sup>		68.26	68.82	68.26	68.40	68.26	68.25	68.61	69.30	69.30	68.96	67.68	67.48	68.04	65.95
General merchandise stores		55.26	55.26	54.76	56.32	53.88	54.54	54.86	55.22	55.38	54.79	53.51	53.28	54.13	52.59
Department stores		59.79	60.30	59.10	59.49	57.94	59.31	59.84	60.03	60.03	59.65	58.31	57.80	58.65	57.10
Limited price variety stores		40.38	40.12	39.86	40.66	40.00	40.00	40.13	41.60	41.08	40.22	39.48	39.48	39.98	38.91
Food stores		66.30	66.69	66.54	66.62	66.59	66.43	66.85	67.68	67.68	66.93	65.58	65.26	66.15	64.78
Grocery, meat, and vegetable stores		67.86	67.72	67.77	67.82	68.16	67.82	68.45	69.14	69.50	68.74	66.82	66.66	67.74	66.22
Apparel and accessories stores		53.12	54.58	54.61	56.32	54.42	54.08	54.90	55.11	55.77	54.70	54.06	55.36	54.70	53.63
Men's and boys' apparel stores		65.34	67.16	66.40	67.84	66.79	66.24	67.33	67.82	68.96	67.28	66.06	66.59	66.77	65.82
Women's ready-to-wear stores		48.47	48.29	49.47	50.75	48.29	48.43	48.38	48.56	49.27	48.76	48.33	49.13	48.62	47.40
Family clothing stores		53.42	54.06	53.45	54.76	54.01	52.17	53.51	54.62	55.34	54.32	53.40	54.01	53.75	52.45
Shoe stores		50.80	54.77	53.44	56.24	54.21	55.01	55.53	56.11	56.45	54.15	54.78	53.35	55.58	55.61
		Average weekly hours													
Wholesale and retail trade <sup>5</sup>		38.1	38.2	38.1	38.8	38.3	38.4	38.6	39.2	39.2	38.9	38.5	38.5	38.6	38.7
Wholesale trade		40.4	40.3	40.2	40.9	40.5	40.7	40.6	40.7	40.8	40.7	40.6	40.4	40.6	40.6
Motor vehicles and automotive equipment		41.7	41.6	41.6	41.9	41.8	41.7	41.7	41.9	41.8	41.7	41.7	41.7	41.7	42.0
Drugs, chemicals, and allied products		40.0	39.9	40.1	40.2	40.2	40.1	40.3	40.1	40.4	40.1	39.9	39.8	40.1	40.1
Dry goods and apparel		37.9	37.8	37.1	37.9	37.5	37.9	38.1	37.7	37.7	37.7	37.3	37.4	37.7	37.9
Groceries and related products		41.1	41.0	41.1	42.0	41.5	41.3	41.6	41.7	42.3	41.8	41.5	41.3	41.5	41.6
Electrical goods		40.6	40.2	40.3	41.1	40.5	40.4	40.1	40.1	40.0	40.3	40.1	40.2	40.4	40.8
Hardware, plumbing, and heating goods		40.6	40.4	40.6	40.9	40.6	40.5	40.8	40.6	40.7	40.7	40.7	40.6	40.6	40.6
Machinery, equipment, and supplies		40.7	40.5	40.5	41.1	40.8	41.1	41.1	41.1	41.1	41.0	41.1	40.9	41.0	41.0
Retail trade <sup>6</sup>		37.1	37.2	37.1	38.0	37.3	37.5	37.7	38.5	38.5	38.1	37.6	37.7	37.8	37.9
General merchandise stores		33.9	33.9	33.8	36.1	34.1	34.3	34.5	35.4	35.5	34.9	34.3	34.6	34.7	34.6
Department stores		33.4	33.5	33.2	35.2	33.3	33.7	34.0	34.7	34.7	34.3	33.9	34.2	34.1	34.4
Limited price variety stores		31.3	31.1	30.9	33.6	32.0	32.0	32.1	33.2	33.4	32.7	32.1	32.9	32.5	32.7
Food stores		34.0	34.2	34.3	34.7	34.5	34.6	35.0	36.0	36.0	35.6	34.7	34.9	35.0	35.4
Grocery, meat, and vegetable stores		34.1	34.2	34.4	34.6	34.6	34.6	35.1	36.2	36.2	35.8	34.8	34.9	35.1	35.6
Apparel and accessories stores		33.2	33.9	33.5	35.2	33.8	33.8	34.1	35.1	35.3	34.4	34.0	34.6	34.4	34.6
Men's and boys' apparel stores		36.1	36.3	35.7	37.9	36.7	36.8	37.2	38.1	38.1	37.8	36.7	37.3	37.3	37.4
Women's ready-to-wear stores		33.2	33.3	33.2	35.0	33.3	33.4	33.6	34.2	34.7	34.1	33.8	34.6	34.0	33.9
Family clothing stores		33.6	34.0	33.2	35.1	34.4	34.1	34.3	35.7	35.7	35.5	34.9	35.3	34.9	35.2
Shoe stores		30.6	32.6	32.0	32.7	31.7	31.8	32.1	33.8	33.8	31.3	31.3	32.6	32.5	33.3
		Average hourly earnings													
Wholesale and retail trade <sup>5</sup>		\$2.05	\$2.06	\$2.05	\$2.00	\$2.03	\$2.03	\$2.03	\$2.01	\$2.01	\$2.01	\$2.01	\$1.99	\$2.01	\$1.94
Wholesale trade		2.50	2.50	2.49	2.48	2.49	2.48	2.48	2.45	2.44	2.46	2.45	2.44	2.45	2.37
Motor vehicles and automotive equipment		2.30	2.29	2.29	2.31	2.30	2.31	2.31	2.27	2.27	2.27	2.27	2.26	2.28	2.21
Drugs, chemicals, and allied products		2.57	2.58	2.57	2.57	2.55	2.55	2.54	2.51	2.49	2.51	2.50	2.50	2.52	2.44
Dry goods and apparel		2.51	2.47	2.46	2.44	2.47	2.48	2.48	2.45	2.41	2.41	2.43	2.47	2.44	2.44
Groceries and related products		2.31	2.31	2.30	2.27	2.29	2.27	2.27	2.25	2.24	2.26	2.25	2.24	2.25	2.16
Electrical goods		2.65	2.67	2.65	2.67	2.63	2.60	2.60	2.57	2.56	2.55	2.54	2.53	2.57	2.49
Hardware, plumbing, and heating goods		2.38	2.38	2.37	2.38	2.39	2.38	2.38	2.36	2.35	2.36	2.35	2.34	2.35	2.29
Machinery, equipment, and supplies		2.66	2.69	2.65	2.68	2.69	2.70	2.69	2.64	2.62	2.66	2.63	2.62	2.65	2.54
Retail trade <sup>6</sup>		1.84	1.85	1.84	1.80	1.83	1.82	1.82	1.80	1.80	1.81	1.80	1.79	1.80	1.74
General merchandise stores		1.63	1.63	1.62	1.56	1.58	1.59	1.59	1.56	1.56	1.57	1.56	1.54	1.56	1.52
Department stores		1.79	1.80	1.78	1.69	1.74	1.76	1.76	1.73	1.73	1.74	1.72	1.69	1.72	1.66
Limited price variety stores		1.29	1.29	1.29	1.21	1.25	1.25	1.25	1.25	1.23	1.23	1.23	1.20	1.23	1.19
Food stores		1.95	1.95	1.94	1.92	1.93	1.92	1.91	1.88	1.88	1.88	1.89	1.87	1.89	1.83
Grocery, meat, and vegetable stores		1.99	1.98	1.97	1.96	1.97	1.96	1.95	1.91	1.92	1.92	1.92	1.91	1.93	1.86
Apparel and accessories stores		1.60	1.61	1.63	1.60	1.61	1.60	1.61	1.57	1.58	1.59	1.59	1.60	1.59	1.55
Men's and boys' apparel stores		1.81	1.85	1.86	1.79	1.82	1.80	1.81	1.78	1.81	1.78	1.80	1.78	1.79	1.76
Women's ready-to-wear stores		1.46	1.45	1.49	1.45	1.45	1.45	1.44	1.42	1.42	1.43	1.43	1.42	1.43	1.40
Family clothing stores		1.59	1.59	1.61	1.56	1.57	1.53	1.56	1.53	1.55	1.53	1.53	1.53	1.54	1.49
Shoe stores		1.66	1.68	1.67	1.72	1.71	1.73	1.73	1.66	1.67	1.73	1.75	1.79	1.71	1.67

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Average weekly earnings															
Wholesale and retail trade <sup>3</sup> —Continued															
Retail trade <sup>4</sup> —Continued															
Furniture and appliance stores.....	\$83.41	\$83.42	\$83.81	\$87.15	\$84.66	\$83.22	\$83.64	\$84.05	\$82.42	\$82.62	\$81.40	\$80.60	\$82.62	\$80.75	
Other retail trade.....	78.72	78.31	78.31	78.85	79.10	78.69	78.25	79.19	79.19	78.81	78.06	77.64	78.25	75.76	
Motor vehicle dealers.....	97.24	95.48	94.83	96.58	98.76	97.45	93.74	97.90	98.11	98.99	98.33	97.45	96.58	93.08	
Other vehicle and accessory dealers.....	83.47	83.03	84.78	84.55	82.16	82.16	82.78	83.10	84.23	82.65	82.16	81.22	82.53	80.08	
Drug stores.....	59.62	60.12	59.95	60.02	59.53	58.32	59.29	60.54	60.59	60.10	58.08	58.44	58.93	57.41	
Finance, insurance, and real estate:															
Banking.....	76.50	77.08	76.70	76.13	75.35	74.97	75.14	74.40	74.77	74.40	74.40	74.23	74.97	71.80	
Security dealers and exchanges.....				127.42	128.13	126.92	121.55	115.80	118.84	123.77	124.19	119.06	121.53	116.95	
Insurance carriers.....				97.67	96.86	96.79	96.72	96.66	96.65	96.13	95.57	95.44	96.28	93.46	
Life insurance.....				103.38	102.14	102.14	102.15	102.57	102.45	101.21	100.25	100.23	101.59	99.08	
Accident and health insurance.....				83.37	82.69	82.92	82.56	81.84	81.86	82.06	81.97	81.36	82.10	78.33	
Fire, marine, and casualty insurance.....					92.89	92.66	92.40	92.18	91.55	91.84	92.20	92.07	91.80	88.61	
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>6</sup> .....	48.09	47.70	47.72	47.86	47.72	48.09	48.22	48.31	47.96	47.36	47.86	46.08	47.58	46.14	
Personal services:															
Laundries, cleaning and dyeing plants <sup>7</sup> .....	54.81	54.00	53.58	52.13	51.99	51.87	52.00	51.48	52.00	52.67	52.54	52.40	51.87	50.57	
Motion pictures:															
Motion picture filming and distributing.....	131.52	128.93	129.48	134.43	133.25	139.96	132.89	132.65	130.01	128.89	121.25	124.32	129.68	122.27	
Average weekly hours															
Wholesale and retail trade <sup>3</sup> —Continued															
Retail trade <sup>4</sup> —Continued															
Furniture and appliance stores.....	40.1	40.3	40.1	41.5	40.7	40.4	40.6	41.0	40.8	40.9	40.7	40.5	40.7	41.2	
Other retail trade.....	41.0	41.0	41.0	41.5	41.2	41.2	41.4	41.9	41.9	41.7	41.3	41.3	41.4	41.4	
Motor vehicle dealers.....	43.8	43.6	43.7	43.7	43.7	43.7	43.4	43.9	43.8	43.8	43.7	43.7	43.7	43.7	
Other vehicle and accessory dealers.....	43.7	43.7	43.7	44.5	43.6	43.7	43.8	44.2	44.1	44.2	43.7	43.9	43.9	44.0	
Drug stores.....	35.7	36.0	35.9	36.6	36.3	36.0	36.6	37.6	37.4	37.1	36.3	36.3	36.6	36.8	
Finance, insurance, and real estate:															
Banking.....	37.5	37.6	37.6	37.5	37.3	37.3	37.2	37.2	37.2	37.2	37.2	37.3	37.3	37.2	
Security dealers and exchanges.....															
Insurance carriers.....															
Life insurance.....															
Accident and health insurance.....															
Fire, marine, and casualty insurance.....															
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>6</sup> .....	39.1	39.1	38.8	38.6	38.8	39.1	39.2	40.6	40.3	38.5	38.6	38.4	39.0	39.1	
Personal services:															
Laundries, cleaning and dyeing plants <sup>7</sup> .....	38.6	38.3	38.0	38.9	38.8	39.0	39.1	39.0	39.1	39.6	39.5	39.4	39.0	38.9	
Motion pictures:															
Motion picture filming and distributing.....															
Average hourly earnings															
Wholesale and retail trade <sup>3</sup> —Continued															
Retail trade <sup>4</sup> —Continued															
Furniture and appliance stores.....	\$2.08	\$2.07	\$2.09	\$2.10	\$2.08	\$2.06	\$2.06	\$2.05	\$2.02	\$2.02	\$2.00	\$1.99	\$2.03	\$1.96	
Other retail trade.....	1.92	1.91	1.91	1.90	1.92	1.91	1.89	1.89	1.89	1.89	1.89	1.88	1.89	1.83	
Motor vehicle dealers.....	2.22	2.19	2.17	2.21	2.26	2.23	2.16	2.23	2.24	2.26	2.25	2.23	2.21	2.13	
Other vehicle and accessory dealers.....	1.91	1.90	1.94	1.90	1.88	1.88	1.89	1.88	1.91	1.87	1.88	1.85	1.88	1.82	
Drug stores.....	1.67	1.67	1.67	1.64	1.64	1.62	1.62	1.61	1.62	1.62	1.60	1.61	1.61	1.56	
Finance, insurance, and real estate:															
Banking.....	2.04	2.05	2.04	2.03	2.02	2.01	2.02	2.00	2.01	2.00	2.00	1.99	2.01	1.93	
Security dealers and exchanges.....															
Insurance carriers.....															
Life insurance.....															
Accident and health insurance.....															
Fire, marine, and casualty insurance.....															
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>6</sup> .....	1.23	1.22	1.23	1.24	1.23	1.23	1.23	1.19	1.19	1.23	1.24	1.20	1.22	1.18	
Personal services:															
Laundries, cleaning and dyeing plants <sup>7</sup> .....	1.42	1.41	1.41	1.34	1.34	1.33	1.33	1.32	1.33	1.33	1.33	1.33	1.33	1.30	
Motion pictures:															
Motion picture filming and distributing.....															

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2. For employees covered, see footnote 1, table A-3. <sup>2</sup> Preliminary.

<sup>3</sup> Based upon monthly data summarized in the M-300 report by the Interstate Commerce Commission, which relate to all employees who received pay during the month, except executives, officials, and staff assistants (CO Group I).

<sup>4</sup> Data relate to nonsupervisory employees except messengers.

<sup>5</sup> Excludes eating and drinking places.

<sup>6</sup> Money payments only, additional value of board, room, uniforms, and tips not included.

<sup>7</sup> Beginning January 1964, data relate to nonsupervisory workers and are not comparable with the production worker levels of prior years.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics for all series except that for Class 1 railroads. (See footnote 3.)

TABLE C-2. Average weekly hours, seasonally adjusted, of production workers in selected industries<sup>1</sup>  
 Revised series; see box, p. 720.

Industry division and group	1964				1963								
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.
Mining.....	41.7	41.5	42.0	41.6	41.5	41.4	41.8	41.8	41.5	40.9	42.2	41.9	41.6
Contract construction.....	37.2	37.6	37.4	35.6	36.6	36.9	37.6	37.3	37.2	37.3	37.6	37.5	37.5
Manufacturing.....	40.6	40.7	40.6	40.1	40.5	40.5	40.6	40.7	40.3	40.4	40.5	40.5	40.1
Durable goods.....	41.3	41.2	41.3	40.8	41.5	41.1	41.2	41.3	41.0	41.2	41.3	41.1	40.7
Ordinance and accessories.....	40.2	40.0	40.3	40.6	41.0	40.6	41.2	41.4	41.3	41.0	41.4	40.9	40.4
Lumber and wood products, except furniture.....	40.2	40.4	40.3	39.2	40.7	40.1	40.3	40.2	40.0	40.4	40.1	39.5	39.9
Furniture and fixtures.....	41.6	41.1	41.4	40.1	41.0	41.0	40.7	40.7	40.9	41.2	40.9	40.9	40.5
Stone, clay, and glass products.....	41.5	41.6	41.7	40.7	41.0	41.3	41.6	41.3	41.2	41.4	41.5	41.6	41.3
Primary metal industries.....	41.6	41.2	41.1	41.0	41.1	40.9	40.6	40.7	40.9	41.1	41.7	41.6	41.3
Fabricated metal products.....	41.7	41.7	41.8	41.3	41.8	41.5	41.6	41.4	41.1	41.2	41.2	41.4	40.9
Machinery.....	42.2	42.4	42.4	41.9	42.4	42.1	41.9	42.1	41.7	41.7	41.7	41.5	41.2
Electrical equipment and supplies.....	40.6	40.4	40.4	40.0	40.3	40.2	40.3	40.3	40.3	40.6	40.4	40.4	40.1
Transportation equipment.....	42.1	41.4	41.8	42.0	42.3	42.3	42.3	42.0	41.5	42.1	42.2	41.9	41.4
Instruments and related products.....	40.6	40.6	40.8	39.8	40.7	40.7	41.0	41.1	40.7	40.8	40.7	40.8	40.5
Miscellaneous manufacturing industries.....	39.6	39.6	39.8	38.8	39.5	39.4	39.7	39.8	39.8	39.7	39.5	39.6	39.2
Nondurable goods.....	39.7	39.9	39.9	39.1	39.6	39.5	39.8	39.7	39.6	39.5	39.6	39.7	39.3
Food and kindred products.....	41.0	40.7	41.0	40.7	41.0	40.9	41.0	40.9	41.0	40.8	41.0	40.8	40.7
Tobacco manufactures.....	40.0	39.7	36.5	37.6	38.2	39.2	38.1	37.2	39.9	39.4	39.7	39.0	35.6
Textile mill products.....	41.0	41.1	41.2	40.4	41.1	40.8	41.0	40.7	40.5	40.4	40.5	40.6	40.2
Apparel and related products.....	36.4	36.4	36.4	34.7	36.0	35.7	36.4	36.6	35.9	36.0	36.0	36.4	35.9
Paper and allied products.....	42.5	42.6	43.0	42.5	43.0	42.8	43.0	42.8	42.7	42.7	42.7	42.6	42.2
Printing, publishing, and allied industries.....	38.7	38.5	38.5	38.1	38.4	38.1	38.4	38.4	38.4	38.3	38.3	38.4	38.3
Chemicals and allied products.....	41.3	41.8	41.5	41.2	41.7	41.4	41.5	41.5	41.5	41.6	41.4	41.6	41.8
Petroleum refining and related industries.....	41.7	42.1	42.2	41.4	41.9	41.5	41.6	41.5	41.6	41.7	41.9	41.9	42.3
Rubber and miscellaneous plastic products.....	41.3	41.0	41.1	40.7	41.5	40.9	41.0	41.2	40.8	40.2	40.1	40.4	40.7
Leather and leather products.....	37.5	37.7	37.9	36.5	38.2	37.4	38.9	38.3	37.8	37.0	37.3	37.3	36.8
Wholesale and retail trade <sup>3</sup> .....	38.3	38.5	38.3	38.3	38.6	38.6	38.5	38.6	38.7	38.7	38.7	38.7	38.7
Wholesale trade.....	40.6	40.6	40.3	40.3	40.7	40.5	40.6	40.5	40.6	40.5	40.6	40.6	40.5
Retail trade <sup>3</sup> .....	37.4	37.5	37.3	37.3	37.8	37.7	37.8	37.7	37.8	37.9	37.9	37.8	37.9

<sup>1</sup> For employees covered, see footnote 1, table A-3.

<sup>2</sup> Preliminary.

<sup>3</sup> Excludes eating and drinking places.

NOTE: The seasonal adjustment method used is described in "New Seasonal Adjustment Factors for Labor Force Components," *Monthly Labor Review*, August 1960, pp. 822-827.

TABLE C-3. Average hourly earnings excluding overtime of production workers in manufacturing, by major industry group<sup>1</sup>  
 Revised series; see box, p. 720.

Major industry group	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Manufacturing.....	\$2.44	\$2.43	\$2.42	\$2.43	\$2.42	\$2.40	\$2.38	\$2.38	\$2.35	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.31
Durable goods.....	2.60	2.60	2.59	2.60	2.58	2.57	2.55	2.55	2.52	2.54	2.54	2.54	2.54	2.54	2.48
Ordinance and accessories.....	2.92	2.91	2.90	2.88	2.88	2.85	2.84	2.82	2.82	2.79	2.80	2.80	2.82	2.75	
Lumber and wood products, except furniture.....	1.98	2.00	2.00	2.00	2.00	2.01	2.03	1.99	1.95	1.93	1.94	1.91	1.96	1.91	
Furniture and fixtures.....	1.96	1.96	1.95	1.94	1.94	1.94	1.94	1.92	1.92	1.92	1.92	1.91	1.92	1.88	
Stone, clay, and glass products.....	2.40	2.41	2.41	2.40	2.39	2.39	2.39	2.37	2.37	2.37	2.35	2.36	2.37	2.31	
Primary metal industries.....	2.98	2.97	2.96	2.96	2.95	2.94	2.94	2.94	2.96	2.96	2.95	2.98	2.95	2.90	
Fabricated metal products.....	2.57	2.57	2.56	2.55	2.54	2.52	2.52	2.51	2.51	2.51	2.52	2.51	2.52	2.47	
Machinery.....	2.74	2.73	2.72	2.72	2.71	2.70	2.69	2.67	2.67	2.67	2.67	2.67	2.68	2.61	
Electrical equipment and supplies.....	2.45	2.45	2.44	2.44	2.42	2.41	2.40	2.39	2.40	2.40	2.40	2.40	2.40	2.34	
Transportation equipment.....	2.95	2.95	2.95	2.95	2.95	2.93	2.92	2.87	2.88	2.87	2.86	2.86	2.89	2.80	
Instruments and related products.....	2.45	2.44	2.44	2.44	2.43	2.42	2.42	2.42	2.41	2.42	2.41	2.41	2.42	2.37	
Miscellaneous manufacturing industries.....	2.03	2.03	2.03	2.01	1.98	1.97	1.96	1.95	1.97	1.97	1.96	1.98	1.97	1.92	
Nondurable goods.....	2.21	2.20	2.19	2.20	2.19	2.17	2.16	2.16	2.13	2.15	2.14	2.14	2.15	2.09	
Food and kindred products.....	2.30	2.29	2.29	2.26	2.24	2.20	2.20	2.18	2.21	2.22	2.22	2.23	2.22	2.15	
Tobacco manufactures.....	1.96	1.92	1.95	1.87	1.85	1.78	1.77	1.80	1.99	1.99	2.00	1.97	1.88	1.83	
Textile mill products.....	1.69	1.69	1.69	1.69	1.68	1.65	1.65	1.64	1.64	1.64	1.63	1.64	1.65	1.62	
Apparel and related products.....	1.75	1.75	1.75	1.74	1.73	1.74	1.73	1.69	1.67	1.66	1.65	1.66	1.69	1.65	
Paper and allied products.....	2.40	2.40	2.40	2.39	2.38	2.37	2.37	2.36	2.36	2.35	2.34	2.34	2.35	2.29	
Printing, publishing, and allied industries.....	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	
Chemicals and allied products.....	2.67	2.68	2.69	2.69	2.67	2.67	2.66	2.65	2.66	2.64	2.62	2.60	2.64	2.57	
Petroleum refining and related industries.....	3.10	3.11	3.12	3.13	3.11	3.07	3.08	3.04	3.05	3.05	3.04	3.08	3.07	2.97	
Rubber and miscellaneous plastic products.....	2.42	2.41	2.42	2.42	2.41	2.38	2.38	2.37	2.38	2.39	2.38	2.38	2.39	2.30	
Leather and leather products.....	1.77	1.76	1.75	1.75	1.76	1.75	1.75	1.72	1.71	1.73	1.73	1.73	1.73	1.69	

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2. For employees covered, see footnote 1, table A-3. Average hourly earnings excluding overtime are derived by assuming that overtime hours are paid for at the rate of time and one-half.

<sup>2</sup> Preliminary.

<sup>3</sup> Not available because average overtime rates are significantly above time and one-half. Inclusion of data for the group in the nondurable goods total has little effect.

TABLE C-4. Average overtime hours of production workers in manufacturing, by industry<sup>1</sup>

Revised series; see box, p. 720

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Manufacturing.....	2.8	2.8	2.7	2.7	3.1	3.0	3.0	3.1	2.9	2.9	3.0	2.8	2.4	2.8	2.8
Durable goods.....	3.0	2.9	2.8	2.9	3.3	3.2	3.2	3.2	3.0	2.9	3.2	2.9	2.5	2.9	2.8
Nondurable goods.....	2.5	2.6	2.6	2.5	2.8	2.8	2.9	3.0	2.8	2.8	2.8	2.6	2.4	2.7	2.7
<i>Durable goods</i>															
Ordnance and accessories.....		1.5	1.6	1.9	2.5	2.2	2.5	2.6	2.7	2.4	2.4	2.2	1.6	2.3	2.2
Ammunition, except for small arms.....		1.5	1.6	2.2	2.8	2.6	2.9	2.7	2.8	2.8	2.7	2.1	1.6	2.5	1.9
Sighting and fire control equipment.....		1.3	1.3	1.1	1.7	1.2	1.1	2.3	2.0	.5	.7	.9	1.2	1.6	3.0
Other ordnance and accessories.....		1.6	1.7	1.5	2.3	1.8	2.2	2.5	2.6	2.1	2.4	2.6	1.6	2.3	2.5
Lumber and wood products, except furniture.....	3.1	3.1	2.9	3.2	3.3	3.6	3.8	4.0	3.7	3.9	3.2	2.9	3.4	3.2	
Sawmills and planing mills.....	3.1	3.0	2.7	3.2	3.3	3.5	3.6	3.9	3.8	3.9	3.2	3.0	3.3	3.1	
Millwork, plywood, related products.....	3.8	3.7	3.2	3.6	3.6	3.5	3.9	4.2	4.0	3.9	3.5	3.1	3.5	3.3	
Wooden containers.....	2.4	2.1	2.1	2.6	2.6	3.0	3.2	3.7	4.2	3.5	3.5	2.8	3.0	2.9	
Miscellaneous wood products.....	2.8	2.7	2.6	2.8	3.0	3.1	3.3	3.2	2.7	3.1	3.1	2.6	2.9	2.9	
Furniture and fixtures.....	2.8	2.8	2.5	3.6	3.4	3.5	3.7	3.5	2.9	2.9	2.5	2.2	3.0	2.9	
Household furniture.....	3.1	3.0	2.8	4.0	3.6	3.7	3.8	3.4	2.9	2.9	2.6	2.4	3.2	3.0	
Office furniture.....	1.9	2.1	1.7	2.5	1.9	2.6	2.8	2.7	2.3	2.9	1.8	1.3	2.2	2.1	
Partitions; office and store fixtures.....	1.6	1.5	1.3	1.8	2.2	2.7	3.2	3.4	3.1	2.3	1.8	1.2	2.2	3.0	
Other furniture and fixtures.....	2.4	2.3	2.1	3.0	3.2	3.0	3.9	4.1	3.0	2.8	2.5	1.9	2.8	2.6	
Stone, clay, and glass products.....	3.3	3.2	3.0	3.3	3.8	4.1	4.0	4.0	4.0	4.0	3.9	3.4	3.6	3.4	
Flat glass.....	2.8	3.4	3.4	3.4	4.5	3.2	2.6	1.9	2.2	2.7	1.9	1.6	2.4	1.7	
Glass and glassware, pressed or blown.....	3.6	3.4	3.4	3.1	3.2	3.5	3.4	3.5	3.4	3.5	3.6	3.3	3.4	3.5	
Cement, hydraulic.....	1.9	1.7	1.9	1.8	1.8	2.0	2.2	2.2	2.4	2.3	2.1	2.3	2.1	1.8	
Structural clay products.....	3.0	2.7	2.4	2.8	3.4	3.5	3.3	3.4	3.6	3.5	3.4	2.8	3.1	2.8	
Pottery and related products.....	1.8	1.7	1.6	2.3	2.2	2.2	2.4	2.0	2.0	1.9	2.0	1.6	2.0	1.8	
Concrete, gypsum, and plaster products.....	4.3	4.1	3.5	4.3	5.6	6.6	6.2	6.5	6.4	6.5	6.2	5.6	5.6	5.4	
Other stone and mineral products.....	3.2	2.9	2.8	3.0	3.0	3.4	3.4	3.2	3.0	3.1	3.0	2.5	3.0	2.7	
Primary metal industries.....	2.8	2.6	2.9	2.8	2.5	2.4	2.7	2.4	2.7	3.3	3.1	2.8	2.7	2.3	
Blast furnace and basic steel products.....	1.7	1.6	1.7	1.4	1.2	1.2	1.8	1.5	2.1	2.7	2.8	2.8	1.9	1.4	
Iron and steel foundries.....	4.7	4.5	4.7	4.7	4.2	3.8	3.8	3.5	3.3	4.3	3.9	3.1	3.7	2.9	
Nonferrous smelting and refining.....	3.1	2.8	3.2	2.9	2.7	3.1	3.4	3.2	2.9	2.9	2.9	2.9	3.0	2.7	
Nonferrous rolling, drawing, and extruding.....	3.4	3.5	4.0	4.2	3.9	3.7	3.8	3.8	3.7	4.3	3.7	2.5	3.7	3.6	
Nonferrous foundries.....	3.0	3.0	3.1	3.4	3.1	3.1	2.9	2.8	2.8	3.0	2.8	2.7	3.0	2.9	
Miscellaneous primary metal industries.....	3.7	3.4	3.6	3.8	3.5	3.5	3.8	2.9	3.3	3.3	3.3	2.7	3.3	3.2	
Fabricated metal products.....	2.9	2.8	2.9	3.3	3.2	3.4	3.5	3.3	3.1	3.3	3.0	2.4	3.0	2.9	
Metal cans.....	3.0	3.3	4.1	3.0	3.4	2.9	4.1	5.1	4.1	4.2	3.3	3.1	3.4	3.5	
Cutlery, handtools, and general hardware.....	2.5	2.7	3.0	3.4	3.5	2.9	2.8	2.4	2.1	2.8	3.0	2.0	2.7	2.5	
Heating equipment and plumbing fixtures.....	1.8	1.7	1.8	2.1	2.2	2.6	2.4	2.4	2.3	2.5	2.0	1.3	2.1	1.9	
Fabricated structural metal products.....	2.5	2.3	2.2	3.0	2.8	3.1	3.5	3.4	3.3	3.1	2.7	2.0	2.8	2.5	
Screw machine products, bolts, etc.....	4.1	4.1	3.9	3.6	3.4	3.5	4.0	3.6	3.4	3.9	3.8	3.1	3.6	4.0	
Metal stampings.....	3.9	3.6	3.9	4.4	4.1	4.5	4.2	3.5	3.6	3.9	3.7	3.0	3.7	3.5	
Coating, engraving, and allied services.....	3.2	3.1	3.5	3.6	3.8	4.1	4.2	3.6	3.3	3.6	3.3	2.6	3.4	3.3	
Miscellaneous fabricated wire products.....	2.9	2.7	2.6	3.1	3.3	3.3	3.3	3.2	2.8	2.9	2.8	2.2	2.9	3.0	
Miscellaneous fabricated metal products.....	2.3	2.3	2.2	2.7	2.5	2.8	3.0	2.6	2.4	2.5	2.7	2.2	2.6	2.6	
Machinery.....	3.8	3.7	3.5	3.8	3.4	3.2	3.3	3.2	3.2	3.4	3.1	2.8	3.2	3.1	
Engines and turbines.....	2.7	2.7	2.4	3.2	2.7	2.0	3.0	2.1	2.4	2.6	2.2	1.8	2.5	2.2	
Farm machinery and equipment.....	3.1	3.2	2.8	2.5	1.8	2.1	2.2	1.9	2.1	2.1	2.1	2.2	2.2	2.1	
Construction and related machinery.....	3.5	3.1	3.2	3.1	3.0	2.8	3.0	3.0	2.8	3.1	2.7	2.2	2.7	2.6	
Metalworking machinery and equipment.....	6.5	6.3	5.7	5.6	5.0	4.6	4.4	4.6	4.9	5.2	4.9	4.6	4.8	4.7	
Special industry machinery.....	3.8	3.6	3.5	4.2	3.6	3.4	3.6	3.3	3.5	3.7	3.4	3.1	3.5	3.5	
General industrial machinery.....	3.1	3.1	2.9	3.5	3.1	3.1	3.3	3.0	2.9	2.9	2.4	2.0	2.8	2.8	
Office, computing, and accounting machines.....	1.3	1.5	1.2	1.9	2.2	2.1	2.2	1.8	1.5	1.7	1.6	1.3	1.7	1.5	
Service industry machines.....	2.1	2.0	1.9	2.1	1.8	1.8	2.2	2.5	2.2	2.5	2.3	1.7	2.1	2.0	
Miscellaneous machinery.....	4.5	4.3	4.4	4.7	4.3	4.3	4.0	4.0	4.0	4.4	4.2	3.5	4.1	4.1	
Electrical equipment and supplies.....	1.9	1.9	2.0	2.3	2.1	2.2	2.3	2.1	2.0	2.2	1.9	1.5	2.0	2.2	
Electric distribution equipment.....	2.1	2.1	1.9	2.9	2.4	2.4	2.7	2.5	2.1	2.4	1.9	1.5	2.2	2.0	
Electrical industrial apparatus.....	2.9	2.4	2.7	2.7	2.4	2.4	2.7	2.3	2.5	2.4	2.3	1.9	2.4	2.2	
Household appliances.....	1.9	1.4	1.4	2.3	2.1	2.2	2.6	2.4	2.7	2.7	2.0	1.5	2.1	1.9	
Electric lighting and wiring equipment.....	1.8	1.9	2.0	2.4	2.2	2.1	2.5	2.1	2.0	2.1	1.9	1.5	2.0	1.9	
Radio and TV receiving sets.....	1.0	1.3	1.5	1.7	1.6	2.1	2.1	2.0	2.0	2.0	1.7	.8	1.7	1.9	
Communication equipment.....	1.7	1.6	1.8	2.0	1.8	1.8	2.0	1.8	1.5	1.8	1.6	1.3	1.8	2.5	
Electronic components and accessories.....	1.9	1.8	2.0	1.7	2.1	2.0	1.9	1.7	1.7	1.8	1.8	1.6	1.8	2.0	
Miscellaneous electrical equipment and supplies.....	2.0	2.6	3.2	3.6	2.8	3.0	2.5	1.9	2.2	3.0	2.4	1.6	2.6	3.2	
Transportation equipment.....	3.0	3.2	3.6	4.6	4.5	4.2	3.7	3.1	3.3	3.7	3.5	2.7	3.6	3.5	
Motor vehicles and equipment.....	3.3	3.8	4.6	6.3	6.1	5.4	4.2	3.5	4.0	4.5	4.3	3.3	4.4	4.1	
Aircraft and parts.....	2.3	2.4	2.5	2.7	2.6	2.8	2.9	2.6	2.5	2.5	2.2	1.9	2.6	2.9	
Ship and boat building and repairing.....	3.7	3.0	2.7	3.0	3.5	3.2	3.6	2.5	2.4	3.3	3.5	2.8	3.2	2.8	
Railroad equipment.....	2.4	2.3	1.9	2.1	2.0	1.8	2.4	2.0	2.5	2.3	1.9	2.0	2.1	2.0	
Other transportation equipment.....	2.7	2.4	2.4	3.0	2.5	3.2	4.0	3.2	3.8	3.7	3.5	2.7	3.1	2.5	
Instruments and related products.....	2.1	2.1	2.1	2.5	2.5	2.7	2.7	2.3	2.2	2.4	2.3	1.9	2.3	2.4	
Engineering and scientific instruments.....	2.1	2.0	2.5	3.0	2.9	2.6	2.8	2.3	2.1	2.5	2.2	1.8	2.5	2.6	
Mechanical measuring and control devices.....	2.3	2.3	2.0	2.3	2.7	2.7	2.6	2.5	2.5	2.5	2.3	1.9	2.3	2.2	
Optical and ophthalmic goods.....	2.2	2.2	2.0	2.7	2.5	2.8	2.7	2.1	2.3	2.5	2.4	2.1	2.4	2.2	
Surgical, medical, and dental equipment.....	1.7	1.7	1.6	2.0	2.1	2.1	2.3	2.1	1.9	2.4	2.0	1.6	2.0	2.3	
Photographic equipment and supplies.....	2.4	2.6	2.6	2.8	2.9	3.2	3.1	2.0	2.4	2.4	2.8	2.3	2.7	2.9	
Watches and clocks.....	1.1	1.1	1.5	2.2	1.7	2.2	2.3	2.2	1.9	1.9	1.9	1.4	1.9	1.9	

See footnotes at end of table.

TABLE C-4. Average overtime hours of production workers in manufacturing, by industry<sup>1</sup>—Continued

Revised series; see box, p. 720.

Industry	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Manufacturing—Continued															
Durable goods—Continued															
Miscellaneous manufacturing industries.....		2.2	2.2	1.9	2.4	2.5	2.7	2.6	2.2	1.9	2.1	2.0	1.9	2.2	2.3
Jewelry, silverware, and plated ware.....		3.0	2.7	2.1	4.4	4.1	4.0	3.4	2.7	2.4	2.7	2.8	2.4	3.1	3.0
Toys, amusement and sporting goods.....		1.5	1.7	1.3	1.3	2.0	2.4	2.3	2.1	1.6	1.6	1.6	1.5	1.8	1.9
Pens, pencils, office and art materials.....		1.4	1.6	1.5	2.6	2.0	2.5	2.6	2.2	1.8	2.1	1.7	1.4	2.1	2.0
Costume jewelry, buttons, and notions.....		2.4	2.8	2.1	2.6	2.5	2.8	2.6	2.2	2.0	2.4	2.1	2.0	2.3	2.2
Other manufacturing industries.....		2.4	2.3	2.2	2.4	2.6	2.7	2.6	2.1	2.0	2.3	2.2	2.0	2.3	2.5
Nondurable goods															
Food and kindred products.....		3.1	3.2	3.3	3.4	3.5	3.5	3.8	3.5	3.8	3.7	3.4	2.9	3.4	3.4
Meat products.....		3.4	3.0	3.9	4.9	4.9	4.0	4.5	3.5	3.8	3.9	3.6	2.9	3.8	3.6
Dairy products.....		3.2	3.3	2.9	2.7	2.5	2.7	3.2	3.2	3.6	3.5	3.3	3.2	3.1	3.4
Canned and preserved food, except meats.....		1.7	2.3	2.1	2.0	1.7	2.4	3.2	2.8	2.5	2.3	2.3	1.9	2.4	2.6
Grain mill products.....		4.9	5.3	6.2	5.5	6.2	7.5	7.2	6.6	7.5	6.9	6.3	4.7	6.3	6.3
Bakery products.....		3.0	3.1	2.8	2.9	2.9	3.0	3.3	3.2	3.5	3.4	3.2	2.9	3.0	3.1
Sugar.....		2.6	3.0	4.1	3.0	3.3	4.4	3.9	3.5	3.8	3.5	4.4	3.9	3.6	3.7
Confectionery and related products.....		1.9	2.3	2.0	2.6	2.7	2.9	3.4	2.5	2.1	2.6	1.8	1.7	2.5	2.5
Beverages.....		2.8	2.8	2.3	2.6	2.9	3.1	3.3	3.6	4.4	4.1	3.2	2.9	3.1	2.8
Miscellaneous food and kindred products.....		3.8	4.3	4.2	3.9	4.2	4.1	4.0	4.1	4.0	3.8	3.8	3.4	3.9	3.9
Tobacco manufactures.....		1.3	1.2	.8	1.3	1.4	1.1	1.4	1.4	1.4	1.5	1.0	.3	1.1	1.0
Cigarettes.....		.5	.7	.5	1.2	1.6	.8	1.6	1.9	1.8	2.0	1.3	.4	1.2	.9
Cigars.....		2.6	2.1	1.1	1.5	1.7	1.8	1.4	1.3	1.1	1.2	.9	.1	1.1	.9
Textile mill products.....		3.2	3.3	3.2	3.5	3.7	3.6	3.3	3.3	3.1	3.4	3.2	2.8	3.2	3.2
Cotton broad woven fabrics.....		3.6	4.0	4.0	4.0	4.3	4.0	3.4	3.4	2.9	3.1	3.2	3.0	3.4	3.2
Silk and synthetic broad woven fabrics.....		4.5	4.6	4.6	4.9	5.2	4.7	4.4	4.3	3.9	4.4	4.4	3.7	4.3	4.3
Weaving and finishing broad woolsens.....		2.7	2.8	3.1	3.1	2.4	2.9	3.4	3.3	3.8	4.0	3.7	3.0	3.4	4.2
Narrow fabrics and smallwares.....		3.2	2.9	2.8	3.2	3.4	3.3	2.7	2.7	3.2	3.1	3.4	2.9	3.1	3.3
Knitting.....		1.9	1.8	1.4	1.7	2.2	2.4	2.3	2.4	2.4	2.4	2.0	1.6	2.0	2.2
Finishing textiles, except wool and knit.....		4.3	4.4	3.6	4.6	4.7	4.3	3.9	3.7	3.3	4.5	4.1	3.8	4.1	4.2
Floor covering.....		3.8	3.8	3.6	5.0	5.0	5.1	5.4	4.5	4.1	4.2	3.5	3.6	4.4	4.1
Yarn and thread.....		3.0	3.1	3.0	3.2	3.6	3.4	3.0	3.1	3.1	3.5	3.2	2.9	3.1	3.2
Miscellaneous textile goods.....		3.0	3.0	3.3	3.9	3.9	4.0	3.3	3.7	3.5	4.2	3.3	2.8	3.5	3.5
Apparel and related products.....		1.3	1.3	1.0	1.2	1.3	1.4	1.4	1.5	1.3	1.3	1.3	1.1	1.3	1.3
Men's and boys' suits and coats.....		1.1	1.1	1.0	.9	.9	1.0	1.0	1.1	.8	1.0	1.1	.9	1.0	1.2
Men's and boys' furnishings.....		1.0	.9	.7	1.0	.9	1.0	1.3	1.5	1.3	1.3	1.2	.9	1.1	1.2
Women's, misses', juniors' outerwear.....		1.6	1.5	1.1	1.0	1.1	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.3	1.4
Women's and children's undergarments.....		1.3	1.2	.9	1.4	1.8	2.0	2.0	1.6	1.4	1.2	1.3	1.0	1.4	1.3
Hats, caps, and millinery.....		2.1	2.2	1.1	1.2	1.0	1.4	1.6	1.6	1.4	1.0	1.2	1.0	1.4	1.5
Girls' and children's outerwear.....		1.3	1.5	1.2	.9	1.1	1.2	1.2	1.5	1.5	1.5	1.3	.7	1.2	1.2
Fur goods and miscellaneous apparel.....		1.1	1.0	.7	1.2	1.6	1.6	1.2	1.2	1.0	.9	1.0	.7	1.1	1.2
Miscellaneous fabricated textile products.....		1.5	1.3	1.6	2.2	2.1	2.1	2.2	1.9	1.5	1.8	1.8	1.5	1.8	1.7
Paper and allied products.....		4.3	4.3	4.3	4.5	4.6	4.8	5.0	4.8	4.8	4.6	4.3	3.8	4.5	4.4
Paper and pulp.....		5.4	5.5	5.5	5.3	5.5	5.5	5.8	5.6	5.9	5.4	5.3	4.8	5.4	5.2
Paperboard.....		5.9	5.8	5.9	5.9	5.9	6.2	6.3	6.4	6.8	6.3	5.5	5.0	5.9	5.9
Converted paper and paperboard products.....		3.0	3.0	3.1	3.6	3.3	3.4	3.8	3.6	3.2	3.2	2.9	2.6	3.2	3.0
Paperboard containers and boxes.....		3.4	3.3	3.2	3.7	3.9	4.4	4.5	4.1	3.8	4.1	3.6	3.1	3.7	3.9
Printing, publishing, and allied industries.....		2.9	2.5	2.5	3.2	2.7	2.9	3.1	2.8	2.6	2.7	2.8	2.4	2.7	2.8
Newspaper publishing and printing.....		2.2	2.0	1.8	3.2	2.4	2.6	2.4	2.2	2.3	2.6	2.7	2.0	2.3	2.5
Periodical publishing and printing.....		4.0	3.6	3.2	3.3	3.7	4.1	3.9	3.3	3.3	2.8	2.7	3.0	3.3	3.1
Books.....		3.6	3.2	3.4	3.6	2.7	3.3	4.4	4.5	3.9	3.5	3.9	3.1	3.5	3.4
Commercial printing.....		3.2	2.7	2.8	3.3	2.9	3.1	3.5	2.9	2.7	2.8	2.9	2.7	3.0	3.0
Bookbinding and related industries.....		2.5	2.1	2.3	2.5	2.4	2.3	2.4	2.1	2.1	2.4	2.2	2.1	2.2	2.4
Other publishing and printing industries.....		2.5	2.5	2.5	3.0	2.4	2.5	2.9	2.9	2.4	2.4	2.1	1.9	2.5	2.6
Chemicals and allied products.....		2.7	2.4	2.4	2.4	2.4	2.5	2.6	2.5	2.6	2.6	2.6	3.1	2.5	2.5
Industrial chemicals.....		2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.6	2.6	2.5	2.2	2.8	2.4	2.5
Plastics and synthetics, except glass.....		2.4	2.2	2.1	2.2	2.1	2.2	2.3	2.3	2.5	2.7	2.1	2.6	2.3	2.3
Drugs.....		2.2	2.1	1.9	1.9	2.0	2.2	1.9	1.8	2.2	2.2	2.0	2.0	2.2	2.4
Soap, cleaners, and toilet goods.....		2.1	2.2	2.2	2.6	2.5	2.7	3.0	2.7	2.3	2.4	2.1	2.2	2.5	2.7
Paints, varnishes, and allied products.....		2.3	2.2	1.7	1.9	1.9	2.4	2.4	2.6	2.9	2.8	3.1	2.0	2.3	2.1
Agricultural chemicals.....		6.6	4.3	3.9	3.7	3.5	3.8	3.8	2.9	3.0	3.6	6.8	9.6	4.7	4.1
Other chemical products.....		2.7	2.6	2.9	2.8	2.8	2.8	3.0	3.1	2.9	2.8	2.6	2.2	2.7	2.6
Petroleum refining and related industries.....		2.0	2.0	1.9	2.1	2.3	2.5	2.7	2.4	2.9	2.7	2.6	2.5	2.3	2.3
Petroleum refining.....		1.6	1.6	1.7	1.8	1.9	1.7	2.0	1.4	2.0	1.9	1.9	2.1	1.8	1.6
Other petroleum and coal products.....		3.8	3.6	2.9	3.3	3.6	5.4	5.2	6.1	6.2	5.6	5.1	4.0	4.5	4.8
Rubber, miscellaneous plastic products.....		2.7	2.6	2.8	3.2	3.2	3.3	3.5	3.2	2.9	2.9	2.5	2.4	3.0	3.1
Tires and inner tubes.....		2.4	2.0	2.2	3.6	3.7	3.5	3.7	3.3	3.2	2.8	2.1	2.3	3.0	3.3
Other rubber products.....		2.2	2.4	2.7	2.8	2.8	2.9	3.0	2.5	2.3	2.6	2.3	2.2	2.6	2.9
Miscellaneous plastic products.....		3.3	3.1	3.2	3.4	3.3	3.5	3.8	3.8	3.5	3.3	3.1	2.5	3.3	3.2
Leather and leather products.....		1.5	1.8	1.6	1.8	1.4	1.7	1.6	1.7	1.3	1.4	1.1	.9	1.4	1.4
Leather tanning and finishing.....		2.3	2.6	2.7	3.2	2.9	3.2	3.0	2.7	2.6	3.2	2.8	2.4	2.8	2.6
Footwear, except rubber.....		1.4	1.6	1.6	1.6	1.1	1.2	1.3	1.5	1.2	1.2	.9	.7	1.2	1.1
Other leather products.....		1.6	1.9	1.3	1.9	1.8	2.4	1.9	2.0	1.3	1.4	1.0	.9	1.6	1.8

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2. For employees covered, see footnote 1, table A-3.

<sup>2</sup> These series cover premium overtime hours of production and related workers during the pay period ending nearest the 15th of the month. Overtime hours are those paid for at premium rates because (1) they exceeded

either the straight-time workday or workweek or (2) they occurred on week-end or holidays or outside regularly scheduled hours. Hours for which only shift differential, hazard, incentive, or other similar types of premiums were paid are excluded.

<sup>3</sup> Preliminary.

TABLE C-5. Indexes of aggregate weekly man-hours and payrolls in industrial and construction activities <sup>1</sup>

[1957-59=100]

Revised series; see box p. 720.

Activity	1964				1963								Annual average		
	Apr. <sup>2</sup>	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
Man-hours															
Total.....	100.7	98.9	97.8	95.5	101.2	103.0	106.5	106.7	105.4	103.9	104.4	101.6	98.0	101.3	99.8
Mining.....	79.5	77.1	77.9	78.1	81.5	81.7	83.8	84.3	84.7	82.6	86.7	84.2	81.3	82.1	83.6
Contract construction.....	100.5	91.3	87.0	80.8	95.0	107.8	121.8	121.7	125.6	121.9	116.1	107.6	97.4	104.8	99.3
Manufacturing.....	101.8	101.4	100.7	99.0	103.3	103.2	104.9	105.0	102.8	101.7	103.1	101.3	99.0	101.6	100.6
Durable goods.....															
Ordnance and accessories.....	135.1	137.2	140.1	147.1	150.5	148.5	150.8	150.2	147.6	146.5	148.8	147.8	144.8	149.2	150.3
Lumber and wood products, except furniture.....	91.0	89.3	89.1	86.5	93.0	94.6	98.9	100.4	99.2	95.6	95.3	94.9	90.2	93.7	93.3
Furniture and fixtures.....	107.7	107.2	106.3	102.6	111.1	110.2	111.6	111.6	110.8	105.3	106.0	102.6	101.8	106.6	104.8
Stone, clay, and glass products.....	103.6	100.2	97.8	95.0	100.8	106.4	108.5	109.1	110.6	109.8	109.3	106.4	101.4	103.4	100.3
Primary metal industries.....	103.3	101.4	99.9	98.5	98.4	95.6	95.2	97.2	97.3	101.0	105.2	102.3	100.2	97.9	95.3
Fabricated metal products.....	106.0	104.9	104.2	103.3	107.2	106.7	108.1	107.9	104.7	102.7	105.7	103.4	99.8	103.6	100.6
Machinery.....	111.1	110.8	107.9	106.7	107.8	104.4	104.3	104.4	102.4	102.3	104.9	103.8	103.0	103.8	101.9
Electrical equipment and supplies.....	112.1	111.9	112.5	112.9	116.7	115.6	117.1	116.8	113.5	112.3	115.5	113.7	111.8	114.7	115.8
Transportation equipment.....	98.0	95.7	95.4	95.6	100.2	99.2	98.2	94.3	80.3	92.4	95.0	94.7	92.2	93.7	88.7
Instruments and related products.....	105.1	105.2	105.1	103.6	107.8	108.0	108.1	108.2	106.9	105.4	106.9	104.7	103.5	105.9	103.2
Miscellaneous manufacturing industries.....	100.5	99.9	98.2	92.4	101.8	109.4	112.1	111.2	107.8	99.9	102.6	100.7	97.2	102.3	102.1
Nondurable goods.....															
Food and kindred products.....	98.2	99.0	98.6	96.3	101.1	101.6	104.4	105.1	104.9	100.8	101.0	99.0	97.0	100.6	101.1
Tobacco manufactures.....	85.0	84.0	84.6	86.3	91.7	94.8	101.8	105.8	104.2	97.5	93.4	88.7	85.5	93.5	95.3
Textile mill products.....	78.5	80.9	79.5	85.9	100.1	103.4	113.5	114.7	107.7	74.6	78.4	76.5	70.9	90.9	93.2
Apparel and related products.....	95.5	96.0	96.1	93.2	96.9	97.9	98.1	96.3	96.6	94.4	97.1	95.5	93.5	95.6	97.4
Paper and allied products.....	108.4	112.8	111.7	101.1	108.1	109.0	112.4	112.2	114.1	107.7	108.5	108.9	105.9	109.1	106.9
Printing, publishing, and allied industries.....	104.8	104.7	104.7	104.1	107.8	107.4	108.6	109.1	108.9	106.7	107.8	105.1	103.3	106.4	105.5
Chemicals and allied products.....	105.8	105.9	104.2	103.1	107.6	105.1	105.8	105.9	104.8	103.5	104.4	104.1	102.9	104.0	104.7
Petroleum refining and related industries.....	106.9	105.8	103.7	102.8	104.7	104.3	105.0	105.4	105.3	105.2	105.9	106.4	107.7	104.9	103.5
Rubber and miscellaneous plastic products.....	78.8	78.2	78.1	77.7	79.1	80.8	82.6	84.5	84.6	85.5	84.9	83.4	83.0	82.2	86.1
Leather and leather products.....	114.3	113.3	112.5	111.6	115.7	114.9	114.5	114.6	111.9	109.2	114.3	112.9	111.3	113.1	131.4
Miscellaneous manufacturing industries.....	89.0	94.8	96.3	93.1	98.1	94.1	95.6	95.4	99.1	96.3	96.2	90.2	87.3	94.8	98.1
Payrolls															
Mining.....	-----	85.4	86.9	87.8	91.4	90.5	92.8	94.0	93.1	90.2	95.9	92.1	89.2	90.6	90.5
Contract construction.....	-----	113.5	109.2	102.4	119.2	131.5	149.7	149.5	152.2	146.8	138.9	128.3	115.5	127.0	116.4
Manufacturing.....	121.4	120.4	119.4	117.7	122.4	121.5	122.6	122.6	118.2	118.1	119.9	117.4	114.4	118.0	113.7

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2.  
<sup>2</sup> For mining and manufacturing, data refer to production and related

workers and for contract construction, to construction workers, as defined in footnote 1, table A-3.  
<sup>3</sup> Preliminary.

TABLE C-6. Gross and spendable average weekly earnings of production workers in manufacturing <sup>1</sup>

Revised series; see box p. 720.

[In current and 1957-59 dollars] <sup>1</sup>

Item	1964				1963								Annual average		
	Mar. <sup>2</sup>	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	1963	1962
<i>Manufacturing</i>															
Gross average weekly earnings:															
Current dollars.....	\$101.40	\$101.15	\$99.90	\$102.41	\$100.85	\$100.53	\$100.53	\$98.42	\$99.23	\$100.37	\$99.23	\$97.36	\$98.09	\$99.38	\$96.56
1957-59 dollars.....	94.15	94.01	92.76	95.18	93.90	93.78	93.87	91.90	92.65	94.16	93.44	91.68	92.36	93.14	91.61
Spendable average weekly earnings:															
Worker with no dependents:															
Current dollars.....	83.16	82.97	81.98	81.95	80.75	80.51	80.51	78.89	79.51	80.38	79.51	78.04	78.63	79.63	77.86
1957-59 dollars.....	77.21	77.11	76.12	76.16	75.19	75.10	75.17	73.66	74.24	75.40	74.87	73.45	74.04	74.63	73.87
Worker with 3 dependents:															
Current dollars.....	90.89	90.68	89.65	89.86	88.58	88.31	88.31	86.58	87.25	88.18	87.25	85.72	86.31	87.37	85.53
1957-59 dollars.....	84.39	84.28	83.24	83.61	82.48	82.38	82.46	80.84	81.47	82.72	82.16	80.72	81.27	81.88	81.15

<sup>1</sup> For comparability of data with those published in issues prior to October 1963, see footnote 1, table A-2. For employees covered, see footnote 1, table A-3.

Spendable average weekly earnings are based on gross average weekly earnings as published in table C-1 less the estimated amount of the workers' 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 com-

puted for 2 types of income receivers: (1) A worker with no dependents, and (2) a worker with 3 dependents.

The earnings expressed in 1957-59 dollars have been adjusted for changes in purchasing power as measured by the Bureau's Consumer Price Index.

<sup>2</sup> Preliminary.

NOTE: These series are described in "The Calculation and Uses of the Spendable Earnings Series," *Monthly Labor Review*, January 1959, pp. 50-54.

## D.—Consumer and Wholesale Prices

TABLE D-1. Consumer Price Index<sup>1</sup>—U.S. city average for urban wage earners and clerical workers (including single workers) all items, groups, subgroups, and special groups of items

[1957-59=100 unless otherwise specified]

Group	1964		1964			1963								Annual average		
	April		Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sep.	Aug.	July	June	May	Apr.	1963	1962
	Old series	New series	New series <sup>2</sup>	New series <sup>2</sup>	New series <sup>2</sup>											
All items	108.0	107.8	107.7	107.6	107.7	107.6	107.4	107.2	107.1	107.1	107.1	106.6	106.2	106.2	106.7	105.4
All items (1947-49=100)	132.5	132.3	132.1	132.0	132.1	132.0	131.8	131.5	131.4	131.4	131.4	130.8	130.3	130.3	131.0	129.3
Food	106.1	105.7	105.7	106.0	105.8	105.4	105.1	104.9	105.4	106.0	106.2	105.0	104.2	104.3	105.1	103.6
Food at home	104.3	103.9	104.0	104.4	104.2	103.7	103.4	103.2	103.8	104.5	104.8	103.4	102.5	102.6	103.5	102.2
Cereals and bakery products	109.2	108.8	108.8	109.0	109.1	109.0	109.1	109.1	109.1	109.1	109.2	109.2	109.3	109.2	109.1	107.6
Meats, poultry, and fish	97.5	97.0	97.2	98.3	98.3	99.2	99.7	100.4	101.5	101.4	100.2	95.4	98.0	98.3	100.2	101.7
Dairy products	103.8	104.1	104.5	104.8	105.0	105.0	104.8	104.6	104.3	104.2	103.3	102.8	102.8	102.9	103.8	104.1
Fruits and vegetables	115.6	115.7	115.1	115.9	114.4	109.8	108.2	106.3	108.1	114.2	118.7	115.6	113.9	112.0	111.0	105.0
Other foods at home <sup>3</sup>	101.2	101.1	100.9	101.7	101.8	100.2	99.5	99.6	99.5	98.0	97.8	96.9	94.5	96.2	97.8	96.1
Food away from home	115.1	114.9	114.7	114.4	114.3	114.0	114.0	113.6	113.3	113.1	113.0	112.9	112.8	112.8	113.2	110.7
Housing	107.3	107.0	107.1	106.9	106.9	106.9	106.6	106.3	106.2	106.0	106.0	105.9	105.7	105.8	106.0	104.8
Shelter <sup>4</sup>	108.2	108.4	108.3	108.1	108.0	108.0	107.7	107.3	107.1	107.0	106.8	106.7	106.8	106.7	106.8	105.6
Rent	107.7	107.7	107.5	107.3	107.3	107.3	107.2	107.1	107.0	106.8	106.7	106.7	106.6	106.5	106.8	105.7
Homeownership <sup>5</sup>	108.6	108.9	108.8	108.5	108.4	108.4	108.0	107.4	107.2	107.1	106.8	106.7	106.6	106.7	106.9	105.6
Fuel and utilities <sup>6</sup>	107.4	107.3	106.8	107.7	107.6	107.6	107.5	107.3	107.0	106.4	106.7	106.7	106.4	106.9	107.0	106.1
Fuel oil and coal <sup>7</sup>	105.1	103.3	106.1	106.6	106.7	105.8	105.4	104.5	103.7	102.6	102.3	102.1	102.4	104.2	104.0	102.1
Gas and electricity	108.4	108.0	107.1	106.2	108.1	108.1	108.0	108.1	108.0	107.2	108.1	108.1	107.4	107.5	107.9	107.9
Household furnishings and operation <sup>8</sup>	102.9	102.9	102.8	102.7	102.7	102.9	102.7	102.6	102.7	102.5	102.4	102.4	102.3	102.3	102.4	101.5
Household operation	112.0	112.0	112.0	112.0	112.0	110.9	110.7	110.5	110.7	110.6	110.3	110.2	110.0	109.9	110.2	107.4
Apparel and upkeep <sup>9</sup>	104.6	105.6	105.3	105.1	105.0	106.1	106.1	105.9	105.4	104.7	104.5	104.5	104.3	104.4	104.8	103.6
Apparel	105.3	105.9	105.2	105.0	105.2	105.5	105.6	105.4	104.8	104.0	103.9	103.9	103.7	103.8	104.2	103.2
Men's and boys'	105.3	105.9	105.2	105.0	105.2	106.2	106.1	105.7	105.2	104.7	104.5	104.4	104.1	104.1	104.7	103.3
Women's and girls'	101.3	102.2	102.1	101.8	101.4	103.3	103.5	103.5	102.5	101.2	101.2	101.2	101.1	101.4	101.7	100.9
Footwear	111.4	110.9	110.7	110.7	110.9	111.2	111.1	110.9	110.7	110.6	110.5	110.6	110.3	110.2	110.5	109.3
Other apparel <sup>10</sup>	101.6	101.6	101.6	101.6	101.6	102.1	102.0	101.8	101.4	101.1	101.1	101.0	100.9	100.9	101.2	100.6
Transportation	108.7	109.0	108.9	108.6	109.4	108.9	109.1	109.0	107.9	108.3	107.8	107.4	107.4	107.0	107.8	107.2
Private	107.1	107.6	107.4	107.2	108.0	107.5	107.8	107.7	106.5	106.9	106.4	106.1	106.0	105.5	106.4	105.9
Public	119.6	118.4	118.3	118.4	118.3	118.3	117.6	117.6	117.1	117.1	116.8	116.8	116.5	116.5	116.9	115.4
Health and recreation	113.4	113.4	113.1	112.9	112.7	112.7	112.4	112.3	112.1	111.9	111.7	111.4	110.7	110.7	111.4	109.4
Medical care <sup>11</sup>	119.1	119.0	118.7	118.5	118.2	117.9	117.9	117.7	117.5	117.4	117.3	117.2	116.7	116.4	117.0	114.2
Personal care	109.0	108.7	108.7	108.4	108.5	108.8	108.4	108.4	108.2	108.0	108.0	107.8	107.8	107.6	107.9	106.5
Reading and recreation	114.3	114.0	113.6	113.3	113.1	113.1	112.8	112.7	112.3	112.1	111.5	110.9	110.7	111.0	111.5	109.6
Other goods and services <sup>12</sup>	108.5	108.6	108.5	108.4	108.3	108.3	108.3	108.2	108.0	108.0	108.0	107.6	106.0	105.8	107.1	105.3
Special groups:																
All items less shelter	107.9	107.7	107.5	107.5	107.6	107.5	107.4	107.2	107.1	107.2	107.1	106.6	106.1	106.1	106.7	105.4
All items less food	108.7	108.6	108.6	108.4	108.4	108.5	108.4	108.1	107.8	107.6	107.5	107.3	107.0	107.4	107.4	106.1
Commodities <sup>13</sup>	105.0	104.9	104.8	104.8	104.9	104.9	104.7	104.5	104.4	104.6	104.6	104.0	103.5	103.6	104.1	103.2
Nondurables <sup>14</sup>	105.8	105.6	105.6	105.6	105.7	105.6	105.4	105.2	105.3	105.5	105.5	104.8	104.2	104.2	104.9	103.6
Durables <sup>15</sup>	101.7	102.9	102.9	102.9	102.9	103.0	103.1	102.7	102.2	102.1	102.1	102.0	101.8	101.8	102.1	101.8
Services <sup>13 16 17</sup>	113.6	114.8	114.5	114.3	114.2	114.1	113.9	113.7	113.5	113.3	113.1	112.9	112.6	112.5	113.0	110.9
Commodities less food <sup>13</sup>	105.5	104.3	104.3	104.1	104.3	104.5	104.5	104.2	103.7	103.6	103.5	103.3	102.0	103.1	103.5	102.8
Nondurables less food	104.4	104.7	104.6	104.2	104.2	105.9	105.8	105.6	105.2	105.0	104.8	104.5	104.2	104.3	104.8	103.8
Apparel commodities	103.0	103.5	103.2	102.9	102.9	104.2	104.5	104.3	104.6	103.8	103.7	103.7	103.2	103.6	104.0	103.0
Nondurables less food and apparel	106.2	106.1	106.2	106.0	106.5	106.2	106.4	106.2	103.4	102.5	102.4	102.4	102.2	102.3	102.8	101.8
New cars	101.0	101.6	101.8	102.2	102.3	102.1	102.2	103.1	99.8	100.2	100.5	101.2	101.1	101.1	101.5	102.1
Used cars	115.9	120.9	119.6	119.0	119.6	120.3	120.0	120.0	119.0	118.1	117.7	115.7	115.4	116.6	115.2	
Household durables <sup>18</sup>	98.8	98.7	98.7	98.6	98.7	98.9	98.8	98.7	98.6	98.5	98.4	98.3	98.4	98.4	98.5	98.8
Household furnishings	99.0	98.7	98.6	98.4	98.5	98.8	98.8	98.7	98.6	98.3	98.5	98.5	98.4	98.5	98.5	98.9
Services less rent <sup>13 19</sup>	116.5	116.3	116.0	116.0	115.8	115.8	115.5	115.3	115.1	114.8	114.6	114.4	114.0	114.0	114.5	112.1
Household services less rent <sup>13</sup>	114.4	114.3	113.9	114.1	114.0	114.0	113.8	113.4	113.1	113.1	113.0	112.6	112.6	112.6	113.0	110.6
Transportation services	115.2	114.4	114.1	114.2	114.1	113.7	113.3	113.1	112.9	112.7	112.4	112.3	112.2	112.0	112.4	111.2
Medical care services <sup>11</sup>	122.5	122.7	122.3	122.1	121.7	121.3	121.3	121.1	120.9	120.8	120.6	120.5	119.9	119.6	120.3	116.8
Other services <sup>13 19</sup>	118.2	117.7	117.4	117.1	117.1	117.1	116.6	116.5	116.2	116.0	115.3	114.8	114.4	114.6	115.3	112.6

<sup>1</sup> The CPI measures the average change in prices of goods and services purchased by urban wage-earner and clerical-worker families.

<sup>2</sup> Beginning January 1964, the Consumer Price Index structure has been revised to reflect buying patterns of wage earners and clerical workers in the 1960's. The "new series" indexes shown here are based on expenditures of all urban wage-earner and clerical-worker consumers, including single workers living alone, as well as families of two or more persons. Separate indexes for families only (excluding single persons) for the U.S. city average are available on request. The "old series" indexes will be discontinued after June 1964.

<sup>3</sup> Includes eggs, fats and oils, sugar and sweets, nonalcoholic beverages, and prepared and partially prepared foods.

<sup>4</sup> Also includes hotel and motel room rates not shown separately.

<sup>5</sup> Includes home purchase, mortgage interest, taxes, insurance, and maintenance and repairs.

<sup>6</sup> Also includes telephone, water, and sewerage service not shown separately.

<sup>7</sup> Called "Solid and petroleum fuels" prior to 1964.

<sup>8</sup> Includes housefurnishings and housekeeping supplies and services, but excludes telephone, water, and laundry and dry cleaning of apparel, included under household operation in the old series.

<sup>9</sup> Includes dry cleaning and laundry of apparel, formerly included in household operation.

<sup>10</sup> Includes infants' wear, sewing materials, jewelry, and miscellaneous apparel. Not shown separately in the new series.

<sup>11</sup> Corrected indexes for January through December 1963.

<sup>12</sup> Includes tobacco, alcoholic beverages, and funeral, legal, and bank service charges.

<sup>13</sup> Recalculated group—indexes prior to January 1964 have been recomputed.

<sup>14</sup> Includes foods, paint, furnace filters, shrubbery, fuel oil, coal, household textiles, housekeeping supplies, apparel, gasoline and motor oil, drugs and pharmaceuticals, toilet goods, nondurable recreational goods, newspapers, magazines, books, tobacco, and alcoholic beverages.

<sup>15</sup> Includes home purchase, which was classified under services prior to 1964, building materials, furniture and bedding, floor coverings, household appliances, dinnerware, tableware, cleaning equipment, power tools, lamps, venetian blinds, hardware, automobiles, tires, radios, television sets, tape recorders, durable toys, and sports equipment.

<sup>16</sup> Excludes home purchase costs which were classified under this heading prior to 1964.

<sup>17</sup> Includes rent, mortgage interest, taxes and insurance on real property, home maintenance and repair services, gas, electricity, telephone, water, sewerage service, household help, postage, laundry and dry cleaning, furniture and apparel repair and upkeep, moving, auto repairs, auto insurance, registration and license fees, parking and garage rent, local transit, taxicabs, airplane, train, and bus fares, professional medical services, hospital services, health insurance, barber and beauty shop services, movies, fees for sports, television repairs, and funeral, bank, and legal services.

<sup>18</sup> Called "Durables less cars" prior to 1964. Does not include auto parts, durable toys, and sports equipment.

<sup>19</sup> Includes the services components of apparel, personal care, reading and recreation, and other goods and services. Not comparable with series published prior to 1964.

TABLE D-2. Consumer Price Index.—U.S. and selected areas for urban wage earners and clerical workers (including single workers)<sup>1</sup>

[1957-59=100 unless otherwise specified]

Area <sup>2</sup>	1964 April		1964			1963										Annual average		April 1964 (1947-49=100)	
	Old series	New series	New series	New series	New series	Dec.	Nov.	Oct.	Sep.	Aug.	July	June	May	Apr.	1963	1962	Old series	New series	
																			Mar.
All Items																			
U.S. city average <sup>3</sup> .....	108.0	107.8	107.7	107.6	107.7	107.6	107.4	107.2	107.1	107.1	107.1	106.6	106.2	106.2	106.7	105.4	132.5	132.3	
Atlanta, Ga.....	(4)	(4)	(4)	(4)	(4)	105.8	(4)	(4)	105.2	(4)	(4)	104.9	(4)	(4)	105.1	104.1	(4)	(4)	
Baltimore, Md.....	(4)	(4)	106.6	(4)	(4)	105.8	(4)	(4)	105.2	(4)	(4)	104.9	(4)	(4)	105.1	104.1	(4)	(4)	
Boston, Mass.....	110.2	110.6	(4)	(4)	110.1	(4)	(4)	110.0	(4)	(4)	109.8	(4)	(4)	109.2	109.5	107.4	136.5	137.0	
Buffalo, N.Y. (Nov. 1963=100).....	(4)	(4)	(4)	100.1	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Chicago, Ill.—Northwestern Ind.....	105.9	105.7	105.7	105.7	105.8	106.1	105.8	106.0	106.0	106.0	106.3	105.5	105.3	105.4	105.3	104.6	133.5	133.3	
Cincinnati, Ohio—Kentucky.....	(4)	(4)	(4)	(4)	(4)	105.1	(4)	(4)	105.1	(4)	(4)	104.6	(4)	(4)	104.7	103.6	(4)	(4)	
Cleveland, Ohio.....	(4)	(4)	(4)	105.2	(4)	(4)	105.0	(4)	(4)	105.1	(4)	(4)	104.3	(4)	104.7	103.5	(4)	(4)	
Dallas, Tex. (Nov. 1963=100).....	(4)	(4)	(4)	87.7	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Detroit, Mich.....	104.2	103.8	103.6	103.1	103.7	103.6	103.7	103.5	103.3	104.4	103.9	103.5	102.4	102.1	103.2	102.2	128.5	128.0	
Honolulu, Hawaii (Dec. 1963=100).....	(4)	(4)	100.5	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	104.4	(4)	105.7	104.6	(4)	(4)	
Houston, Tex.....	(4)	(4)	(4)	(4)	(4)	(4)	106.7	(4)	106.2	(4)	(4)	(4)	104.4	(4)	105.7	104.6	(4)	(4)	
Kansas City, Mo.—Kansas.....	109.0	(4)	(4)	(4)	(4)	(4)	108.7	(4)	108.7	(4)	107.1	(4)	(4)	106.4	107.2	106.1	134.8	(4)	
Los Angeles—Long Beach, Calif.....	110.1	109.9	109.7	109.0	109.6	108.7	109.3	109.1	108.6	108.4	108.0	107.4	107.6	108.0	108.2	106.6	137.3	137.0	
Minneapolis—St. Paul, Minn.....	107.3	(4)	(4)	(4)	(4)	(4)	107.4	(4)	107.7	(4)	107.7	(4)	106.5	107.0	106.5	105.5	132.7	(4)	
New York, N.Y.—Northeastern N.J.....	110.2	110.1	110.0	110.1	109.7	109.9	109.7	109.4	109.3	109.3	109.2	108.7	107.8	107.9	108.7	106.4	132.8	132.7	
Philadelphia, Pa.—N.J.....	108.9	108.4	108.4	108.7	108.6	108.5	108.3	108.2	107.6	107.5	107.4	107.2	106.2	106.4	107.2	105.2	133.7	133.1	
Pittsburgh, Pa.....	107.9	108.1	(4)	(4)	107.7	(4)	(4)	107.4	(4)	(4)	107.9	(4)	(4)	106.3	107.1	105.9	132.9	133.2	
Portland, Ore.—Wash.....	108.6	(4)	(4)	(4)	(4)	(4)	107.1	(4)	106.8	(4)	(4)	(4)	(4)	106.2	106.6	104.6	134.6	(4)	
St. Louis, Mo.—Ill.....	(4)	(4)	107.5	(4)	(4)	107.3	(4)	(4)	106.5	(4)	(4)	105.6	(4)	(4)	106.2	105.1	(4)	(4)	
San Francisco—Oakland, Calif.....	(4)	(4)	109.9	(4)	(4)	109.9	(4)	(4)	109.2	(4)	(4)	108.9	(4)	(4)	108.9	107.4	(4)	(4)	
Scranton, Pa.....	(4)	(4)	(4)	(4)	(4)	(4)	107.9	(4)	(4)	107.6	(4)	(4)	106.7	(4)	107.3	105.9	(4)	(4)	
Seattle, Wash.....	(4)	(4)	(4)	109.4	(4)	(4)	109.3	(4)	(4)	109.1	(4)	(4)	107.4	(4)	108.2	106.5	(4)	(4)	
Washington, D.C.—Md.—Va.....	(4)	(4)	(4)	107.3	(4)	(4)	107.1	(4)	106.8	(4)	(4)	106.1	(4)	(4)	106.4	104.6	(4)	(4)	
Food																			
U.S. city average <sup>3</sup> .....	106.1	105.7	105.7	106.0	105.8	105.4	105.1	104.9	105.4	106.0	106.2	105.0	104.2	104.3	105.1	103.6	-----	-----	
Atlanta, Ga.....	104.2	103.9	104.0	104.0	104.4	103.8	103.7	104.0	104.1	104.8	105.0	103.7	102.3	102.7	103.8	103.0	-----	-----	
Baltimore, Md.....	106.1	106.2	106.3	106.3	105.9	105.7	104.4	104.7	105.4	105.7	106.0	104.8	103.5	103.5	104.7	103.3	-----	-----	
Boston, Mass.....	108.6	108.5	108.8	108.5	108.5	108.4	108.0	108.1	108.1	109.0	108.6	106.6	106.2	106.6	107.4	104.6	-----	-----	
Buffalo, N.Y. (Nov. 1963=100).....	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Chicago, Ill.—Northwestern Ind.....	106.0	105.1	105.1	105.7	105.8	105.2	105.4	105.8	106.1	107.6	107.5	105.9	104.7	105.0	105.8	105.3	-----	-----	
Cincinnati, Ohio—Kentucky.....	103.3	(4)	(4)	(4)	(4)	102.7	102.5	102.6	103.2	103.7	103.5	102.9	102.3	102.2	102.9	101.9	-----	-----	
Cleveland, Ohio.....	102.0	101.5	101.5	102.1	102.3	101.9	101.6	101.7	102.2	103.6	102.6	101.6	100.7	100.8	101.8	101.0	-----	-----	
Dallas, Tex. (Nov. 1963=100).....	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Detroit, Mich.....	102.2	101.4	101.1	101.4	101.4	100.8	100.9	100.7	101.3	103.0	103.4	102.0	100.7	100.8	101.5	101.1	-----	-----	
Honolulu, Hawaii (Dec. 1963=100).....	(4)	(4)	100.5	100.3	99.9	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	
Houston, Tex.....	105.2	(4)	(4)	(4)	(4)	105.5	105.0	104.8	105.3	104.7	104.6	103.1	102.0	101.8	103.8	102.9	-----	-----	
Kansas City, Mo.—Kansas.....	106.5	(4)	(4)	(4)	(4)	105.3	105.2	105.1	105.0	105.2	105.1	103.9	102.1	103.3	104.3	103.3	-----	-----	
Los Angeles—Long Beach, Calif.....	109.0	107.9	107.3	108.0	108.1	107.8	107.6	107.5	107.0	107.1	107.7	106.3	105.9	106.6	107.1	105.5	-----	-----	
Minneapolis—St. Paul, Minn.....	103.7	(4)	(4)	(4)	(4)	103.4	103.0	103.2	102.9	102.4	103.7	102.1	101.7	102.0	102.5	101.8	-----	-----	
New York, N.Y.—Northeastern N.J.....	107.6	107.5	107.5	108.1	108.1	107.8	107.4	106.9	107.4	108.2	108.2	106.9	106.3	106.3	107.1	104.9	-----	-----	
Philadelphia, Pa.—N.J.....	105.7	104.5	104.3	105.5	105.2	104.3	103.9	104.3	104.3	105.2	105.1	104.5	103.2	103.1	104.2	103.1	-----	-----	
Pittsburgh, Pa.....	104.4	104.1	104.8	104.3	103.8	103.3	102.9	102.9	103.6	104.4	104.6	103.7	103.2	103.1	103.6	102.4	-----	-----	
Portland, Ore.—Wash.....	106.8	(4)	(4)	(4)	(4)	105.6	105.4	105.2	105.5	106.2	105.8	104.8	104.1	104.5	105.2	103.6	-----	-----	
St. Louis, Mo.—Ill.....	106.8	106.7	106.1	106.1	106.1	105.9	105.1	105.1	105.3	105.5	105.7	104.9	103.1	104.0	104.9	103.0	-----	-----	
San Francisco—Oakland, Calif.....	104.6	107.7	108.0	108.0	107.3	106.5	107.0	106.6	107.2	107.1	107.6	107.0	105.9	106.5	106.8	105.4	-----	-----	
Scranton, Pa.....	104.5	(4)	(4)	(4)	(4)	104.7	103.8	104.4	104.8	104.4	105.0	104.6	103.1	103.1	104.1	103.1	-----	-----	
Seattle, Wash.....	108.9	108.7	108.4	108.7	108.2	107.9	107.4	107.4	107.6	107.8	107.8	107.1	106.7	107.3	107.3	105.7	-----	-----	
Washington, D.C.—Md.—Va.....	105.4	105.2	105.0	104.9	104.6	103.9	104.0	104.6	105.0	105.5	105.5	104.6	103.3	102.9	104.2	102.0	-----	-----	

<sup>1</sup> See footnote 1, table D-1. Indexes measure time-to-time changes in prices. They do not indicate whether it costs more to live in one area than in another.

<sup>2</sup> The areas listed include, for the new series, 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 Con-

solidated Area is used for New York and Chicago. For the old series "area" refers to the "urbanized area".

<sup>3</sup> Average of 50 "cities" (metropolitan areas and nonmetropolitan urban places) in the new series; 46 "cities" (urbanized areas and small urban places) in the old series.

<sup>4</sup> All items indexes are computed monthly for 5 areas and once every 3 months on a rotating cycle for other areas.

The initial publication of the "new series" CPI appeared in the March 1964 issue of the *Monthly Labor Review*. The "new series" index, which results from the revision project announced earlier, is based on up-to-date samples of cities, retail stores, and service establishments. The list of goods and services priced for the index has also been modernized and the expenditure weights reflect the 1960-61 spending patterns of urban wage earners and clerical workers, including single persons. For the U.S. as a whole, an index is also available for families only. The "new series" indexes are issued as continuations of the "old series" with no change in the base period, 1957-59=100. Both the "old" and "new series" indexes will be published through June 1964, after which the "old series" will be discontinued.

TABLE D-3. Indexes of wholesale prices,<sup>1</sup> by group and subgroup of commodities[1957-59=100, unless otherwise specified]<sup>2</sup>

Commodity group	1964				1963										Annual average	
	Apr. <sup>3</sup>	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962	
All commodities.....	100.3	100.4	100.5	101.0	100.3	100.7	100.5	100.3	100.4	100.6	100.3	100.0	99.7	100.3	100.6	
Farm products and processed foods.....	97.8	98.2	98.1	99.7	97.2	99.7	99.1	98.5	98.9	99.8	99.1	98.4	97.6	98.7	99.6	
Farm products.....	94.5	95.2	94.5	96.3	93.3	96.2	95.1	95.5	96.3	96.8	94.9	94.4	95.4	95.7	97.7	
Fresh and dried fruits and vegetables.....	106.2	104.9	97.9	95.9	94.8	96.1	89.1	88.0	92.5	97.0	97.1	99.8	99.6	96.1	97.7	
Grains.....	103.3	99.1	102.0	103.9	101.8	100.3	101.8	102.9	98.5	99.5	101.4	102.9	105.1	101.9	98.8	
Livestock and live poultry.....	82.4	83.8	82.8	84.7	79.9	87.9	88.0	88.6	93.5	94.4	89.3	86.8	88.2	88.8	96.2	
Fluid milk.....	102.1	102.1	101.7	101.5	101.4	99.8	99.4	99.4	99.6	100.2	101.4	101.7	102.0	100.6	98.4	
Eggs.....	99.8	101.2	102.3	102.8	103.4	103.2	102.6	101.8	100.6	99.8	97.9	97.3	98.3	100.6	101.2	
Hay, hayseeds, and oilseeds.....	79.5	90.5	89.7	106.3	99.8	102.4	97.9	107.8	96.0	87.5	79.2	77.1	81.3	94.0	95.2	
Other farm products.....	107.4	110.7	113.9	115.5	114.6	117.5	114.1	110.5	111.3	111.1	113.8	112.5	110.7	113.0	105.4	
Processed foods.....	99.5	100.7	96.4	99.0	90.6	90.7	90.4	89.0	88.4	89.1	89.3	89.5	89.4	89.3	91.8	
Cereal and bakery products.....	100.4	100.5	100.9	102.5	100.4	102.5	102.2	100.9	100.9	102.2	102.4	101.7	99.3	101.1	101.2	
Meats, poultry and fish.....	108.0	106.8	107.4	107.0	106.9	107.3	107.7	107.0	106.0	106.4	107.0	107.6	108.1	107.3	107.6	
Dairy products and ice cream.....	88.3	88.7	88.9	91.8	87.7	91.7	93.2	94.2	95.2	96.3	94.1	91.9	90.3	93.3	99.1	
Canned and frozen fruits and vegetables.....	107.1	107.3	107.5	108.0	108.1	107.9	107.4	108.0	107.9	107.3	106.6	106.8	106.9	107.5	106.9	
Sugar and confectionery.....	107.1	107.5	107.4	107.2	106.8	106.4	105.8	105.3	104.8	105.7	104.6	103.4	102.9	103.9	98.0	
Packaged beverage materials.....	115.5	117.3	122.9	130.3	124.9	131.2	125.4	112.5	111.2	120.3	132.1	133.6	113.9	118.4	102.2	
Animal fats and oils.....	98.1	98.1	94.6	90.6	85.7	84.1	81.8	80.9	80.9	81.1	81.1	80.9	80.9	81.2	81.7	
Crude vegetable oils.....	90.1	89.3	91.0	88.2	88.4	93.5	90.2	84.1	84.3	82.7	79.2	77.2	79.1	83.9	88.4	
Refined vegetable oils.....	75.1	75.1	73.7	74.4	76.7	84.0	84.8	78.6	77.4	83.6	83.3	84.2	83.3	82.0	84.5	
Vegetable oil end products.....	77.1	75.9	74.8	74.8	77.4	84.1	82.3	80.8	79.6	84.3	84.4	85.8	84.1	84.2	93.1	
Miscellaneous processed foods.....	87.5	87.6	88.1	87.9	87.9	87.4	86.0	86.2	86.1	80.7	87.0	87.0	87.2	88.0	97.3	
All commodities except farm products.....	110.0	107.7	106.6	107.4	107.4	107.8	108.7	106.5	106.5	104.5	103.9	101.8	101.4	104.3	101.8	
All commodities except farm and foods.....	101.0	101.0	101.2	101.5	101.1	101.2	101.2	100.8	100.8	101.1	101.0	101.7	100.2	100.8	100.9	
Textile products and apparel.....	101.1	101.1	101.2	101.3	101.2	100.9	100.9	100.7	100.8	100.8	100.7	100.5	100.4	100.7	100.8	
Cotton products.....	101.1	101.2	101.2	101.2	101.2	101.1	100.7	100.5	100.4	100.4	100.3	100.2	100.1	100.5	100.6	
Wool products.....	100.6	101.1	101.2	101.3	101.5	101.3	100.2	99.9	99.7	99.8	99.7	99.7	100.1	100.3	101.7	
Manmade fiber textile products.....	103.2	103.3	103.3	103.2	102.8	101.6	100.6	100.6	100.6	100.5	100.8	100.6	100.8	100.9	99.1	
Silk products.....	95.5	95.5	95.1	94.7	94.6	94.4	94.2	94.0	93.9	93.7	93.8	93.8	93.8	93.9	93.9	
Apparel.....	116.4	116.6	116.8	121.6	126.3	130.5	126.1	130.1	136.6	134.5	148.0	144.4	150.9	139.9	125.9	
Miscellaneous textile products.....	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.2	102.2	102.0	101.6	101.3	101.9	101.5	
Hides, skins, leather, and leather products.....	116.5	116.5	117.3	118.3	116.0	119.0	116.9	116.9	116.5	115.1	117.4	118.2	116.3	117.4	122.4	
Hides and skins.....	104.5	102.5	102.5	102.7	103.0	103.5	103.4	103.1	103.6	104.3	104.5	104.8	104.5	104.2	107.4	
Leather.....	88.1	75.7	74.0	76.1	76.3	82.7	80.5	77.3	80.5	83.5	85.8	87.4	85.0	84.0	106.2	
Footwear.....	101.5	99.6	99.7	99.5	99.5	99.7	99.5	99.5	100.1	102.2	102.5	103.2	102.8	101.9	108.5	
Other leather products.....	108.3	108.2	108.2	108.3	108.2	108.2	108.4	108.4	108.4	108.4	108.2	108.2	108.2	108.3	108.6	
Fuel and related products, and power.....	103.9	101.4	101.9	101.9	103.3	103.2	103.4	103.4	103.5	104.0	104.3	104.4	104.5	104.0	104.3	
Coal.....	96.1	97.0	99.0	99.5	99.3	97.9	98.8	99.0	98.9	100.4	100.9	100.4	100.3	99.8	100.2	
Coke.....	94.7	97.1	98.1	98.3	98.3	98.3	97.7	97.2	96.2	95.8	94.9	94.2	95.0	96.9	96.8	
Gas fuels.....	106.1	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	103.6	
Electric power.....	120.4	123.2	126.8	124.8	124.8	122.3	122.0	121.7	120.9	121.2	120.3	120.1	124.1	122.8	119.2	
Petroleum products, refined.....	101.3	99.4	101.3	101.3	101.3	101.3	101.4	101.8	101.9	102.0	102.2	102.2	102.4	102.0	102.8	
Chemicals and allied products.....	91.1	92.9	95.3	96.6	95.1	98.8	95.6	95.9	96.1	98.7	99.9	99.1	98.2	97.2	98.2	
Industrial chemicals.....	96.6	96.5	96.4	96.3	96.2	96.3	96.2	96.0	96.0	96.0	96.3	96.4	96.3	96.3	97.5	
Prepared paint.....	94.4	94.4	94.2	94.3	94.3	94.2	94.2	94.5	94.6	94.7	95.0	95.0	95.0	94.8	96.3	
Paint materials.....	104.8	104.8	105.3	105.3	105.1	103.9	103.9	103.9	103.9	103.0	103.0	103.0	103.7	103.8	103.8	
Drugs and pharmaceuticals.....	91.6	91.8	91.5	91.2	91.0	91.1	90.8	89.2	89.0	89.2	91.1	91.7	91.5	91.1	95.6	
Fats and oils inedible.....	95.4	95.2	95.3	95.4	95.0	95.0	94.9	94.9	95.0	95.1	95.2	95.2	95.1	95.1	96.0	
Mixed fertilizer.....	87.3	85.8	83.2	83.1	85.0	90.2	88.5	81.3	81.7	81.4	80.6	78.6	77.7	80.3	76.3	
Fertilizer materials.....	103.9	103.8	103.8	103.6	103.5	103.7	103.8	103.8	103.6	103.6	103.6	103.6	103.7	103.6	103.8	
Other chemicals and allied products.....	100.2	100.2	100.2	99.4	98.4	97.1	97.2	96.9	99.8	100.8	102.3	102.3	99.9	101.9		
Rubber and rubber products.....	99.2	99.1	99.1	99.2	99.1	99.0	99.0	98.9	98.9	98.7	98.6	98.6	98.6	99.0	99.4	
Crude rubber.....	93.5	93.9	93.6	93.7	93.8	94.2	94.2	93.4	93.7	93.0	93.1	93.2	94.1	93.8	93.3	
Tires and tubes.....	91.3	91.2	89.5	89.4	89.9	91.6	91.5	88.9	90.7	91.6	92.5	92.6	92.8	91.9	93.6	
Miscellaneous rubber products.....	90.3	91.3	91.3	91.3	91.4	91.7	91.7	91.7	91.2	89.1	89.1	89.0	90.1	87.1		
Lumber and wood products.....	97.8	97.7	97.6	97.9	97.9	97.9	97.9	97.2	97.5	97.5	97.5	97.5	99.8	98.3	99.4	
Lumber.....	101.8	101.0	99.9	99.0	99.1	99.2	99.2	99.9	102.6	101.6	98.3	97.5	97.0	98.6	96.5	
Millwork.....	102.0	101.4	100.3	99.2	99.2	99.3	99.3	100.7	102.7	102.1	99.2	98.4	97.6	98.9	96.5	
Plywood.....	108.8	107.4	106.9	106.7	106.3	106.2	105.6	105.6	104.9	104.2	103.0	102.4	102.4	104.0	101.8	
Milkwood.....	94.9	94.6	92.2	91.1	92.4	92.5	92.4	92.6	104.1	100.9	92.6	90.9	91.0	93.5	92.4	
Pulp, paper, and allied products.....	99.1	99.3	99.9	99.8	99.4	99.4	99.5	99.1	99.1	99.0	99.4	99.1	99.0	99.2	100.0	
Woodpulp.....	96.2	96.1	96.1	96.1	94.4	94.4	95.0	91.7	91.7	91.7	91.3	91.3	91.3	91.7	93.2	
Wastepaper.....	90.2	91.9	91.1	91.1	90.8	91.0	90.7	90.9	91.2	91.4	90.8	89.8	92.5	92.2	97.5	
Paper.....	103.5	103.5	103.1	103.1	102.9	102.9	102.2	102.2	102.2	102.2	102.2	102.2	102.2	102.4	102.6	
Paperboard.....	96.5	96.5	96.5	96.5	96.5	96.6	96.6	94.1	94.1	94.1	94.1	94.1	94.1	94.7	93.1	
Converted paper and paperboard products.....	98.6	98.9	100.1	100.0	99.5	99.4	99.4	99.8	99.8	99.6	100.3	99.9	99.7	99.7	101.0	
Building paper and board.....	93.5	93.7	95.0	95.2	95.2	95.1	96.9	97.6	97.5	97.5	97.5	96.2	95.5	96.2	97.2	

See footnotes at end of table.

TABLE D-3. Indexes of wholesale prices,<sup>1</sup> by group and subgroup of commodities—Continued[1957-59=100, unless otherwise specified]<sup>2</sup>

Commodity group	1964				1963										Annual average	
	Apr. <sup>3</sup>	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962	
All commodities except farm and foods—																
Continued																
Metals and metal products.....	102.3	<sup>4</sup> 102.0	101.8	101.7	101.3	101.0	100.9	100.3	100.1	100.0	100.0	99.9	99.4	100.1	100.0	
Iron and steel.....	100.4	100.2	100.2	100.2	100.0	99.9	99.9	99.1	99.0	99.0	99.0	98.7	98.5	99.1	99.3	
Nonferrous metals.....	104.2	<sup>4</sup> 102.8	101.7	101.4	101.0	100.2	99.9	99.6	99.4	99.0	98.7	98.7	98.2	99.1	99.2	
Metal containers.....	105.6	105.6	105.6	104.6	104.6	104.6	104.6	104.7	105.0	105.0	104.9	104.6	104.5	104.7	103.7	
Hardware.....	104.8	<sup>4</sup> 104.8	104.6	104.6	104.3	104.4	104.4	104.2	104.1	104.1	104.0	103.9	103.9	104.1	104.0	
Plumbing fixtures and brass fittings.....	100.4	<sup>4</sup> 100.3	100.4	100.5	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.8	100.8	100.5	100.5	
Heating equipment.....	92.2	<sup>4</sup> 92.1	91.8	92.0	92.7	92.8	93.1	93.1	93.1	93.3	93.3	93.0	92.9	93.2	93.2	
Fabricated structural metal products.....	98.9	<sup>4</sup> 98.7	99.1	99.0	<sup>4</sup> 98.8	<sup>4</sup> 98.8	<sup>4</sup> 98.7	<sup>4</sup> 98.6	<sup>4</sup> 98.3	<sup>4</sup> 98.1	<sup>4</sup> 98.1	<sup>4</sup> 98.0	<sup>4</sup> 97.5	<sup>4</sup> 98.2	98.2	
Fabricated nonstructural metal products.....	109.0	109.0	109.4	109.3	108.2	107.1	107.0	105.0	105.0	105.0	104.9	104.0	103.8	105.1	103.9	
Machinery and motive products.....	102.9	102.7	<sup>4</sup> 102.5	102.5	102.6	102.5	102.3	102.2	102.1	102.1	102.0	102.0	101.9	102.2	102.3	
Agricultural machinery and equipment.....	112.7	112.6	112.5	112.1	111.9	111.4	111.2	110.9	110.9	110.9	111.0	110.9	110.9	111.1	109.5	
Construction machinery and equipment.....	112.2	112.0	111.8	111.8	111.2	110.9	110.4	110.1	110.0	109.7	109.6	109.2	108.8	109.6	107.8	
Metalworking machinery and equipment.....	111.3	<sup>4</sup> 111.2	111.0	110.8	110.8	110.5	110.3	110.2	110.2	109.9	109.6	109.4	109.4	109.8	109.3	
General purpose machinery and equipment.....	104.8	<sup>4</sup> 104.8	104.8	104.8	104.8	104.7	104.5	104.3	103.9	103.9	103.5	103.4	103.4	103.9	103.3	
Miscellaneous machinery.....	104.4	104.4	104.3	104.1	103.7	103.7	103.5	103.5	103.4	103.4	103.4	103.3	103.4	103.5	103.2	
Special industry machinery and equipment.....	105.8	<sup>4</sup> 105.8	105.2	105.2	105.0	104.7	104.8	104.6	104.2	104.1	103.9	103.9	103.9	104.0	101.9	
Electrical machinery and equipment.....	97.6	<sup>4</sup> 97.0	<sup>4</sup> 96.9	96.9	97.7	97.5	97.4	97.2	97.2	97.2	97.7	97.5	97.0	97.4	98.4	
Motor vehicles.....	99.9	<sup>4</sup> 99.9	99.8	99.8	99.9	99.9	99.9	99.3	99.5	99.8	99.3	99.8	100.2	100.0	100.8	
Transportation equipment, railroad rolling stock.....	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	100.5	
Furniture and other household durables.....	98.6	98.5	98.5	98.4	98.0	98.1	98.1	98.1	98.1	98.0	98.1	98.0	98.1	98.1	98.8	
Household furniture.....	105.0	105.0	105.0	105.0	104.7	104.8	104.8	104.8	104.6	104.5	104.5	104.4	104.4	104.6	103.8	
Commercial furniture.....	103.1	103.1	103.1	103.1	103.1	103.1	103.1	103.0	103.0	102.8	102.8	102.3	102.3	102.7	102.3	
Floor coverings.....	100.1	100.1	100.1	100.1	98.0	97.9	97.4	96.8	96.6	96.6	95.9	95.7	95.9	96.6	97.0	
Household appliances.....	91.7	91.7	91.8	91.5	91.1	91.2	91.2	91.4	91.7	91.7	91.9	92.0	92.1	91.8	94.0	
Television, radio receivers, and phonographs.....	87.3	87.2	87.2	87.2	87.3	87.8	87.8	87.8	87.7	87.7	88.9	88.9	89.4	88.6	91.1	
Other household durable goods.....	104.1	103.7	103.7	103.6	103.3	103.4	103.4	103.5	103.3	103.4	103.2	102.9	103.0	103.2	103.1	
Nonmetallic mineral products.....	101.3	<sup>4</sup> 101.1	101.2	101.1	101.3	101.2	101.3	101.1	101.0	100.9	101.2	101.3	101.5	101.3	101.8	
Flat glass.....	102.8	101.7	101.0	101.0	101.0	101.0	101.6	100.0	98.9	96.6	96.6	96.6	96.6	98.3	97.0	
Concrete ingredients.....	102.8	102.7	102.7	102.7	103.1	102.9	102.9	103.0	103.0	103.2	103.2	103.0	103.0	103.0	103.2	
Concrete products.....	100.6	100.7	101.0	101.2	101.4	101.4	101.3	101.3	101.2	101.2	101.9	101.9	102.2	101.7	102.6	
Structural clay products.....	104.5	103.9	103.8	103.5	103.5	103.5	103.4	103.4	103.6	103.5	104.0	104.0	103.8	103.6	103.5	
Gypsum products.....	108.6	108.6	108.6	106.1	106.1	106.1	106.1	106.1	105.8	105.0	105.0	105.0	105.0	105.4	105.0	
Prepared asphalt roofing.....	86.4	<sup>4</sup> 86.4	87.4	87.4	87.4	87.4	87.4	88.2	88.2	88.2	89.1	92.7	94.1	90.0	94.8	
Other nonmetallic minerals.....	101.3	101.3	101.3	101.3	101.4	101.4	101.4	100.9	100.7	101.2	101.3	101.4	101.4	101.4	102.2	
Tobacco products and bottled beverages.....	107.1	107.1	107.1	107.6	107.5	107.5	107.5	107.5	107.5	107.5	105.8	105.2	104.4	106.1	104.1	
Tobacco products.....	106.0	106.0	105.9	105.9	105.9	105.9	105.9	105.7	105.7	105.7	105.7	104.5	102.3	104.5	102.1	
Alcoholic beverages.....	100.7	100.7	101.0	101.0	101.0	100.9	100.9	101.0	101.0	101.0	101.0	101.0	101.1	101.0	101.0	
Nonalcoholic beverages.....	125.3	125.3	125.3	127.7	127.7	127.7	127.7	127.7	127.7	127.7	118.2	117.4	117.4	122.6	116.9	
Miscellaneous products.....	109.5	<sup>4</sup> 109.8	110.9	112.6	112.2	110.9	111.2	111.8	111.1	110.4	108.1	107.6	108.0	110.4	107.3	
Toys, sporting goods, small arms, ammunition.....	100.5	101.1	100.9	100.9	101.1	101.0	101.1	101.1	101.2	101.0	100.7	100.7	100.7	101.0	100.8	
Manufactured animal feeds.....	114.8	115.3	117.4	120.4	119.7	117.2	117.9	119.0	117.7	116.3	112.1	111.2	111.9	116.4	110.6	
Notions and accessories.....	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	98.7	98.7	98.7	98.7	98.7	98.8	98.7	
Jewelry, watches and photographic equipment.....	103.2	<sup>4</sup> 103.2	103.3	103.6	103.6	103.6	103.4	103.4	103.5	103.9	103.8	103.9	103.8	103.7	104.2	
Other miscellaneous products.....	102.4	102.4	101.7	101.7	101.4	101.4	101.1	101.1	101.1	100.9	101.3	101.4	101.4	101.4	101.3	

<sup>1</sup> As of January 1961, new weights reflecting 1958 values were introduced into the index. See "Weight Revisions in the Wholesale Price Index 1890-1960," *Monthly Labor Review*, February 1962, pp. 175-182.

<sup>2</sup> As of January 1962, the indexes were converted from the former base of 1947-49=100 to the new base of 1957-59=100. Technical details and earlier

data on the 1957-59 base furnished upon request to the Bureau.

<sup>3</sup> Preliminary.

<sup>4</sup> Revised.

<sup>5</sup> January 1958=100.

<sup>6</sup> January 1961=100.

TABLE D-4. Indexes of wholesale prices for special commodity groupings<sup>1</sup>[1957-59=100, unless otherwise specified]<sup>2</sup>

Commodity group	1964				1963								Annual average		
	Apr. <sup>3</sup>	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
All foods.....	100.2	100.5	100.3	102.1	99.9	101.9	101.0	100.2	100.1	101.3	101.1	100.7	98.7	100.4	100.6
All fish.....	103.1	104.1	109.0	109.8	107.5	106.1	106.8	107.1	105.5	110.0	114.4	115.9	113.6	112.0	119.2
All commodities except farm products.....	101.0	101.0	101.2	101.5	101.1	101.2	101.2	100.8	100.8	101.1	101.0	100.7	100.2	100.8	100.9
Textile products, excluding hard fiber products.....	99.2	99.5	99.4	99.4	99.4	99.1	98.3	98.1	98.0	97.9	98.0	98.0	98.2	98.3	98.8
Bituminous coal—domestic sizes.....	91.4	97.9	100.6	101.1	101.0	100.9	100.6	99.0	97.2	96.3	94.2	92.9	95.5	98.4	98.3
Refined petroleum products.....	91.1	92.9	95.3	96.6	96.1	93.8	95.6	95.9	96.1	98.7	99.9	99.1	98.2	97.2	98.2
East Coast markets.....	93.4	95.1	97.8	97.8	97.8	95.1	93.4	93.4	96.2	96.2	96.2	96.2	98.9	96.7	99.4
Midcontinent markets.....	84.5	88.5	89.7	94.5	93.0	85.4	96.8	99.7	95.4	99.7	105.4	102.6	99.7	96.6	98.2
Gulf Coast markets.....	94.8	95.4	96.6	96.7	96.1	96.1	95.4	95.4	97.1	100.1	99.7	99.7	97.7	97.6	98.6
Pacific Coast markets.....	84.1	84.1	87.7	87.7	89.2	89.2	89.2	89.7	87.2	88.2	89.7	90.7	90.7	89.7	90.9
Midwest markets <sup>4</sup> .....	84.5	88.3	93.7	95.5	94.6	90.8	92.1	90.9	92.1	94.6	95.8	93.3	94.5	94.2	94.2
Soaps.....	105.4	105.4	105.4	105.4	105.4	105.4	105.4	105.4	105.4	103.5	103.5	103.5	103.5	104.3	102.6
Synthetic detergents.....	99.4	99.4	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.5	99.7
Pharmaceutical preparations.....	97.5	97.4	97.5	97.5	97.1	96.9	96.7	96.7	96.8	96.9	96.8	96.9	96.8	96.8	97.3
Ethical preparations <sup>5</sup> .....	96.2	96.2	96.2	96.2	95.8	95.8	95.5	95.5	95.8	95.8	95.7	95.7	95.7	95.7	96.9
Anti-infectives <sup>5</sup> .....	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.2	88.3	88.3	88.3	88.5	88.5	88.4	93.1
Anti-arthritis <sup>5</sup> .....	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6
Sedatives and hypnotics <sup>5</sup> .....	113.4	113.4	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	113.2	112.5	113.0	112.5
Ataractics <sup>5</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Anti-spasmodics and anti-cholinergics <sup>5</sup> .....	100.2	100.2	100.2	100.2	100.2	100.2	100.2	100.2	100.0	100.0	100.0	100.0	100.0	100.1	100.0
Cardiovascular and anti-hypertensives <sup>5</sup> .....	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	101.3	101.3	101.3	101.3	100.7	99.9	100.5
Diabetics <sup>5</sup> .....	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	104.0
Hormones <sup>5</sup> .....	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.0	100.0	99.6	100.1	99.6
Diuretics <sup>5</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dermatologicals <sup>5</sup> .....	108.7	108.7	108.7	108.7	108.7	108.7	104.3	104.3	104.3	104.3	108.8	108.8	108.8	103.3	100.7
Hematinics <sup>5</sup> .....	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.8	108.5
Analgesics <sup>5</sup> .....	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8
Anti-obesity preparations <sup>5</sup> .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cough and cold preparations <sup>5</sup> .....	104.0	104.0	104.0	104.0	96.8	96.8	96.8	97.0	100.4	100.4	100.4	100.7	100.7	99.3	100.0
Vitamins <sup>5</sup> .....	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7	88.1	88.1	87.9	88.1
Proprietary preparations <sup>5</sup> .....	102.7	102.2	102.7	102.6	102.1	101.6	101.6	101.5	101.2	101.5	101.5	101.6	101.6	101.5	100.5
Vitamins <sup>5</sup> .....	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.3	100.1
Cough and cold preparations <sup>5</sup> .....	100.5	100.5	100.5	99.9	99.2	99.2	99.2	98.6	98.6	100.1	100.1	100.1	100.1	99.6	100.0
Laxatives and elimination aids <sup>5</sup> .....	105.0	104.7	104.7	104.7	104.4	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.5	101.1
Internal analgesics <sup>5</sup> .....	102.1	102.1	102.1	102.1	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.9	101.8	101.2
Tonics and alteratives <sup>5</sup> .....	100.2	100.2	100.2	100.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
External analgesics <sup>5</sup> .....	102.8	102.8	102.8	102.8	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	100.8
Antisepsics <sup>5</sup> .....	106.8	103.5	106.8	106.8	104.9	104.9	104.9	104.9	102.9	102.9	102.9	102.9	102.9	103.5	100.4
Antacids <sup>5</sup> .....	103.0	103.0	103.0	103.0	103.0	98.9	98.9	98.9	98.9	98.9	98.9	100.1	100.1	99.7	99.6
Lumber and wood products (excluding millwork).....	100.4	99.8	98.5	97.4	97.6	97.8	97.8	98.9	102.8	101.7	97.7	96.7	96.1	97.7	95.6
Softwood lumber.....	100.9	100.4	99.2	97.7	97.8	97.9	98.1	99.9	102.6	101.9	98.5	97.5	96.5	98.0	95.9
Pulp, paper, and allied products (excluding building paper and board).....	99.4	99.6	100.1	100.0	99.6	99.6	99.6	99.2	99.2	99.1	99.5	99.2	99.2	99.3	100.1
Special metals and metal products <sup>6</sup> .....	102.1	101.9	101.7	101.6	101.4	101.1	101.1	100.5	100.4	100.4	100.2	100.2	100.0	100.5	100.5
Steel mill products.....	103.1	103.2	103.2	103.1	103.1	103.1	103.0	102.0	102.0	102.1	102.1	102.0	101.2	102.0	101.4
Machinery and equipment.....	104.0	103.8	103.6	103.5	103.7	103.5	103.3	103.2	103.0	103.0	103.1	103.0	102.7	103.1	102.9
Agricultural machinery (including tractors).....	114.0	113.9	113.8	113.4	113.2	112.6	112.4	112.1	112.1	112.0	112.2	112.2	112.1	112.2	110.5
Metalworking machinery.....	111.4	111.4	111.1	110.8	110.8	110.4	110.1	109.9	109.9	109.5	109.1	108.9	108.8	109.4	108.8
All tractors.....	114.0	114.0	113.9	113.9	113.7	112.6	111.9	111.3	111.2	110.9	111.3	111.1	110.7	111.3	109.4
Industrial valves.....	107.9	107.9	107.9	107.6	107.8	107.8	107.8	107.2	106.7	107.5	107.4	107.4	107.4	107.5	107.4
Industrial fittings.....	96.3	96.3	98.3	100.0	100.0	100.0	100.0	99.2	96.9	95.4	91.7	91.1	90.9	95.4	93.0
Antifriction bearings and components.....	91.3	91.3	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8
Abrasive grinding wheels.....	96.5	96.8	96.8	96.5	96.5	96.3	96.3	96.3	96.3	96.3	96.3	96.4	96.4	96.7	98.5
Construction materials.....	99.7	99.4	99.1	98.8	98.8	98.8	98.8	99.0	99.7	99.3	98.3	98.1	97.8	98.5	98.3

<sup>1</sup> See footnote 1, table D-3.<sup>2</sup> See footnote 2, table D-3.<sup>3</sup> Preliminary.<sup>4</sup> Revised.<sup>5</sup> New series. January 1961=100.<sup>6</sup> Metals and metal products, agricultural machinery and equipment, and motor vehicles.

TABLE D-5. Indexes of wholesale prices,<sup>1</sup> by stage of processing and durability of product[1957-59=100]<sup>2</sup>

Commodity group	1964				1963								Annual average		
	Apr. <sup>3</sup>	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	1963	1962
All commodities.....	100.3	100.4	100.5	101.0	100.3	100.7	100.5	100.3	100.4	100.6	100.3	100.0	99.7	100.3	100.6
<i>Stage of processing</i>															
Crude materials for further processing.....	94.2	4 94.3	94.0	95.1	92.6	95.1	94.8	94.8	95.7	96.1	94.8	94.2	95.0	95.0	97.1
Crude foodstuffs and feedstuffs.....	92.1	4 92.5	92.2	94.0	90.1	94.2	93.8	94.0	95.4	96.1	93.7	92.8	93.9	94.0	96.8
Crude nonfood materials except fuel.....	97.9	97.1	96.6	96.6	96.3	96.1	96.1	95.6	95.6	95.9	96.4	96.6	96.5	96.2	97.4
Crude nonfood materials, except fuel, for manufacturing.....	97.5	96.6	96.1	96.1	95.7	95.5	95.5	94.9	94.9	95.3	95.8	96.0	95.9	95.6	96.9
Crude nonfood materials, except fuel, for construction.....	102.8	102.7	102.7	102.7	103.1	103.0	102.9	103.0	103.0	103.2	103.2	103.0	103.0	103.0	103.2
Crude fuel.....	100.8	4 103.2	105.1	104.5	104.6	103.7	103.3	102.9	102.0	101.9	101.0	100.5	102.3	103.0	101.8
Crude fuel for manufacturing.....	100.7	4 103.1	104.9	104.4	104.4	103.6	103.3	102.8	102.0	101.8	101.0	100.5	102.3	103.0	101.8
Crude fuel for nonmanufacturing.....	101.1	4 103.6	105.5	104.9	104.9	104.1	103.6	103.1	102.2	102.1	101.2	100.7	102.5	103.3	102.0
Intermediate materials, supplies, and components.....	100.9	100.9	101.2	101.3	101.1	101.0	100.9	100.5	100.5	100.6	100.6	100.5	99.9	100.5	100.2
Intermediate materials and components for manufacturing.....	100.5	100.4	100.4	100.6	100.2	100.4	100.1	99.1	99.1	99.4	99.7	99.7	98.8	99.4	99.2
Intermediate materials for food manufacturing.....	105.4	4 105.5	107.2	110.2	107.1	110.6	108.8	103.7	102.9	106.4	109.8	110.2	103.5	105.5	100.5
Intermediate materials for nondurable manufacturing.....	97.8	97.8	97.6	97.6	97.5	97.4	97.2	96.6	96.6	96.8	97.0	97.1	97.1	97.1	98.0
Intermediate materials for durable manufacturing.....	102.5	102.3	101.9	101.8	101.6	101.4	101.3	100.8	101.0	100.8	100.4	100.1	99.6	100.5	100.4
Components for manufacturing.....	100.0	4 99.7	4 99.6	99.5	99.6	99.4	99.2	99.0	98.7	98.6	98.7	98.6	98.2	98.8	98.8
Materials and components for construction.....	100.7	4 100.4	100.3	100.1	100.1	100.0	100.0	99.8	100.4	100.1	99.4	99.2	99.0	99.6	99.3
Processed fuels and lubricants.....	97.1	4 97.4	99.3	99.8	99.7	98.3	99.4	99.9	99.8	101.4	101.8	101.4	100.8	100.3	101.2
Processed fuels and lubricants for manufacturing.....	99.1	4 99.1	100.9	101.2	101.1	100.0	100.8	101.2	101.1	102.3	102.6	102.4	102.0	101.7	102.3
Processed fuels and lubricants for nonmanufacturing.....	93.9	4 94.6	96.7	97.3	97.3	95.5	97.1	97.6	97.6	99.7	100.3	99.7	98.6	98.1	99.4
Containers, nonreturnable.....	99.0	99.1	99.9	99.6	100.4	100.6	100.6	100.9	101.0	100.8	101.4	101.2	100.9	101.0	102.2
Supplies.....	105.6	105.6	106.6	107.4	107.0	106.3	106.5	106.6	106.2	105.8	105.0	104.7	105.1	106.1	104.5
Supplies for manufacturing.....	105.7	4 105.2	105.4	105.3	105.3	105.4	105.4	105.1	105.0	105.0	105.1	105.2	105.9	105.4	105.7
Supplies for nonmanufacturing.....	105.0	105.1	106.5	107.7	107.1	106.0	106.3	106.6	106.1	105.6	104.3	104.0	104.2	105.8	103.5
Manufactured animal feeds.....	108.2	108.6	110.8	113.6	112.9	110.6	111.2	112.2	110.9	109.7	105.6	104.8	105.4	109.7	104.1
Other supplies.....	101.2	101.1	102.0	102.1	101.6	101.4	101.4	101.3	101.3	101.2	101.6	101.6	101.6	101.4	101.3
Finished goods (goods to users, including raw foods and fuels).....	101.3	101.5	101.6	102.1	101.4	101.8	101.6	101.5	101.4	101.8	101.5	101.1	100.8	101.4	101.7
Consumer finished goods.....	100.3	100.7	100.8	101.5	100.6	101.1	100.9	100.8	100.8	101.2	100.8	100.4	99.9	100.7	101.2
Consumer foods.....	99.8	100.2	99.9	101.4	99.4	101.0	100.4	100.3	100.3	101.0	100.1	99.4	98.2	100.1	101.3
Consumer crude foods.....	97.2	100.1	97.5	100.9	98.8	100.2	95.4	97.1	95.7	95.4	92.5	93.2	94.2	97.0	98.6
Consumer processed foods.....	100.2	100.2	100.2	101.5	99.4	101.2	101.2	100.8	101.0	101.9	101.3	100.3	98.9	100.6	101.7
Consumer other nondurable goods.....	101.1	4 101.5	102.1	102.4	102.2	101.7	102.0	101.9	101.9	102.3	102.1	101.8	101.6	101.9	101.6
Consumer durable goods.....	99.7	99.6	99.6	99.5	99.5	99.6	99.6	99.4	99.3	99.4	99.3	99.4	99.5	99.5	100.0
Producer finished goods.....	103.9	4 103.8	103.7	103.5	103.6	103.4	103.2	103.0	103.0	103.0	103.0	102.9	102.9	103.1	102.9
Producer finished goods for manufacturing.....	106.0	4 105.9	105.7	105.6	105.6	105.5	105.3	105.1	105.1	105.0	104.9	104.7	104.7	105.0	104.4
Producer finished goods for nonmanufacturing.....	101.8	4 101.6	101.7	101.5	101.5	101.3	101.1	100.9	101.0	101.1	101.2	101.1	101.2	101.2	101.4
<i>Durability of product</i>															
Total durable goods.....	102.2	102.0	101.8	101.7	101.6	101.5	101.4	101.1	101.2	101.1	100.9	100.8	100.6	101.0	101.0
Total nondurable goods.....	98.9	99.2	99.5	100.3	99.2	100.0	99.8	99.5	99.6	100.1	99.8	99.4	99.0	99.6	100.1
Total manufactures.....	100.9	100.9	101.1	101.3	100.9	100.9	100.9	100.7	100.8	101.0	100.8	100.4	100.0	100.6	100.8
Durable manufactures.....	102.4	4 102.2	102.1	101.9	101.9	101.8	101.7	101.4	101.5	101.5	101.2	101.1	100.9	101.3	101.3
Nondurable manufactures.....	99.4	99.6	100.0	100.5	99.9	100.1	100.2	99.9	100.0	100.4	100.2	99.5	99.0	99.8	100.1
Total raw or slightly processed goods.....	97.5	4 97.9	97.8	98.4	97.1	99.2	98.4	98.0	98.2	98.9	98.2	98.4	98.4	98.5	99.5
Durable raw or slightly processed goods.....	96.2	93.1	92.1	92.1	91.2	90.5	90.7	90.5	90.0	89.3	89.3	89.9	89.4	89.6	89.2
Nondurable raw or slightly processed goods.....	97.6	4 98.2	98.2	99.8	97.4	99.7	98.8	98.5	98.7	99.5	98.7	98.9	98.9	99.1	100.1

<sup>1</sup> See footnote 1, table D-3.<sup>2</sup> See footnote 2, table D-3.<sup>3</sup> Preliminary.<sup>4</sup> Revised.NOTE: For description of the series by stage of processing, see "New BLS Economic Sector Indexes of Wholesale Prices," *Monthly Labor Review* December 1955, pp. 1448-1453; and by durability of product and data beginning with 1947, see *Wholesale Prices and Price Indexes, 1957*, BLS Bulletin 1235 (1958).

## E.—Work Stoppages

TABLE E-1. Work stoppages resulting from labor-management disputes <sup>1</sup>

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	In effect during month	Number	Percent of estimated working time
1935-39 (average).....	2,862		1,130,000		16,900,000	0.27
1947-49 (average).....	3,573		2,380,000		39,700,000	.46
1945.....	4,750		3,470,000		38,000,000	.47
1946.....	4,985		4,600,000		116,000,000	1.43
1947.....	3,693		2,170,000		34,600,000	.41
1948.....	3,419		1,960,000		34,100,000	.37
1949.....	3,606		3,030,000		50,500,000	.59
1950.....	4,843		2,410,000		38,800,000	.44
1951.....	4,737		2,220,000		22,900,000	.23
1952.....	5,117		3,540,000		59,100,000	.57
1953.....	5,091		2,400,000		28,300,000	.26
1954.....	3,468		1,530,000		22,600,000	.21
1955.....	4,320		2,650,000		28,200,000	.26
1956.....	3,825		1,900,000		33,100,000	.29
1957.....	3,673		1,390,000		16,500,000	.14
1958.....	3,694		2,060,000		23,900,000	.22
1959.....	3,708		1,880,000		69,000,000	.61
1960.....	3,333		1,320,000		19,100,000	.17
1961.....	3,367		1,450,000		16,300,000	.14
1962.....	3,614		1,230,000		18,600,000	.16
1963: April.....	291	423	89,200	119,000	937,000	.09
May.....	377	543	118,000	148,000	1,430,000	.14
June.....	380	593	128,000	181,000	1,550,000	.16
July.....	372	606	94,400	183,000	1,810,000	.17
August.....	312	545	67,000	167,000	1,350,000	.13
September.....	287	500	81,400	155,000	985,000	.10
October.....	346	574	95,700	153,000	1,420,000	.13
November.....	223	467	79,900	152,000	1,410,000	.15
December.....	132	336	27,300	82,400	977,000	.10
1964: January <sup>2</sup> .....	210	370	60,000	100,000	1,010,000	.10
February <sup>2</sup> .....	225	375	80,000	125,000	1,130,000	.12
March <sup>2</sup> .....	220	360	65,000	100,000	800,000	.08
April <sup>2</sup> .....	300	450	122,000	163,000	1,100,000	.10

<sup>1</sup> 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 shortage.

<sup>2</sup> Preliminary.

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