

# Monthly Labor Review

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# Monthly Labor Review

UNITED STATES DEPARTMENT OF LABOR • BUREAU OF LABOR STATISTICS

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

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# This Issue in Brief . . .

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THE RESOLUTION of labor-management disputes is frequently aided by manpower-related data gathered by the Bureau of Labor Statistics. In *Manpower Facts in Labor-Management Negotiations* (p. 9), Sol Swerdloff demonstrates the sources and presentations of this type of material. For example, data from private pension funds and OASDI were used in the New Jersey Operating Engineers settlement, as well as in negotiations in the Atlantic and Gulf Coast Longshore industry.

INNOVATIONS in patient care are discussed in *Technological Developments and Their Effects Upon Health Manpower* (p. 1) by Herman M. Sturm. Automatic equipment in the clinical laboratory, new drugs, research discoveries, patient monitoring systems, and improvements in surgical techniques are expected to have varied effects on the number and type of workers required in the health care industry. Changes in hospital supply and design and in information handling techniques will also affect related health personnel.

THE Special Labor Force Report on *Job Tenure of Workers, January 1966* (p. 31), by Harvey R. Hamel, indicates that employees stayed with the same job or employer an average of 4.2 years—compared with 4.6 years in the January 1963 survey. Seven and a half million workers had been working at the same job for 20 years or more, and 18.5 million had started their January 1966 job sometime in 1965. One-third of the employed men, but only one-fifth of the women, had 10 years or more of consecutive employment.

ABOUT 80 PERCENT of the retirees from military service covered in a Bureau of Social Science Research report planned to enter the job market immediately after retirement. An additional 13 percent planned only a short relaxation period before they looked for a job. Most of the men felt their occupational skills would be useful and that they would have few problems in the transition to civilian life. These and other attitudes and characteristics of retired military personnel are

surveyed in *Out of Uniform—The Employment Experience of Retired Servicemen* by Laure M. Sharpe and Albert D. Biderman (p. 15). The report was prepared by the private bureau under a contract with the Office of Manpower Policy, Evaluation, and Research.

JOB REDESIGN, or alteration of a job to improve production methods and plant efficiency, is discussed from the standpoint of benefit to older workers in *Job Redesign for Older Workers: Case Studies* (p. 47) by Herman J. Rothberg. The value to the employer of an older but productive worker's experience combines with the need to protect his health and morale as well as his income to form a compelling rationale for the application of the job redesign principle on a broad scale, the author argues.

With this issue, the *Monthly Labor Review* goes into a faster production schedule which will bring each issue to the readers early in the month of publication, rather than at its close. To make the transition, data published in December in certain of the tables in the Current Labor Statistics section are repeated in this issue; other tables are updated. The Chronology, which does not appear in this issue, will be resumed in February.

THE EXTENT to which work training camps are meeting their stated goal of assisting selected young men to develop the traits and attitudes necessary to become productive members of society has been evaluated in a special study prepared by the Stanford Research Institute under a contract with the Department of Labor. Reporting on the study in *Oak Glen—A Training Camp for Youth* (p. 27), Jane R. Chapman cites numerous indications that the program has fulfilled its objective to some degree.

NEW ESTIMATES of geographical wage differentials based on average hourly earnings of nonagricultural persons are presented by Victor R. Fuchs of the National Bureau of Economic Research, a private research organization in *Hourly Earnings Differentials by Region and Size of City* (p. 22). About one-third of the South/non-South differential is attributable to differences in color, age, sex, and education; one-third to differences in city size; and one-third of the differential remains as an apparent regional variation.

# The Labor Month in Review

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## Opportunity and Action in Appalachia

THE PEOPLE OF APPALACHIA—most of West Virginia, and the highlands of Alabama, Georgia, Kentucky, Maryland, New York, North and South Carolina, Ohio, Pennsylvania, and Tennessee—share a long history of poverty and of physical and cultural isolation from the rest of the country.

**Size of the Problem.** Appalachia has been singled out as the Nation's number one economic problem area. The economic boom has in large measure passed it by, and the upsurge in social action now aiding other areas of hard core unemployment and deep-seated social ills has as yet had little effect.

Appalachia's inadequacies have been documented by the Appalachian Commission (a Federal-State body created by the Appalachian Development Act) and by voluminous reports and conferences during the years prior to the Commission. Appalachia has a low per capita income, low rates of productivity, economic growth, and capital formation, a low level of urbanization, high unemployment and underemployment, and a high proportion of employment in the declining occupations of agriculture and mining. Combined with these are a high degree of dependence on outside aid, high fertility rates and family dependency ratios, and low levels of health and of educational attainment among its 17 million people.

There is as yet no evidence of radical change, and priorities are still being debated—whether to put the emphasis on the current work force or concentrate on the education of the children; to work through a regional authority or through Federal-State cooperation; to concentrate on measures that enhance the individual productive potential or on the basic facility and road approach of the Ap-

palachian Development Act. The fragmentary evidence discussed here offers some early clues to the directions that the development of Appalachia may take.

In the past 5 years, a remarkable variety of Federal laws has underwritten a framework to enable Appalachia to reach equality with the rest of American society. The Area Redevelopment Act, Manpower Development and Training Act, Public Works and Economic Development Act, a series of education and civil rights measures, the Economic Opportunity Act, health insurance, and the Appalachian Regional Development Act of 1965 rival the social and economic legislation of the 1930's in their scope.

**Goals and Emerging Approaches.** The goal for Appalachia is self-sustaining growth, productive workers, jobs, and a better life for the people of Appalachia. In the Appalachian Regional Development Act of 1965, Congress took an indirect approach by counting on economic development efforts to improve employment and income opportunities. The act authorized \$1.09 billion for economic development, of which \$840 million was earmarked for highway construction. This left \$250 million for all other projects—land, timber, and mining development or restoration work, supplements to existing Federal grant-in-aid programs, and some health and education centers. Through the first quarter of 1966, the Appalachian Regional Commission had approved 450 miles of the 2,300-mile projected highway development system.

The Federal legislation that offers increased financial assistance in education, economic planning, employment services, and antipoverty efforts merely blocks out guidelines and options for local choice. The local community and the region as a whole need to find or develop the leadership to plan for their own needs and learn how to evaluate and use the resources available. How well are they doing?

Appalachia has had 21,000 trainees approved under the Manpower Development and Training Act—a start; but per capita MDTA expenditures for 1965 for the Appalachian States ran 25 to 52 cents less than the U.S. average of 71 cents.

Local bootstrap operations are showing progress in some areas. For example, in the 75-mile stretch from above Scranton, Pa., to below Hazleton there are almost 40 nonprofit industrial development



organizations. New and diversified industry has been attracted to an area once devoted almost solely to anthracite mining. Local banks have formed pools to finance industrial loans, and State aid has helped build more than 170 plants. Roads have been improved and made more accessible to the metropolitan areas of the eastern seaboard by addition of State highways and connections with the Pennsylvania Turnpike.

**Labor Unions.** The approach of the AFL-CIO Appalachian Council illustrates direct labor union involvement in community problems as well as a commitment to a regional approach. The Council was set up in 1964 to work for the development of programs or the stimulation of projects such as work training, neighborhood organization, community health and welfare services, adult education, and day care centers.

As one of its projects, the Council has undertaken the training of 100 community action workers at West Virginia University, with funds from the Office of Economic Opportunity. Local union leaders from various States are attending four 1-week sessions at the university in a year-long program to broaden their skills in problem solving, communication, and community planning and action.

The Council and the Institute for Labor Studies at the Appalachian Center of West Virginia University sponsored a conference last May to explore objectives and foreseeable manpower needs in Appalachia. The conference illustrates the new engagement of the university with the community and, in this case, with its economic problems.

**Education.** At the meeting, Paul Miller, president of West Virginia University, outlining the model of the American university, which has focussed on a range of vocations and professions related to economic growth, argued that it is high time to pay more attention to producing leaders for public affairs, as in the British system. Analyzing the historic relationship of the land-grant institutions to agriculture, Miller illustrated how universities have restricted their commitment:

Specializing in the husbandry of plants and animals, and eventually, on the management of farm and firms, the State land-grant university has so upgraded skills as to make possible vast capital and technological investments in American agriculture. This process has

been a major force in increasing the productivity of agriculture at amazing rates. The relationship to economic growth is well known, but it is an effort which helps us learn the consequences of overlooking many other implications of singular manpower development. For example, despite the sums which have been expended on the agricultural front through university systems to increase the technical proficiency and productivity of the American farmer, the people now living in rural communities have generally the poorest schools, the poorest public services, the poorest housing, and the poorest cultural environment in the United States. . . . The instance of upgrading the occupational skills in the farming sector suggests the need of an agency that assumes responsibility for a long-run commitment to the whole view. This is a primary task of the university in manpower development.

Other speakers at the conference, while defining problems and assigning priorities, kept returning to education. One way of removing competitive disadvantage, as stated by Garth Mangum, consultant to the Appalachian Commission, is to bring the quality of the labor force to parity with the rest of the Nation. S. C. Kelley, director, Center for Human Resource Research of Ohio State University, having demonstrated that Appalachia is predominantly an agrarian society whose economy is based on family enterprise and simple technology, took the position that:

Education is now recognized everywhere as the principal means of manpower adaptation and a principal instrument for economic and social change. It is the only effective institution for breaking traditional constraints, and developing the attitudes and values relevant to industrial performance and industrial life.

**Mobility.** Kelley's thesis is illustrated by the findings of two mobility demonstration projects recently conducted in Appalachia by State employment services. There was no dearth of persons willing to move, but many of those who relocated were not prepared to adjust to town or city life and about half of those who moved away came home within 6 months to a year. Many had received MDTA training, but skills training alone was not enough to cope with the transition from the mountains to the metropolis.

This finding supported the conclusion voiced by Miles C. Stanley, chairman of the AFL-CIO Appalachian Council, that within the Appalachia projects "there is no program for the 'social man' or the 'psychological man' to go with the 'economic man.' "

# Technological Developments and Their Effects Upon Health Manpower

HERMAN M. STURM\*

ADVANCES IN HEALTH TECHNOLOGY are expected to have significant effects on health manpower requirements. In addition to innovations originating in medical research and clinical practice, many new types of equipment and materials which were originally designed for use in homes, business premises, or institutions are being adopted in patient care facilities. These technological advances are likely to bring about many changes in the nature and number of jobs in the health field.

Advances in technology are taking place during a period when employment in the health field is increasing rapidly. Rising standards in health care practice and expanding demand for health care services (resulting from rising family income and the spread of private group insurance and government programs for health protection) increase the demand for health workers. Three-fourths of the population is already covered by some form of hospitalization insurance, and Medicare and related programs, as well as economic and population trends, will sustain and perhaps accelerate the growth in demand for health services.

In many communities, it has already become difficult or impossible to find enough skilled persons to fill health service jobs; shortages of professional nurses are particularly acute. Training programs for health workers are being stepped up at all levels—Federal, State, and local—by both public and private agencies.

The growing need for health manpower provides new opportunities of employment to men and women and helps accomplish another major goal of national policy: utilization of untapped human

resources. The health service field encompasses many different kinds of jobs and calls for workers having a wide range of skills and aptitudes, not excluding individuals among disadvantaged groups who have a limited education or capability and therefore have difficulties in getting suitable work. During the past few years, especially since the enactment of the Manpower Development and Training Act (1962), the Vocational Education Act (1963), the Health Professions Education Act (1963), and the Nurse Training Act (1964), there has been steady expansion of provisions for training professional and nonprofessional workers for health-related jobs.

Plans for expanding facilities to train people for health jobs must take into account the fact that many new technological developments are spreading in the health field. This article summarizes the findings of a study recently completed under the sponsorship of the Office of Manpower Policy, Evaluation and Research of the Manpower Administration, U.S. Department of Labor.<sup>1</sup> The study focused on impacts of technological developments in the health service industry during the next decade.

In 1965, there were approximately 2.7 million full-time equivalent jobs in this industry—defined to include only patient care facilities, such as hospitals and nursing homes (both government and private), physicians' and dentists' offices, and medical and dental laboratories. The health service industry accounts for about 3½ million among nearly 4 million persons engaged in all health-related activities.<sup>2</sup>

## Varying Effects of Change

The manner in which specific technological advances affect manpower requirements in the health service industry differs between one improvement and another. Innovations in methods of disease prevention have directly opposite effects from those of improvements in disease detection; im-

\*Of the Division of Technological Studies, Bureau of Labor Statistics.

<sup>1</sup>*Technology and Manpower in the Health Service Industry, 1965-75* (U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research, 1967).

<sup>2</sup>Other persons engaged in health-related activities are employed mainly in a variety of jobs in scientific, industrial, and retail establishments and in Federal, State, and local government units concerned primarily with health protective programs.

improvements in patient care technology move in various directions. To illustrate, the discovery and nearly universal application of polio and smallpox vaccines and similar disease preventives have greatly reduced needs for manpower to attend victims of communicable diseases. On the other hand, improvements in laboratory and X-ray procedures and methods of detecting illness have probably resulted in substantial increases in the number of patients admitted, and therefore in expanding hospital manpower requirements.

Improvements in methods of mending heart ailments induce some patients to enter hospitals and therefore require more manpower. On the other hand, the increased acceptance of early ambulation for some patients results in decreasing the length of time individual patients need hospital care, or in shortening the period during a hospital stay in which a patient needs man-hours of bedside care by scarce highly trained personnel.

Research discoveries during the next decade are expected to have only modest, perhaps negligible impacts on demands for manpower in health service facilities. Major threats such as smallpox, tuberculosis, tetanus, typhoid, diphtheria, and polio have already been brought under control. The remaining major health hazards are increasingly recognized as connected with adulteration of the air we breathe, the water we drink, the food we eat, and other deteriorating aspects of the physical environment. Attempts to combat these threats through programs of Federal, State, and local governments are growing, but there is no basis for expecting that they will lead to substantial reductions in demands for manpower in patient care facilities during the next several years.

### Diagnostic Screening

Technological advances in the detection of disease may spur expansion of the patient load of physicians and other facilities of the health service industry during the next decade to a substantial extent. Programs for utilizing available new techniques for disease detection in systems for diagnostic screening of the whole population can be put into effect throughout the Nation within a few years if sufficient funds and manpower are made available. These plans provide for mass physical examinations in which a battery of at

TABLE 1. CAUSES FOR ADMISSIONS TO SHORT-TERM GENERAL HOSPITALS, 1946, 1954, and 1961

Item	Percent		
	1946	1954	1961
Total, all causes.....	100.0	100.0	100.0
Deliveries and complications of pregnancy, child-birth, and puerperium.....	22.5	21.0	18.1
Diseases of the respiratory system.....	16.2	15.9	15.7
Diseases of the digestive system.....	12.6	13.8	14.0
Injuries and adverse effects of chemicals and other causes.....	9.5	9.7	10.2
Diseases of the genito-urinary system.....	8.1	7.9	8.7
Diseases of the circulatory system.....	5.5	7.4	7.8
Neoplasms (tumors, cancers, etc.).....	5.8	5.9	6.1
Diseases of the nervous system and sense organs.....	2.9	3.5	4.0
Diseases of bones and organs of movement.....	1.9	2.7	3.1
Allergenic, endocrine system, metabolic and nutritional diseases.....	2.0	2.4	2.6
Infective and parasitic diseases.....	2.5	1.7	1.6
Mental, psychoneurotic and personality disorders.....	1.3	1.0	1.3
Diagnosis not ascertained.....	3.0	.9	.1
All others.....	6.2	6.2	6.7

SOURCE: American Medical Association, *Report of the Commission on the Cost of Medical Care* (1964), Vol. I, p. 146.

least 20 laboratory health tests is performed in a period of 2 hours, by automated techniques, as a preliminary to physical examination and health counseling by a physician. The results of the tests are analyzed by a computer and a report printed for the physician. The mass routine procedure would cost an estimated \$25-\$30 and would replace procedures now costing \$100-\$200 and requiring 1 to 2 days. However, there is no basis at present for assuming that such systems will take effect throughout the Nation during the next several years, or for estimating their manpower impacts.

A recent study<sup>3</sup> has shown remarkable stability over the 15-year period from 1946-61 in the pattern of reasons for hospitalization of patients—at least in regard to the importance and ranking of major groups of diseases or conditions (table 1). Throughout the period, childbirth and related conditions accounted for about one-fifth of the patient admissions. Diseases of the respiratory, digestive, and genito-urinary systems, and injuries, accounted for another two-fifths. Conditions such as diseases of the circulatory system (heart disease, stroke, and so forth) and cancer rose slightly in importance, but remained relatively low among causes of hospitalization. The continued importance of birth and injury rates (neither of which are strongly responsive to either medical research or public health efforts) tends to support the ex-

<sup>3</sup> American Medical Association, *Report of the Commission on Cost of Medical Care*, 1964, Vol. I, p. 146.



pectation that patterns of hospital admission will not alter greatly during the next decade. Whether other leading causes of hospitalization, such as diseases of the respiratory and digestive systems, will increase in importance remains to be seen.

### Innovations in Patient Facilities

The effects of advances in patient care technology on health manpower requirements in the future are likely not only to be more substantial but also more predictable than those resulting from advances in disease prevention or detection. It seems reasonable, therefore, to base an analysis of the effects of technological change on manpower requirements in the health service industry substantially on information concerning technological developments that will affect activities within health service establishments. The omission of further reference to disease prevention or other developments in the field of public health programs does not deny the possibility that they will also affect manpower requirements.

**Diagnosis and Patient Monitoring.** The development and spread of automatic equipment for tests of body fluids and tissues has proceeded rapidly in the clinical laboratory. It has been estimated that in 1965 perhaps 25 to 50 percent of the laboratory workload had been turned over to automatic instruments. Some experts believe that in 10 years this figure will climb to 75 percent.

Most of the work in a typical hospital laboratory consists of repeated performance of a small number of routine tests, many of which can now be done on a few automated devices. Analyses for glucose and urea nitrogen account for between 25 and 35 percent of all tests in the typical laboratory; 10 types of tests can account for 70 to 80 percent of the entire workload.

Procedures have been worked out for determining at least 18 different components in blood and urine on one type of automatic chemical analyzer. Advanced models of this analyzer allow for tests simultaneously measuring eight different chemical components of the same specimen with a degree of accuracy at least equivalent to that of manual methods. In an 8-hour day, the analyzer can run 960 individual tests; the average technician does an equivalent amount of work in 3 weeks.

Other significant laborsaving developments in automated laboratory equipment have been introduced: for example, the blood-gas analyzer, the automatic chloride titrator, and automatic blood cell counters. Some laboratories are also using electronic computers to save time in recording and calculating test results.

The sharp growth in demand for clinical laboratory tests that has occurred in recent years is expected to continue and perhaps accelerate. Laborsaving effects of automated equipment will therefore only partially offset the expanding demand for medical technologists. The utilization of automated equipment and semiskilled laboratory assistants will free highly trained technical staff for more advanced, complex tests involving difficult patient care problems.

Fundamentally the same type of X-ray equipment has been used for diagnosis for many years, but developments now under way will probably result in adoption of a broad range of advanced equipment. New electronic devices now being installed in hospitals magnify very small radiations and achieve brighter images without increasing radiation risk to the patient or fluoroscopist. Images can be transmitted over wires, making it possible for rural or other remote hospitals to have the advantage of interpretation by expert roentgenologists located in distant cities. One innovation converts images of optical scanning of X-ray films into a digital form which a computer can then store and process.

These developments will enable technicians to work more quickly and accurately, but will also require more highly trained technicians than have been needed up to now.

In recent years, such electronic instruments as the electroencephalograph (EKG) and electromyograph (EMG) have been incorporated into "total monitoring systems" (often mounted in consoles for use in operating rooms or at the bedside of patients) for observing, recording, and signaling measurements of numerous body functions. These complex instruments are generally acknowledged to be of great value in surgery, though opinions are divided concerning their usefulness in patient care units. It is sometimes said that by saving on the need for professional nursing time they promise substantial aid in alleviating the nursing shortage. Other specialists acknowl-



edge the need for multipurpose monitors during surgery and urge the use of the simpler cardiac monitor (which provides continuous EKG measurements only) in specialized intensive care units for coronary patients. Adhering to the principle that nursing staff, rather than electronic monitoring, should take measurements of the patient's other body functions, they deny that monitoring equipment will offset needs for nurses.

The electronic computer is making important advances in clinical medicine as an instrument for recording, calculating, and communicating information. Physicians are using banks of information on heart disease as a basis for aiding in the diagnosis of cardiac conditions in patients; computer-aided diagnoses can be made on patients for whom electrocardiograms have been transmitted over ordinary telephone wires. Computers are also being used to develop statistical correlation techniques for determining the optimum length of time a cast should be worn following surgery for straightening the spine, to help in preventing embolisms after surgery, to improve the effectiveness of patient therapy and custody arrangements in mental hospitals, and in many other clinical applications.

**Surgical Techniques.** Enormous progress in cardiac surgery has been made through the development of the heart-lung machine, a pump and a blood aerator that permits the patient's blood flow to bypass his own heart and lungs so that these can be operated on to repair defects or malfunctions. Synthetic body parts are now being implanted in place of other organs of the body. Even the brain is amenable to implantation of artificial devices. Only 10 years ago, a child born with hydrocephalus (water on the brain) was doomed to mental retardation or early death. Today, more than 80,000 youngsters with this condition have been helped by an implanted plastic tube.

Limited advances have also been made in transplantation of organs, such as bones, skin, and the cornea of the eye. Some specialists hope that kidney transplants will soon become the preferred method of treating kidney diseases. Meanwhile, artificial kidney machines are used in treating chronic kidney failure. These machines are available only at a few kidney dialysis centers and help

but a small number of the many thousands of persons suffering from incurable kidney disease. The cost of care per patient at a dialysis center is estimated at \$10,000 a year. Enough centers to take care of most chronic kidney sufferers in the country could ultimately require billions of dollars, as well as thousands of health workers. Home dialysis machines would substantially reduce the cost of treatment but would require the efforts of many physicians, nurses, and technicians to instruct and otherwise treat patients using them.

An important artificial aid to body functions which is still under development is the surgically implanted pacemaker, a tiny battery-operated device which is installed under the skin in the abdominal area, with electrodes embedded in the heart muscle. This unit paces the heartbeat of victims of heart block, a condition in which the heart beats too slowly or undependably.

Among other dramatic examples of the use of electronics in surgery have been applications of extreme heat, in the form of laser beams, and extreme cold, using cryoprobes, and the use of hyperbaric oxygen chambers for performing surgical and other procedures.

Considering the many advances that have been taking place and are on the horizon in the field of surgery, it is evident that during the next 10 years an increased number of professional and other health workers trained in new surgical specialties will be needed. Surgical advances will also change job content and alter the nature of traditional health jobs.

**Therapeutic Methods.** Many important new clinical developments are occurring outside of surgery. Some examples are specialized intensive care units in hospitals, treatment of cancer by various types of radiation devices—using X-rays, gamma rays, and linear accelerators, and major advances in rehabilitative medicine and dentistry.

New drugs which help in the treatment and care of mental patients, along with improved methods of psychotherapy, have aided many "hopeless cases," and have shortened the length of the average hospital stay of mental patients. With these drugs, security is a much smaller problem, and the need for custodial manpower is reduced. On the other hand, because substantial rehabilitation is a more realistic possibility, the need for personnel trained in psychiatric techniques has risen.

In the treatment of chronic respiratory diseases, such as tuberculosis, drugs have been so effective that needs for hospital beds and staff previously reserved for care of their victims has fallen off.

### Hospital Information Handling

Like many commercial firms, hospitals began using computers for operations such as billing, payrolls, inventory, and related business activities. As the capabilities of computer equipment advanced, applications related to the special needs of hospitals have been developed. The computer will be used both to improve the accessibility of data on the history and current condition of the patient and to transmit the doctor's orders for treating patients quickly, accurately, and simultaneously to all affected hospital departments.

Currently, only a few hospitals are working on the more difficult problems central to the development of "total hospital information systems." Total systems, embracing patient care as well as business, research, and other functions, will, however, eventually be installed in many hospitals.

In 1963, a survey covering all registered hospitals of the American Hospital Association (more than 7,000 hospitals) showed that only 7 percent of the reporting hospitals (less than 400) had either electric punchcard equipment or electronic computers. Only 39 hospitals were using computers. However, interest in utilization of computers in hospitals has been spreading. By 1965, the number of hospitals that had either installed or ordered computers was believed (by computer industry sources) to exceed 200, most of which were large hospitals.

The pace at which the installation of computers will spread between now and 1970 will probably be moderate. The main obstacle will be cost, both of equipment acquisition and its continued operation. Time-sharing arrangements among groups of hospitals will make it possible for medium-sized and smaller hospitals to obtain some computer services on the basis of smaller outlays. After 1970, the spread of computers among hospitals is expected to accelerate, and by 1975 most large hospitals, as well as many smaller facilities, will probably be depending on computers of their own, or at least on membership in a network of hospital computer services, for carrying out a wide variety of hospital functions.

TABLE 2. TRENDS IN UTILIZATION OF SELECTED HOSPITAL ITEMS AND SERVICES, 1946, 1954, and 1961

Item	Ratio of utilization per patient admission		
	1946	1954	1961
Number of different generic drugs.....	4.67	5.97	7.30
Number of laboratory procedures.....	3.19	4.32	6.36
Number of diagnostic X-ray procedures.....	1.50	3.16	4.42
Number of times operating room used.....	.49	.46	.43

SOURCE: American Medical Association, *Report of the Commission on Cost of Medical Care* (1964), Vol. I, p. 148.

### Design and Supply

The hospital's central service unit provides the supplies and equipment used by all departments that render clinical patient care. Where it is not a separate operation (still the case in many older hospitals), sterilization and other processing work is done in the individual nursing units and sterilization equipment tends to be duplicated on many hospital floors.

The potential for laborsavings from adoption of the autonomous central service principle is shown by studies of time required for selected procedures in general hospitals. In 1955, a catheterization setup was prepared (only when needed) by a registered nurse in a nursing unit; it involved 18 workload items, 4 of which were unsterile, and took 61½ minutes. Beginning in 1956, a nurse aide in central service prepared these setups in advance; this procedure involved 13 items, 2 of which were unsterile, and took less than 1 minute.

Catheterization setups are now available in completely prepackaged, sterile form, for one-time use, at reasonable cost. These and other new disposable items of plastic and other inexpensive materials, for example, hypodermic needles, surgeon's gloves, and surgeon's knives, can be thrown away after one use and involve practically no labor requirements inside the hospital. Another significant development has been the adoption of improved materials handling equipment, such as automatic and other specialized systems using carts, conveyors, and pneumatic tubes.

In the hospital pharmacy service, systems utilizing mechanized drug stations, specially designed drug carts for each nurse station, and prepackaging of medications for single dose use, promise improved quality of patient care, as well as labor-saving gains.

New laundry techniques and equipment and improved kitchen equipment are among the other

advances that are bringing about substantial savings in man-hour requirements in hospital service departments.

Advances in the functional and structural design of hospitals provide buildings that save unnecessary steps and labor. Buildings are being designed in accordance with gradations of patient care that require the attendance of varying levels of trained health personnel. Applications of the concept of "progressive patient care," for example, are specifically aimed at bettering the quality of patient care while improving efficiency in the use of scarce manpower. Along with innovations in the physical design of patient care facilities, increased attention is being given to improved methods of hospital organization and management, especially from the standpoint of achieving better utilization of personnel.

### Health Manpower—Today and Tomorrow

The size and type of manpower supply that will be required in health service establishments in future years depend on three interrelated factors: (1) Total demand for health services, a result of trends in the birth rate and the general health of the population as well as the ability and willingness of families and governments to spend money on health care; (2) the nature and composition of health service facilities and activities—for example, growth in use of nursing home beds in comparison with use of hospital beds, and increased use of surgery, and (3) productivity trends, that is, the changes in the ratio of output to input (as measured in units of health service performed per man-hour) in the industry as a whole—which in turn will be affected by the types of health facilities used as well as by improved efficiency in specific activities.

The demand for health services in hospitals, nursing homes, and other health facilities will probably increase between 1965 and 1975 at a slightly faster rate than in the recent past. Though the total demand is likely to be spurred in the next year or two by the inauguration of the Medicare programs, the benefits of these programs are limited in scope and duration. Unless government provisions for health care are substantially expanded, the trend in total demand for

patient care for the entire 1965–75 period will probably rise only moderately above the trend for the past decade.

Among the more significant trends expected to emerge in the next decade is a shift in importance among the types of health care facilities and activities demanded. The total number of hospital beds is likely to grow to about 2 million in 1975, from about 1.7 million in 1965; most of this increase will occur in short-term general hospitals. An even sharper increase is expected in the number of beds in nursing homes (largely as a result of Medicare). By 1975, nursing home beds will probably increase to 1.2 million (from 500,000 in 1965) and surpass the number of beds in short-term hospitals. Outpatient departments of hospitals will also expand greatly; annual outpatient visits in hospitals may number over 180 million by 1975, 50 million visits more than in 1965. Hospital home care programs, which until recently had been provided in only a few hospitals, are also likely to increase rapidly and provide care for many thousands of patients who might otherwise have become hospital bed patients.

Table 2 shows the average number of times certain clinical services were provided, per hospital admission, in 1946, 1954, and 1961, as reported by a representative sample of hospitals. It seems safe to predict that both X-ray and laboratory utilization and the number of new medications administered will continue to rise sharply over the next decade. However, it is doubtful that the 1946–61 trend showing a declining use of the operating room will continue. Use of surgical services will increase, partly because of the expected rise in the birth rate, and also because of new advances in surgical techniques.

### Productivity Trends

Productivity in the health service industry, as expressed by the ratio of output to man-hours, is likely to improve during the decade 1965–75. Advances in technology will lower man-hour requirements per unit of service. Automation in the clinical laboratory will spread, reducing the average labor requirements for many tests. Man-hour requirements per unit for X-ray and related diagnostic procedures will also decline. Increased use



of disposables and other changes affecting the supply function will eliminate needs for many existing workload items—thereby reducing man-hour requirements in both central services and nursing units. Improvements in supply methods will be particularly significant to the extent that they release professional nurses for bedside patient care.

Greater awareness of the potentialities for payroll and other cost savings is expected to result in the increased use of computers for improved information handling in many hospital departments, and in the adoption of other innovations in functions such as food service, laundry, housekeeping, plant maintenance, and office work. It is not likely, however, that the computer's effect upon manpower requirements in the industry as a whole will be significant until after 1970.

The increased importance of nursing homes, hospital outpatient care, home health services, and related programs of progressive patient care will lower the average number of paid employee man-hours per patient treated in the industry as a whole. About a fourth as much time is required to care for a patient in a nursing home as is needed, on the average, in a short-term general hospital. Outpatient programs and home-care programs also require a relatively small amount of employee time. Increases in these programs will eventually level out or turn downward the trend in manpower requirements of the past decade.

### Employment Projections

Estimates of full-time equivalent employment of wage and salary workers (that is, the number of filled jobs) in major occupation groups in the health service industry in 1965, 1970, and 1975 are presented in table 3. These projections were developed by translating into numbers of full-time equivalent jobs expected demand, changes in tech-

TABLE 3. ESTIMATED EMPLOYMENT IN HEALTH SERVICE INDUSTRY, BY OCCUPATION GROUP, 1965, 1970, and 1975

Occupation group	Number of employees <sup>1</sup> (thousands)		
	1965	1970	1975
Total employment.....	2,700	3,150	3,600
Medical laboratory personnel.....	100	130	160
X-ray technologists.....	30	40	52
Rehabilitative and other technicians.....	120	150	185
Nursing personnel.....	1,200	1,415	1,700
All other employees.....	189	209	208
Medical records personnel.....	35	39	42
Dietary personnel.....	235	265	295
Laundry, housekeeping, and maintenance.....	280	320	345
Administrative and office.....	500	570	600
Pharmacists.....	11	12	13

<sup>1</sup> Expressed as full-time equivalents (excludes physicians and dentists).

SOURCE: U.S. Department of Labor, Manpower Administration, Office of Manpower Policy, Evaluation and Research.

nology, and related factors affecting employment in health service establishments. The estimates are based on available statistical evidence and qualitative data, supplemented, where necessary, by judgments obtained in interviews.

According to these projections, the number of full-time equivalent jobs of wage and salary workers in the health service industry will rise from 2.7 million in 1965 to 3.1 million in 1970 and 3.6 million in 1975. These figures (which exclude physicians and dentists) imply an overall percentage increase of employment in the health service industry (as defined here) of 33 percent from 1965 to 1975, slightly lower than the average rate experienced during the decade before 1965.<sup>4</sup>

Jobs in the X-ray and clinical laboratory departments are likely to expand twice as fast as jobs for health service employees in general; increases in the use of X-ray techniques and clinical laboratory testing during the next 10 years will be only partly offset by the spread of automated equipment. As a result of improvements in surgical and clinical techniques requiring intensive care by highly trained personnel, increases in number of jobs will also be above average for nursing personnel and rehabilitative and other technicians.

Employment expansion between 1965 and 1975 will probably be slower among the following groups: medical records personnel; dietary personnel; laundry, housekeeping, and maintenance personnel; administrative and office personnel; pharmacists. The growth in jobs among these groups will tend to decelerate significantly in the

<sup>4</sup> A discussion of the methodology and limitations relating to the estimates presented in table 3 is given in the full study. It should be noted that the rate of growth shown by these projections reflect the industry definition and the full-time expression of employment on which they are based. The figures differ from projections for SIC 80, "Medical and Other Health Services," given in the publication, *America's Industrial and Occupational Manpower Requirements, 1964-75* (Bureau of Labor Statistics, 1966), in accordance with definitional differences.

latter half of the decade, when laborsaving effects of productivity improvements have noticeable impacts.

In general, the effects of innovations in the health field will be to raise the quality of health care, increase the demand for highly qualified manpower trained in new skills, and reduce demands for less skilled labor. Many innovations will not only create new kinds of jobs, but will also broaden existing jobs by requiring that they incorporate new duties calling for specialized knowledge. Some innovations will have several different effects. The computer, for example, will begin by broadening the jobs of office workers, laboratory workers, and nurses; it will bring a new category of electronic-data specialists into hospitals; and eventually it will also effect substantial laborsavings and probably reduce the need for some jobs in clerical and related categories.

### Steps To Deal With Shortages

The pace of technological change is not expected to be rapid enough to have much effect on existing and immediate problems of health manpower shortages. During the next few years, at least, technological advances will not spread quickly enough to displace or even reduce demand for workers employed in traditional health jobs. Until the 1970's, it is likely that health manpower training programs will emphasize expansion of the supply of persons qualified for existing health jobs, while remaining alert to needs for modifications in programs and their curricula to take account of technological innovations.

The need to train nursing personnel—which includes professional nurses, practical nurses, nurse aids, and orderlies—will continue in the near future. These occupations as well as physicians and dentists are in the critical shortage category in many communities. In view of the long periods required for training health workers in professional categories, much stress is also being placed on the need to train technicians and technical aids who can relieve professionals of some of their less complex burdens. In several areas of health service, notably in dentistry, this approach has helped raise productivity in the utilization of scarce professionals.

During the past few years, important steps have been taken by the Federal Government to increase the supply of health workers. Programs provided by the Manpower Development and Training Act and the Vocational Training Act have been particularly important. Under MDTA, for example, in the last 4 years, over 50,000 persons have been given training leading to placement as practical nurses, nurse aids, orderlies, and other health workers. These and other health manpower development programs are steadily being expanded.

Early in 1966, President Johnson took note of the urgency of health manpower shortages by appointing both a President's Committee on Health Manpower, consisting of heads of the Federal departments and agencies concerned with health manpower matters, and a National Advisory Commission on Health Manpower. In September 1966, he called on the Departments of Labor and of Health, Education, and Welfare, the Veterans Administration, and the Office of Economic Opportunity to step up immediately their programs for training health manpower. He particularly emphasized the need for bringing back into employment trained workers not now employed in the health field. In his letter communicating this request, the President also drew attention to the need for an intensive study of hospitals to provide efficient and economical use of nurses and other health workers.

The potential for efficiency gains made possible by the spread of technological improvements is a major factor affecting the outlook for improving health manpower utilization. Fuller use of available technological advances promises to help raise the quality of the Nation's health care while limiting the rapid rise in the cost of patient care services.

Existing Federal programs for the construction and improvement of hospitals and medical centers now provide some types of financial and technical support to encourage the adoption of advances in health technology. A substantial expansion of financial and organizational support for hospital modernization and related health manpower development programs will be needed, however, in order to realize more fully the potential for better health services offered by broad-scale technological advance.

# Manpower Facts in Labor-Management Negotiations

SOL SWERDLOFF\*

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JOB SECURITY and worker utilization have long been major issues in industrial relations. Issues rife with conjecture and laden with emotional tension, they have been aggravated by a lack of information both parties would accept as a starting point. Since job security and worker utilization are likely to remain vital issues on the bargaining agenda, both labor and management may want to examine the statistical insights the Bureau of Labor Statistics has developed in preparing information for negotiations in the construction, longshore, and railroad industries.

## Bones of Contention

Work rule changes, impact of technological developments, the amount of available work—all factors affecting worker utilization—have been subject to hard bargaining. To tackle these issues in a rational way takes manpower information. Encouragingly enough, it is possible to develop data so that their integrity and relevance are acceptable to all involved in the negotiations.

What is needed is information about the characteristics of the work force; age, sex, length of service, occupational progression, unemployment

experience, annual earnings, and attrition rates. More information is needed about the occupational structure of the industry; geographic locations and shifts in employment; seasonality; the amount and distribution of work provided by the industry; reliance by the industry's workers on jobs outside the industry; and an assessment about the industry's future employment requirements.

## Cases in Point

An obvious—in retrospect— but often neglected source of data can be found in the files of one or both of the parties. Viewed with an eye open to manpower implications, heretofore dormant pension and welfare insurance records can yield constructive information. Some of the data are available from regular Government statistical programs, from agencies such as the Bureau of Labor Statistics and the Bureau of the Census.

The sources and presentations of manpower-related data will be demonstrated in this article through three examples in which the Bureau of Labor Statistics was called upon as a factfinder to help in the resolution of labor-management disputes.

**Operating Engineers.** To illustrate the use of data from both private pension fund records and from the Bureau of Old-Age and Survivors Insurance, here is a discussion of the information developed by the Bureau in connection with a determination<sup>1</sup> made by the Secretary of Labor and the Commissioner of Labor and Industry of New Jersey in the matter of the contract between Local 825, International Union of Operating Engineers, and the Associated General Contractors of New Jersey.

The case was submitted to the Secretary and the Commissioner "for determination, resolution, and disposition" in March 1966 because a substantial but incomplete agreement on a 3-year contract had been reached that was far in excess of the 3.2-percent wage guideposts.

The union's position was that a substantial pay increase was necessary because of the limited number of hours of work that its members had been afforded by the industry. The seasonal nature of the work, and large productivity increases, thanks to new equipment, were cited in justification of higher wages.

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<sup>1</sup> Determination in the matter of the contract between Local 825, International Union of Operating Engineers, and the Associated General Contractors of New Jersey. Although the contract entered into between the parties did not reflect at that time many of the proposals included in the determination, the determination does demonstrate the usefulness of manpower data in negotiations.



How much work operating engineers actually do get during a year, and how the work is distributed could be found in the jointly controlled Pension-Welfare Fund records. The figures showed that about half the work force was employed 1,600 hours or more in 1964. (See table 1.)

The fund data also showed that operating engineers with the greatest amount of experience did not get significantly more work during the year than those with less experience. Moreover, age did not appear to have any appreciable effect on the number of hours worked. The records showed that the number of operating engineers working sometime during the year had increased since 1960, and that the work force had increased faster than the total hours worked. The result was a decline in the average hours worked per employee in the 1960-64 period as shown below:

	<i>Estimated number of employees</i>	<i>Estimated man-hours</i>	<i>Average number of hours worked during years</i>
1964----	4,774	7,046,875	<sup>1</sup> 1,476
1963----	4,770	6,847,595	1,532
1962----	4,394	7,460,115	1,698
1961----	4,058	6,855,100	1,689
1960----	3,722	6,293,630	1,691

<sup>1</sup> The median number of hours worked was calculated at 1,614 (138 hours more than the arithmetic mean shown in this tabulation).

Since the issue of a guaranteed work year had been raised, it was necessary to determine the number of workers who had a strong attachment to the industry.

The data indicated the presence of men who looked to the industry as a casual employer, men who would pursue their livelihood primarily in

TABLE 1. DISTRIBUTION OF OPERATING ENGINEERS, BY HOURS WORKED IN 1964

Hours worked in 1964	Percent distribution of operating engineers <sup>1</sup>	
	Percent	Cumulative percent
Under 200-----	5.3	5.3
200-399-----	3.9	9.3
400-599-----	3.5	12.7
600-799-----	4.0	16.8
800-999-----	5.5	22.3
1,000-1,999-----	7.8	30.0
1,200-1,399-----	8.5	38.6
1,400-1,599-----	10.6	49.2
1,600-1,799-----	11.4	60.6
1,800-1,999-----	12.3	72.9
2,000-2,199-----	12.6	85.6
2,200 and over-----	14.4	100.0

<sup>1</sup> Includes operating engineers in New Jersey and 5 southern counties in New York covered by the fund. Excludes persons covered by the fund who had 0 hours in the year and operating engineers not covered by the fund.

TABLE 2. ESTIMATED COST TO HAVE GUARANTEED OPERATING ENGINEERS 1,600 HOURS OF EMPLOYMENT IN 1964 FOR THOSE COVERED BY THE PENSION FUND

Hours of work	Number of individuals	Average number of hours for group	Cost to provide 1,600 hours <sup>1</sup>	
			Cost	Cumulative cost
1,500-1,599-----	216	1,550	\$59,281	\$59,281
1,400-1,499-----	262	1,445	223,066	282,348
1,300-1,399-----	191	1,351	260,734	543,032
1,200-1,299-----	179	1,249	330,862	893,944
1,100-1,199-----	154	1,150	380,980	1,274,925
1,000-1,099-----	159	1,050	480,712	1,755,638
900-999-----	108	953	384,080	2,139,718
800-899-----	81	850	334,080	2,473,798
700-799-----	78	751	364,221	2,838,019
600-699-----	44	649	230,093	3,068,113
500-599-----	45	556	258,217	3,326,331
400-499-----	46	452	290,368	3,616,699
300-399-----	59	352	404,846	4,021,545
200-299-----	36	240	269,200	4,290,746
100-199-----	50	144	400,180	4,690,926
1-99-----	34	50	289,775	4,980,701

<sup>1</sup> Based on an assumption of \$5.50 per hour.

other industries. Conclusive answers came from the records of the Bureau of Old-Age and Survivors' Insurance. BLS assembled OASI information to indicate how much wages operating engineers with a small number of hours in construction had earned from other industries during the year.

It turned out that operating engineers working less than 700 hours in construction had earned more than half of their annual incomes from other industries, places where operating engineers would usually not be employed. But those operating engineers with 700 to 1,299 hours reported by the fund drew less than one-fourth of their earnings from "other industries." The 700 hours in construction seemed a logical dividing line between the "regular" and the "casual" operating engineer.

This information gave the basis for estimating the cost of a full work year. Assuming that 1,600 hours a year would provide an acceptable annual income, it was calculated that \$2.8 million would pay for providing 1,600 hours of work to those who had been putting in at least 700 hours. (See table 2.) In addition, estimates were made of the income operating engineers had received from other industries in 1964 which might be deducted from the cost of guaranteeing an annual work year. For example, information derived from BOASI records showed that about 25 percent of total reported earnings of operating engineers working 700 to 1,599 hours in work covered by the pension fund were earned in industries other than con-



struction. The cost of the guarantee thus would have been reduced by about \$700,000 if workers with 700 hours in the industry received the guarantee with their outside earnings deducted.<sup>2</sup>

**Longshore Industry.** The second example of the use of public and private pension data was in connection with a Department of Labor study of the Atlantic and Gulf Coast longshore industry. On January 16, 1963, President Kennedy appointed a special board to mediate a work stoppage affecting the industry. As part of a recommended basis for settlement, the Board proposed that a study of manpower use and job security be made by the Department of Labor. On January 20, 1963, the New York Shipping Association and the International Longshoremen's Association signed a Memorandum of Settlement agreeing to the proposed study. Subsequently, similar agreements providing for a departmental study were concluded for nine other Atlantic and Gulf Coast ports.

The Department of Labor study covered: (1) the characteristics of the longshore force; (2) the hiring practices affecting manpower utilization; (3) work force flexibility and manning requirements; (4) job security; (5) imminent future technological changes in the industry, and their potential impact on manpower needs.

<sup>2</sup> Construction industry throughout the country, and other industries with seasonal work patterns, may well want to take a look at "Reducing Seasonal Unemployment," an excerpt from the determination by Secretary Wirtz and Commissioner Male that appeared in the September 1966 *Monthly Labor Review*.

TABLE 3. DISTRIBUTION OF EARNINGS OF LONGSHOREMEN IN THE PORT OF NEW YORK, CONTRACT YEAR 1961-62

Class intervals of earnings	Longshoremen employed throughout year		Longshoremen employed only part of year <sup>1</sup>	
	Number	Percent	Number	Percent
All earnings classes.....	15,815	100.0	2,851	100.0
Under \$500.....	203	1.3	1,335	46.8
\$500-\$1,499.....	413	2.6	630	22.1
\$1,500-\$2,499.....	499	3.2	316	11.1
\$2,500-\$3,499.....	870	5.5	220	7.7
\$3,500-\$4,499.....	1,238	7.8	143	5.0
\$4,500-\$5,499.....	1,896	12.0	103	3.6
\$5,500-\$6,499.....	3,108	19.7	50	1.8
\$6,500-\$7,499.....	3,490	22.1	31	1.1
\$7,500-\$8,499.....	2,251	14.2	10	.4
\$8,500-\$9,499.....	1,171	7.4	10	.4
\$9,500-\$10,499.....	371	2.3	2	.1
\$10,500 and over.....	305	1.9	1	.1
Median earnings.....	\$6,397		\$644	

<sup>1</sup> Were not in the industry at both beginning and ending of contract year.

TABLE 4. PROPORTION OF PORT OF NEW YORK LONGSHOREMEN WITH SPECIFIED EARNINGS, BY EMPLOYMENT CENTER, IN CONTRACT YEAR 1961-62

Employment center	Percent of longshoremen in centers with earnings of—		
	Less than \$2,500	\$5,500 or more	\$8,500 or more
1.....	3.4	80.7	22.6
2.....	5.8	76.2	18.7
3.....	10.5	61.1	6.4
4/5.....	10.3	43.8	3.5
6.....	12.1	41.6	3.6
7.....	6.8	67.1	3.7
8.....	7.4	69.1	10.1
9.....	5.9	68.0	15.9
10.....	8.1	28.6	.8
11.....	3.6	85.5	25.4
12.....	7.3	52.4	3.0
13.....	5.5	80.2	16.2
14.....	2.6	77.4	10.1

Again, important sources of statistical data regarding the personal and work characteristics of the longshore personnel were the various pension, health, and welfare funds and the Bureau of Old-Age and Survivors' Insurance.

What could be learned from pension, health, and welfare funds is illustrated by the detail available from the New York Shipping Association. The records of this pension fund showed the number of workers employed in a given year; the earnings and hours of work of each worker at the port; the age of the worker; the length of experience; whether he was covered by the pension fund; death, retirement, and disability information by year; occupational shifts; and location of jobs by piers.

The general impression that much of longshore employment was casual was verified by the Labor Department study. While the degree of casualness varied from port to port, every port studied (with the exception of New York) had a considerably larger work force than would have been required even for peak demands. In some ports, the total number of men who had some employment attachment in the industry during a year was twice as high as the number of employees needed for a typical workday.

The basic work force of the industry—men who depend upon longshoring for a livelihood—was generally considered by the industry itself to include those who worked a sufficient number of hours to qualify for certain contractual benefits, such as pension and welfare payments. The usual work requirement for pension benefits was 700–

TABLE 5. LONGSHORE EARNINGS AND OASI COVERED EARNINGS OF LONGSHORE WORKERS IN THE PORT OF NEW YORK EMPLOYED LESS THAN 700 HOURS, CALENDAR YEAR 1962

Earnings in longshore industry	Total men	Earnings on which social security taxes were paid					
		Less than \$600	\$600 to \$1,700	\$1,800 to \$2,999	\$3,000 to \$4,199	\$4,200 to \$4,499	\$4,500 and over
Total men with less than 700 hours <sup>1</sup> .....	5,937	1,250	154	112	97	14	4,310
Less than \$300.....	3,874	1,212	150	105	53	8	2,446
\$300 to \$599.....	460	38	1	4	43	6	368
\$600 to \$899.....	296	1	1	1	1	1	293
\$900 to \$1,199.....	258	1	1	1	1	1	257
\$1,200 to \$1,499.....	249	1	1	1	1	1	247
\$1,500 to \$1,799.....	235	1	1	1	1	1	234
\$1,800 to \$2,099.....	241	1	1	1	1	1	241
\$2,100 to \$2,399.....	221	1	1	1	1	1	221
\$2,400 to \$2,699.....	85	1	1	1	1	1	85
\$2,700 to \$2,999.....	16	1	1	1	1	1	16
\$3,000 and over.....	2	1	1	1	1	1	2

<sup>1</sup> Longshore workers whose earnings records appear to be in error have been removed from this table. This includes such cases as the longshoreman whose longshore earnings were reported as \$3,000 or more, but whose OASI records show less than \$600 on which social security taxes were paid.

SOURCE: Based on data provided by the New York Shipping Association and Bureau of Old-Age and Survivors Insurance.

800 hours a year. In nearly all of the 10 ports studied, the basic work force by this definition was less than half the total number of men employed during the year. In four ports, more than three-quarters of the work force were employed under 700 hours during the year. In nearly all of the ports studied, the group working less than 100 hours—"casual" by any definition—constituted from one-third to over half of the work force.

By way of contrast, in the Port of New York, which had an established decasualization program, over one-half of the employees worked more than 1,600 hours a year in 1961-62; over four-fifths worked more than 700 hours a year; and the completely casual employees (working less than 100 hours) represented only about 7 percent.<sup>3</sup>

Besides helping to determine the degree of workers' attachment to the industry through a distribution of earnings of longshoremen in the Port of New York (table 3), the pension and welfare records of the International Longshoremen's Association and the New York Shipping Association also demonstrated the uneven work load distribution among the longshoremen at different groups of piers (as grouped by employment centers—table 4).

<sup>3</sup> Working Paper on Labor Force Characteristics and Employment Patterns and Trends in the Longshore Industry of the Port of New York (unpublished).

<sup>4</sup> Working Paper on Labor Force Characteristics and Employment Patterns and Trends in the Longshore Industry of the Port of New Orleans (unpublished).

In one center, more than one-fourth of the men earned \$8,500 or more during the contract year; in another, less than 1 percent of the work force earned this amount. Such differences in earnings also suggested that increased mobility between employment centers might well be one way to alleviate short-hour employment.

What about the stability of the longshore work force? Pension and welfare fund listings of individual workers were also used to develop estimates of total annual separations (including withdrawals for reasons other than death and retirements) and year-to-year retention rates. Examination showed, for example, that nearly 39 percent of the men in the Port of New Orleans who were employed in the industry in 1959-60 were not employed in the industry the following year.<sup>4</sup>

Because a large proportion of the employees in the longshore industry work a relatively small number of hours and earn relatively little money in the industry, an investigation was made to determine whether the longshore industry provided

TABLE 6. SEPARATIONS BY AGE GROUP AMONG BRAKEMEN, FIREMEN, SWITCHTENDERS, AND HOSTLERS HAVING 10 OR MORE YEARS' SERVICE,<sup>1</sup> 1957-59, AND AVERAGE ANNUAL SEPARATIONS PER 1,000 EXPOSURES<sup>2</sup>

Age group	Separations (1957-59) <sup>3</sup>					Exposed workers <sup>5</sup>	Annual average separations per 1,000 exposed workers
	Total	Retirements			Deaths <sup>4</sup>		
		Normal age	Pre-normal age	Disability			
All ages.....	15,101	8,419	225	2,532	3,925	412,976	37
Under 40 years....	290	-----	-----	65	225	90,330	3
40-44 years.....	179	-----	-----	79	100	88,155	2
45-49 years.....	499	-----	-----	124	375	63,100	8
50-54 years.....	1,068	-----	-----	293	775	50,562	21
55-59 years.....	1,234	-----	-----	634	600	49,612	25
60-64 years.....	2,587	-----	225	1,337	1,025	45,896	56
65-69 years.....	7,290	6,640	-----	-----	650	21,069	346
70 years and over.	1,954	1,779	-----	-----	175	4,252	460

<sup>1</sup> Years of service derived from cumulated months of compensated service.

<sup>2</sup> Retirements are actual numbers. Deaths and exposures are based on a 4-percent sample.

<sup>3</sup> Separations include retirements and deaths of workers having 10 or more years' service and who, therefore, had established eligibility for retirement or survivors' benefits under the Railroad Retirement Act. "Normal" age retirements occur among workers 65 and over. "Pre-normal" age retirements occur among workers under 65 but at least 60, who have completed 30 or more years' service.

<sup>4</sup> Excludes deaths after retirement.

<sup>5</sup> Exposures for a single year represent workers eligible for retirement benefits under the Railroad Retirement Act and who worked that year or the preceding year and were alive and not retired at the beginning of the year. Among workers under 65, the relevant benefit was an annuity for disability, for which all workers having 10 or more years' service were eligible. Among workers 65 and over, the relevant benefit was a retirement pension, for which workers qualified after completing 10 years of service. To avoid duplicate counting, workers who had established eligibility for survivors' (death) benefits were not counted separately; workers who had established eligibility for survivors' benefits also were eligible for retirement benefits.

SOURCE: Railroad Retirement Board as shown in Appendix Volume III to the Report of the Presidential Railroad Commission, February 1962.

TABLE 7. COMPUTATION SHOWING COSTS OF LUMP-SUM PAYMENTS

Type of attrition plan	Number of employees separated by July 1963	Cost of lump-sum payments for early separation (millions)	Number of employees separated by attrition	End of attrition period—date	Length of attrition period (years)	Cost of attrition payments (millions)	Average annual cost of attrition (millions)	Total attrition plus lump-sum cost (millions)	Annual average contribution to total cost (millions)
Separation of firemen by July 1963 with less seniority than—									
10 years.....	13,300	\$95.30	25,100	July 1970	8	\$326.05	\$40.8	\$431.35	\$53.9
9 years.....	11,900	81.35	26,500	July 1971	9	489.09	54.3	570.44	63.4
7 years.....	9,200	55.20	29,000	July 1973	10.5	620.02	59.1	675.22	64.3
6 years.....	6,200	25.8	32,200	July 1974	12	783.95	65.3	809.75	67.5
5 years.....	5,100	17.6	33,300	Jan. 1975	12.5	847.97	67.8	865.53	69.2
3 years.....	4,300	12.6	34,100	July 1975	13	901.24	69.3	913.84	70.3
2 years.....	2,150	4.5	36,250	July 1976	14	1,039.90	74.3	1,044.40	74.6

these workers with their primary sources of earnings or whether their primary employment was in another industry.

For New York longshoremen who worked less than 700 hours, data were obtained from the BOASI records on total earnings on which social security taxes were paid in 1962, whether from the longshore or other industries. Analysis showed that more than three-fourths of the longshore industry personnel who worked less than 700 hours in the longshore industry in calendar year 1962 had earnings in some other industry. (See table 5.) That longshoring was a source of "extra" earnings was brought out by the finding that of those who received less than \$1,500 from pier work, more than two-thirds had earned at least \$4,500 in covered wages and salaries. The bulk of their income—at least \$3,000—had no connection with the loading and unloading of ships.

**Railroad Industry.** A third case in which the characteristics of workers in an industry were derived from social insurance records involved a report prepared for the Presidential Railroad Commission.<sup>5</sup> This report contains exceptionally complete tabulation of manpower data for a single industry. They came from the comprehensive records of the Railroad Retirement Board. The Board had work history information for each individual in the industry from which data could be developed by occupation, showing age distributions, length of service, age at retirement or disability, periods of unemployment, and patterns of earnings.

<sup>5</sup> See *Studies Relating to Railroad Operating Employees*, Appendix Volume III to the *Report of the Presidential Railroad Commission* (Washington, D.C., February 1962).

The report of the Commission provided a review of past employment trends by occupation, an analysis of occupational mobility, and separation rates, as well as an appraisal of future employment requirements of operating employees.

How the data proved useful can be illustrated by one of the many problems considered by the Commission—the phasing out of some railroad firemen's jobs in the event that a recommendation was made to change the work rules to eliminate firemen in some types of services. The question asked was: If no firemen replacements were hired, how long would it take for normal attrition (including retirements, deaths, and movements to other jobs) to reduce firemen employment to specified levels? Data were developed to show the age and number of years of service of firemen. Past annual separation rates by age for workers for 10 years or more of service were developed, as shown in table 6.

Computations were made of various plans providing lump-sum payments as a result of early separations, and the costs to maintain workers if they were permitted to remain on the job and let normal attrition operate to reduce employment to the determined levels. Table 7 is an example of computations which shows costs of lump-sum payments, plus wages, while letting attrition reduce the work force to determined levels assuming immediate separations at different years of seniority.

### Figures Speak For Themselves

This excursion into pension and welfare fund records shows that the facts are often there for the digging. For example, a recent investigation showed that in most cities with a population over 250,000 detailed pension and welfare fund records can be obtained for many construction crafts.



These facts are likely to be indisputable, since both labor and management have a vital interest in their correctness. The ways of presenting the salient points are simple, too.

Beyond making a contribution to rational labor-management relations, the data from these records can help employers, unions, trade associations, and local training facilities to develop sound manpower policies. While there is a great deal of

manpower and occupational outlook information for the Nation as a whole, there is much to be done in improving local manpower data. Properly mined, pension and welfare fund records could help business, labor, government, and academic researchers put manpower and training needs in proper perspective. This would help States and localities take the steps necessary to develop human resources.

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The 20th century has brought a new industrial world, built up through continual changes in techniques, habits, and technology, with a consequent creation and shifting of occupations. Some of the skilled trades of 1850 either no longer exist or are fast disappearing; others, however, have expanded and new trades have arisen to take the place of those no longer needed. Also a large part of the machinery used today requires operators more skilled than were the hand employees replaced by machines.

The purpose of this study has been to assemble reasonably comparable data for selected significant occupations, both skilled and unskilled, and to present the figures in sufficient detail for further analysis. The basic information . . . was compiled from the decennial reports of the occupational census of all persons 10 years of age and over in the United States, published by the Bureau of the Census beginning with the year 1850, the first year in which the population was classified by occupations. While employees in most of the trades increased in actual numbers from one census period to another, many of them show relative decreases when compared with the change in population.

—“Occupational Changes Since 1850, as Shown  
by Census Reports,” *Monthly Labor Review*, November 1933.

# Out of Uniform

The Employment Experience  
of Retired Servicemen  
Who Seek a Second Career

LAURE M. SHARPE  
AND ALBERT D. BIDERMAN\*

THE PRESENT ORGANIZATION of the military system depends for its functioning on its ability to move members out of the system shortly after they have spent 20 years in active service. Only in this way can a pyramidal structure such as the military maintain its essential "open opportunity" features, as well as satisfy its changing technical needs. Thus, the system rests on a rather remarkable assumption: that each year, many thousands of individuals, more or less middle aged, whose training and experience in work was largely or exclusively gained in the military, will be able to find civilian jobs of at least roughly comparable economic and status value. It assumes employment opportunities in the civilian world which are not unlike those in the military, and a large reservoir of them.

The findings presented in this report<sup>1</sup> suggest that the assumptions on which military retirement policies are based—the ready transfer of military skills and credentials to the civilian environment—have operated satisfactorily in most cases. There were noteworthy exceptions, however: those who were able to make a career in the military despite educational deficiencies experienced greater difficulties in finding a suitable civilian spot than those who had acquired formal educational credentials commensurate with the status and occupation they aspired to attain after retirement. Furthermore, men with a background in certain specific military specialties often found themselves particularly handicapped, whereas many others were at a distinct advantage.

For the great majority of former servicemen, however, their specific military experience is neither as much of an asset as they are led to believe (or want to believe) nor as much of a drawback as is sometimes popularly assumed by those unfamiliar with the current realities of the military establishment.

## The Career Shift

It is clear from some earlier findings<sup>2</sup> that the problems of the military retired are similar to those which many civilians—usually older workers—must face. The very phenomenon of "retirement" in the new sense of a mid-career change in occupational role, institution, or both, is also a direction in which some civilian occupations are moving. Skill obsolescence and shrinking work force requirements in certain employing institutions are currently the most visible sources of this pattern in the civilian world. Increasing expectations of mobility with seniority also make early retirements necessary in stabilized civilian institutions. Legislation establishing retirement rights after 30 years of Federal civil service, regardless of age, has recently been enacted. And there is a steady movement toward setting earlier retirement ages in pension systems. Thus, it was hoped that a study of the midlife career changes of the military might cast some light on those problems which increasing numbers of civilians are expected to confront.

## Cohort and Sample

The data on which this study is based were obtained from two sources:

1. A three-phase panel survey of selected members of the cohort of officers and enlisted men who retired in May 1964. Throughout this report, this source is identified as the BSSR study.
2. Selected items from the September 1963 Department of Defense Survey of Retired Military

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<sup>1</sup> This is the first of two articles excerpted from a report of two Bureau of Social Science Research studies conducted under the auspices of the Office of Manpower Policy, Evaluation and Research of the U.S. Department of Labor. The full report is entitled *The Employment of Retired Military Personnel*.

<sup>2</sup> See especially U.S. Senate Committee on Armed Forces, *A Study of the Military Retired Pay System and Certain Related Subjects*, prepared by the Study Committee of the University of Michigan, July 6, 1961.

Personnel. Subsequently, we will refer to this source as the DOD study.

The BSSR study, based on the selection of a single monthly cohort, presented certain advantages as well as drawbacks. The principal advantage was ease and economy of procedure. It was possible to collect preretirement data at one given time from a group of men known to be leaving the service and since corrections for different dates of retirement were unnecessary, the development of retirement data was facilitated. But, by the same token, caution must be used in generalizing from a single monthly (or even yearly) cohort to the total retired population, or using the experience of the May 1964 group as a reliable predictor for the employment experiences of future cohorts. The particular shortcomings of the sample will be discussed in greater detail below. On balance, however, we feel that the advantages of selecting a single monthly cohort outweighed the disadvantages. The intensive examination of the 1-month cohort provides the basis for qualitative analysis of the processes through which the transition from military to civilian status takes place. Furthermore, in our decision to adopt this design, we relied on the availability of the DOD data to provide information on the overall success of retirees in the job market, as well as on the differential experience of various components of the retiree population. Some possibilities for longitudinal analysis were also present in the large sample of DOD data.

### The BSSR Study

Data collection for the three-phase BSSR study took place over a 1-year span, from early March 1964 until the end of February 1965.

Phase I consisted of the administration of a preretirement questionnaire to all career personnel retiring in May 1964. Excluded from the study population were various groups whose second career patterns might be anticipated to be atypical, and who were not sufficiently large to warrant separate analysis: those with a high degree of disability (over 30 percent); those over a given age limit; women; and reservists who were retired under Title III, PL 810. For practical reasons, we also decided to eliminate from the study those men who, during the months prior to retirement, had a current duty station outside of the continental

United States. Thus, the study population consisted of all personnel due for retirement during the month of May 1964 who met the criteria of absence of disability established for the survey, length of service, age, being male, and regular or extended active duty career status.

Between March and May 1964, 3,350 questionnaires were distributed to career military personnel retiring at the end of May 1964. Of this total, 2,878 individuals (86 percent) replied by the cutoff date, September 21. A total of 2,638 questionnaires were processed for further analysis.

In addition, 116 respondents sent back the white card which was attached to the preretirement questionnaire for the purpose of indicating that no paid employment would be sought after retirement. In Phase II, these individuals were sent postretirement questionnaires to determine if any of them had changed their minds about getting a job.

The known refusal rate for Phase I was exceedingly small (1 percent). Only 32 individuals wrote to tell us that they were not going to fill out the questionnaire, and very few of these 32 made negative comments about being asked to participate in the survey.

The preretirement questionnaire was a far more extensive and demanding instrument than is usually considered appropriate for mail surveys of a randomly selected population. Personal and educational background information, military career details, and plans for retirement were among the main topics covered in the questionnaire. Although our pretests had shown that we could rely on an unusually high level of motivation among military trainees, the high proportion of completed questionnaires and the small number of refusals in the study proper constitute gratifying results. Much of the credit for the high number of responses and the low refusal rate must go to the Compensation Affairs Section, Office of the Assistant Secretary of Defense, Manpower, Department of Defense, and to the four individual services that distributed the initial copy of the questionnaires.

Phase II participants were asked to submit weekly and monthly reports on their job-seeking activities. Furthermore, every time a participant had a job counseling interview or an employment interview he was requested to complete and



send in a report on the interview. A questionnaire was then sent to the job counselor or potential employer who had interviewed the retired military man. These counselor and employer questionnaires tried to tap the interviewer's opinions on such items as the retiree's chances for getting the type of job he was looking for, training needs, realistic salary expectations, and so forth. Each time a retiree received an actual job offer, whether or not he accepted it, he was asked to send in a special Job Offer Form. When an individual accepted a job his case was closed for the intensive survey.

Phase III involved postretirement questionnaires which were sent to all men (2,755) who had answered the preretirement questionnaire, as well as to those who had sent in cards indicating that they did not plan to look for work. This questionnaire focused on the job-seeking, job-finding, and job-changing processes during the first 6 months following retirement, but it also repeated some of the expectation and attitude items contained in the preretirement questionnaire to enable us to study the attitudinal changes which might have taken place over this period.

### The DOD Sample

In September 1963, the Department of Defense conducted a Survey of Retired Military Personnel, using a sample of 19,000 drawn from lists of all currently retired uniformed personnel. This study was primarily concerned with matters other than postretirement employment (its focus was on medical care for retired personnel and their families) but it included several items—dealing with personal employment characteristics—pertinent to our interests.

Fifteen items on employment matters comparable with items in the intensive study instruments were incorporated in the Defense Department's questionnaire which was mailed during September 1963 to a sample of 19,000 retirees of all the services. The DOD questionnaires also incorporated items on military and civilian background that were of high relevance to our study. In effect then, the DOD study—in those areas covered by its questionnaire—extends the coverage span of the study to the years 1960–63.

### Preferences and Expectations

The overwhelming majority of the retirees—83 percent—planned to enter the job market immediately upon retirement; another 13 percent planned to join the job hunt after a period of relaxation. No doubt because they expected to be gainfully employed shortly following separation, only 42 percent of the officers and 25 percent of the enlisted men anticipated a decline in their economic well-being in the first year after retirement. At the same time, their initial salary expectations were modest: the median salaries expected by officers and enlisted men were respectively \$6,260 and \$4,735. Obviously, many of the men felt that in conjunction with their retired pay and their use of military facilities, these relatively low salaries would not lead to a drop in their living standard. And they were exceedingly optimistic about the future. Hardly any of these men (3 percent) thought that they would have lower incomes 5 years after retirement than they had had in the service, and 46 percent of both officers and enlisted men expected to be “much better off.”

To a large extent, this “optimism” was based on the men's conviction that they had valuable occupational skills to offer and that the civilian world would make at least as good use of their talents as the military had done. Prior to retirement, most men were convinced that their service training would be of help in their post-retirement work. Further, most felt that they brought to the job market qualifications at least equal, and often superior, to those of civilians doing the same kind of work. Only 13 percent of all retirees considered themselves less qualified than the civilians with whom they were about to compete. Their main concern was that their age might present a problem. When asked to rate eight factors which might affect their chances of finding a suitable job, over three-fourths of the respondents selected age. A sizable proportion (50–60 percent) chose “company hiring and employment practices.” Conversely, status as a retired military careerist was more often seen as an advantage than as a drawback.

The majority were generally optimistic in their expectations as to the length of time needed to lo-



cate a suitable job once they had started active job-seeking efforts. Seventy percent of the enlisted men and 64 percent of the officers expected to find a suitable job within 3 months.

This does not mean that they saw no difficulties before them. When asked how easy or difficult it would be to locate a civilian job equal to their service job in terms of pay, satisfaction, benefits, interest and challenge, the jobseekers were less sanguine. Sixty-two percent of the officers and 42 percent of the enlisted men thought it would be difficult. But, once the initial difficulties of locating a job had been overcome, they looked forward to a rosy future.

Furthermore, most men expected to be able to accomplish the transition to a civilian job without extensive retraining—only 45 percent of the officers and 27 percent of the enlisted men had made any plans for further training, education, or retraining at the time they were about to retire. While about two-thirds of the officers and half of the enlisted men thought that they might need some additional training to qualify for the civilian jobs they hoped to get, this was largely visualized as training that could be acquired on the job. Many officers, however, either intended to complete the requirements for a college degree or to acquire a graduate degree:

*Officers' plans to obtain an academic degree (BSSR sample)*

	Number	Percent
Total .....	256	100
No plans for academic degree .....	97	38
Plan to obtain academic degree .....	159	62
Bachelor's .....	92	35
Master's .....	45	18
Ph. D. ....	17	7
Other (law, medical, divinity) .....	5	2

### Qualifications and Aspirations

In the BSSR sample, the retirees were asked to indicate their qualifications in the broad skill areas listed in the questionnaire. These encompassed most of the skills needed in the civilian job market. From the list, they were asked to pick the three skill areas in which they were best qualified. Table 1 lists those skill areas which were checked by at least 5 percent of the officers or enlisted men.

Most officers aspired predominantly to jobs at the business-managerial level. Many enlisted men shared this aspiration, but the skilled trades were also frequently selected. The low interest in

TABLE 1. PERCENT OF BROAD CIVILIAN SKILL AREAS IN WHICH RETIREES CONSIDER THEMSELVES BEST QUALIFIED<sup>1</sup> (BSSR SAMPLE)

Skill area	Officers (N=556)	Skill area	Enlisted men (N=1506)
Total <sup>2</sup> .....	237	Total <sup>2</sup> .....	245
Administration .....	48	Mechanical work .....	25
Aviation .....	31	Administration .....	23
Personnel administration .....	21	Supply and procurement .....	19
Organization and methods .....	19	Security .....	18
Teaching .....	18	Personnel administration .....	17
Supply and procurement .....	18	Transportation and commerce .....	15
Public relations .....	12	Aviation .....	15
Security .....	10	Club and food .....	15
Electronics .....	9	General clerical .....	12
Mechanical work (all types) .....	8	Electronics .....	11
Communications .....	8	Construction .....	11
Sales .....	8	Communications .....	9
Research development .....	7	Ordnance .....	9
Engineering .....	5	Sales .....	8
Construction .....	5	Teaching .....	8
Production .....	5	Organization and methods .....	8
Writing .....	5	Public relations .....	6
		Agriculture .....	6
		Production .....	5
		Medicine and hospital .....	5

<sup>1</sup> Proportion naming skill area as 1 of 3 in which they are best qualified.

<sup>2</sup> Because of multiple choice of skill, percents add to more than 100.

technical jobs, reflecting a limited perception of competence for all but the small group of men qualified in electronics, is noteworthy. Conversely, it is also clear that, among both officers and enlisted personnel, men with administrative and quasi-administrative experience and aspirations dominate. This somewhat lopsided skill distribution is undoubtedly a factor in the employment difficulties experienced by some of these men.

The preretirement questionnaires listed types of employing institutions and asked the respondents to state for each one whether it was preferred, was acceptable, or was unacceptable. Among enlisted men and officers, the Federal Government was the institution most frequently checked as preferred. A much higher proportion of enlisted men than officers preferred Federal employment, however; about one-fifth of the officers, in fact, listed the Federal Government unacceptable as an employer. The difference presumably is affected by the dual compensation and dual employment statutes in 1964 (modified since then by legislation). Regular officers in the sample were still largely barred from civil service. Large business (over 1,000 employees), medium-sized business (50 to 1,000 employees), and State and local government were the other types of institution most commonly designated as preferred.

These preferences for affiliation with large bureaucratic organizations are clearly related to

the civilian job roles for which most of these men see themselves qualified. The great majority of the men apparently do not visualize a second career which would involve a radical departure from their military work pattern. Most of them rather plan to replicate their service working life in a civilian setting. There are exceptions, of course, with an occasional preference for self-employment, part-time employment, or "unusual" occupations which would satisfy a hobby. But, for most of the officers and enlisted men, aspirations were for orderly careers with a large organization.

This preference probably has its roots in the men's job value system. When asked prior to retirement to rate 19 job attributes, 94 percent of the officers and 88 percent of the enlisted men rated "chance for advancement" as a very important or somewhat important factor in judging a job. A job that is respected in the community was considered important by 85 percent of the officers, whereas 80 percent of the officers rated as important the job location in a specific geographic area. Salary considerations, albeit modest ones, were the second most preponderant type among the enlisted men: 84 percent thought it important to earn at least \$5,000 on the post-retirement job. Not at all surprising, given the potentially long and irregular hours on military duty, is the fact that 81 percent of the enlisted and 78 percent of the of-

ficers rated regular hours as important. On the other hand, freedom from supervision—which one might have assumed to be of interest to men who had worked for 20 years or more in a highly hierarchical context—was seldom rated important.

Long-run salary expectations were generally modest. To earn at least \$15,000 or even \$10,000 was not among the most frequent stipulations for a job, not even among officers. As was previously shown, they expected to earn only modest salaries in their first post-retirement job.

Interest in fringe benefits—notably, a claim to second pension—was considerable, however. It was greatest among the enlisted men, 77 percent of whom thought it important to hold a job covered by social security and 59 percent, a job covered by pension. While only 32 percent of the officers stressed pensions, half of them wanted their job to be covered by social security. The superior financial resources of the officers and their significantly greater military retirement pay undoubtedly explain their lesser concern, but the responses of both groups clearly indicate that military retirement pay alone is considered inadequate protection for one's old age.

In summary, the retiree's "ideal" job as it emerges from the data is one with opportunity for recognition and advancement, but not necessarily much "executive" leeway (for officers) or independence (for enlisted men). Regular hours, retirement benefits, and a congenial environment are more important than high salaries, freedom from supervision, opportunity to travel, or a chance to make important decisions and exert leadership. In this, too, the preferences of the military retired appear to be quite similar to those of his civilian counterparts.

### In the Job Market

The great majority of the retirees in the BSSR sample of May 1964 had been able to locate a job of some kind by the time they were contacted 6 to 8 months after their retirement. At the time they completed the post-retirement questionnaire, 71 percent of the officers and 76 percent of the enlisted men reported that they were employed. Sixteen percent of the officers and 21 percent of the enlisted men were actively looking for work at that time. The others—13 percent of the officers

TABLE 2. EMPLOYMENT STATUS AND BRANCH OF SERVICE (DOD SAMPLE)

[Percent]

Employment status	Branch of service				Total
	Army	Navy	Marine Corps	Air Force	
<b>OFFICERS</b>	(N=460)	(N=192)	(N=50)	(N=228)	<sup>1</sup> (N=930)
Total.....	100	100	100	100	100
Full-time employed.....	75	79	76	73	75
Part-time employed.....	4	5	6	5	6
Looking for employment.....	7	6	4	8	7
Will look for employment.....	3	3	-----	2	2
Retired.....	5	4	6	4	4
Full-time student.....	6	3	8	8	6
<b>ENLISTED MEN</b>	(N=535)	(N=946)	(N=122)	(N=540)	<sup>2</sup> (N=2143)
Total.....	100	100	100	100	100
Full-time employed.....	73	86	85	81	81
Part-time employed.....	4	3	3	6	4
Looking for employment.....	14	5	6	6	8
Will look for employment.....	2	1	3	2	2
Retired.....	5	3	2	3	3
Full-time student.....	2	2	1	2	2

<sup>1</sup> Excludes 7 no answers.

<sup>2</sup> Excludes 18 no answers.

and 3 percent of the enlisted men—were full-time students, those unable to work due to physical reasons, those now permanently retired with no plans for future employment, and those who were not active seekers at the time of the survey but who said they would be looking for work in the future.

In the main, placement took place rapidly. Among the jobholders, over one-half had started to work within 2 months of their retirement date—54 percent of the officers and 50 percent of the enlisted men—and an additional 32 percent of the officers and 33 percent of the enlisted men found their first jobs during the third and fourth month after retirement.

The proportion of men actively looking for work at the time of the survey is quite high compared with the male civilian population in the same age group. This no doubt resulted partially from late job-seeking starts. Those who had not located a job within 6 to 8 months after retirement had waited longer than their job-holding colleagues to undertake active job-seeking efforts. Probably the jobseekers also included a few men who had found a job since retirement, but who were again in the job market at the time they received the post-retirement questionnaire. Many of the unemployed doubtless succeeded in locating jobs after they were surveyed. The DOD data, indeed, show a lower unemployment rate among the men who retired earlier. For both officers and enlisted men who were retired between 1958 and 1959, only 4 percent were looking for work at the time of the survey in 1963. An additional 1-2

percent had despaired of finding a job and had given up looking and another 1 percent were about to begin looking for work.

Although the percentages are small, there is a disturbing uptrend in the DOD survey unemployment figures each year between 1960 and 1962 so that, for officers, 5 percent of the 1961 retirees were looking for work and 7 percent of the 1962 retirees. For enlisted men, the figures are 4 percent of the 1960, 6 percent of the 1961, and 8 percent of the 1962 cohorts. This trend may indicate either a fairly slow adjustment to the job market by some retirees or slightly increasing difficulty in getting placed. There has been some speculation that a large number of the openings in the economy for these second careers, especially for enlisted men, are in interstices of limited capacity and that, consequently, progressively greater difficulties can be expected as the number of retirees seeking employment climbs.

### Variations in Employment Rates

Data from both the BSSR and DOD surveys suggest that jobseekers and jobholders differ with respect to several important personal, behavioral, and attitudinal dimensions. Thus, the DOD data show there are variations in employment status between men who served in the various branches of the service (table 2). Naval and Marine Corps retirees, both officers and enlisted, have a higher rate of employment than Army and Air Force retirees. The interservice differences in employment rates are more pronounced in the BSSR sample of more recent retirees. Again, Air Force and Army men—and especially Army enlisted men—are most frequently in the jobseeker categories. Twenty-five percent of the Army and 21 percent of the Air Force were unemployed, compared with 15 percent of the Navy men and 11 percent of Marines.

Perhaps these differences are due partially to the slightly higher educational levels in the Navy and Marine Corps. Education and age are generally believed to be of crucial importance in their effect on employability. We examined the relationship between educational achievement of three groups of retirees: "Early jobholders" (those who had lined up a firm civilian job offer prior to retirement), "middle jobholders" (those who found a

TABLE 3. EDUCATIONAL LEVEL AND JOB STATUS (BSSR SAMPLE)  
[Percent]

Educational level	Total		Job status			
	Number	Percent	Early job holders	Middle job holders	Job-seekers	Others
<b>OFFICERS</b>						
Total.....	571	100	26	45	16	13
Not high school graduate.....	29	100	35	48	7	10
High school graduate.....	65	100	14	55	20	11
Some college.....	289	100	20	45	21	14
College graduate.....	188	100	38	40	10	12
<b>ENLISTED MEN</b>						
Total.....	1,614	100	15	61	20	4
Not high school graduate.....	529	100	11	62	24	3
High school graduate.....	803	100	15	62	20	3
Some college.....	284	100	19	55	19	7
College graduate.....	18	100	33	50	-----	17



job during the 6-8 month period following retirement), and jobseekers (those who reported themselves looking for work 6-8 months after retirement). The findings are summarized in table 3. In general, the higher educated usually experienced earlier job placement and less unemployment. Only the small group of officers who were commissioned despite the lack of a high school education deviated from this pattern. As we will show, moreover, education appears even more significant as a determinant of the kind of job the retiree is able to obtain than of employment status per se.

The presumed importance of age in getting a job—and especially the supposed disadvantages of the older jobseeker—is not clearly demonstrated by the data for the entire BSSR sample. Although, as was shown earlier, the men themselves were

quite apprehensive on this score, only the fears of the enlisted men appear justified. Among the enlisted retirees, there are indeed significant differences in the unemployment rate by age group, with the older groups at a distinct disadvantage.

Religion and race affect job status among enlisted men. (The officer sample is too homogeneous in race and religion for a sensitive test of differences.) Negroes and members of other minority groups had relatively greater difficulty in obtaining employment. Thirty-three percent of the Negroes and 27 percent of the members of other minorities (Orientals, Spanish Americans, American Indians) were still unemployed 6-8 months after retirement, whereas only 17 percent of the white Protestants and 19 percent of the Catholics were still looking for work.

# Hourly Earnings Differentials by Region and Size of City

VICTOR R. FUCHS\*

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EDITOR'S NOTE: *This is an excerpt from an Occasional Paper to be published by the National Bureau of Economic Research as part of its study of productivity in the service industries undertaken with the assistance of a grant from the Ford Foundation. For ease in reading, signs to denote elisions have not been employed. Most of the conclusions are presented; the full paper should be consulted for additional evidence, bibliographical references, and details concerning data and methodology.*

THE EXISTENCE of lower wages in the South than in the rest of the United States has been a subject of continuing practical and scientific interest. For businessmen, union leaders, and public officials, the regional wage differential has significant implications for policy purposes. Some economists have concentrated their research on explaining the differential. Others have found it to be of considerable value in testing economic theories and in deriving quantitative estimates of important economic relationships.

Thus, the fact that the price of labor relative to the price of capital differs between regions permits the estimation of production functions for individual industries and the calculation of elasticities of substitution between labor and capital.

Similarly, if it is true that the regional wage differential is significantly greater for unskilled than for skilled labor, it should be possible to use this information to gain insights concerning the elasticity of substitution of human capital for raw labor. Such insights would contribute to an understanding of interindustry differences in rates of change of output per man over time. In addition to its role in the estimation of production

functions, the wage differential is important in the analysis of income distribution, population migration, and changes in the location of manufacturing.

## Geographical Standardization

Standardization for geographical differences in industry or occupation mix is a useful way of getting at the question of geographical differences in labor quality, but it is deficient to the extent that there are labor quality differences within the same industry or occupation. An alternative approach to the problem would be to look at such labor quality proxies as color, age, sex, and education, since it is well known that there are significant wage differentials at the national level associated with each of these variables.

The purpose of this paper is to present new estimates of geographical wage differentials based on average hourly earnings of all nonagricultural persons as calculated from the 1960 Census of Population. The availability of a 1/1,000 sample of the census on punched cards makes it possible to standardize simultaneously for color, age, sex, and education<sup>1</sup> and to investigate the relation between city size and wages along with the analysis of regional differentials.

The population studied included all persons who were employed in nonagricultural industries during the Census "reference" week (varying weeks in April) in 1960, and who had some earnings in 1959. The total number of persons covered in the sample was 56,247. Estimates of annual hours worked were obtained for each worker by multiplying the number of weeks worked in 1959 by the number of hours worked in the Census reference week in April 1960. Though the use of hours for a single week in a different year and inaccuracy in reporting of hours may produce considerable error for any single worker, no large or systematic error is present in comparisons of groups. Annual hours and annual earnings were each aggregated across

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<sup>1</sup>The computer program was written by Charlotte Boschan of the National Bureau of Economic Research with the assistance of a grant of computer time from International Business Machine Corp. Details concerning the program are available upon request to the author.

Certain data used were derived from punch cards furnished under a joint project sponsored by the U.S. Bureau of Census and the Population Council. Neither the Census Bureau nor the Population Council assumes any responsibility of the validity of any of the figures or interpretations of them, published herein, based on this material.

workers in each group. Average hourly earnings for each group in 1959 were estimated by dividing aggregate earnings by man-hours. These estimates are referred to as "actual" hourly earnings to distinguish them from "expected" earnings.

"Expected" earnings for each region or city size were obtained by multiplying, for each worker, the estimated number of hours worked in 1959 by the national hourly earnings rate for his particular color, age, sex, and education cell. (There are 168 such cells.) These earnings were then aggregated and divided by the aggregate man-hours to get "expected" hourly earnings. To the extent that labor quality is associated with color, age, sex, and education, differences in average "expected" earnings across regions and city size groups measure differences in labor quality; differences in the ratio of estimated actual earnings to "expected" earnings measure differences in wages, holding labor quality constant.<sup>2</sup>

It should be noted that the differentials studied in this paper are *relative* differentials; they are obtained by dividing "actual" by "expected" earnings. It is also possible to study *absolute* differentials by subtracting expected from actual earnings. Because our primary interest is how demand for labor responds to changing wage rates, the relative differentials appear to be more relevant. If one were primarily interested in questions concerning the supply of labor, absolute differentials would be used.

### Regional Differentials

The regional differentials in average hourly earnings in dollars and in index-number form with the South equal to 100, are shown in table 1. The figures contain few surprises. Earnings are significantly lower in the South than in other regions; earnings in the West are slightly higher than in the Northeast or North Central divisions. The difference between the South and the rest of the country is much greater for nonwhites than for whites; within each color group, the differentials for males and for females appear to be about the same.

<sup>2</sup> Systematic differences in national hourly earnings rates by color, age, sex, and education suggest that these variables do, to some extent at least, measure labor quality. The white-nonwhite differences are probably due in part to market discrimination, but color is relevant to quality because of the likelihood that, at given levels of education, nonwhites have received poorer quality schooling and less on-the-job training than have whites.

The following tabulation shows the extent to which regional earnings differences can be explained by differences in color, age, sex, and education.

"Expected" Average Hourly Earnings, by Region, 1959 (dollars per hour)

	South	Non-South	North-east	North central	West
Total.....	2.38	2.54	2.53	2.52	2.61
White males.....	2.82	2.89	2.90	2.85	2.95
White females.....	1.77	1.76	1.72	1.75	1.85
Nonwhite males.....	1.74	1.91	1.90	1.88	2.01
Nonwhite females.....	1.16	1.24	1.19	1.21	1.31

Where the comparison is for a given color-sex group, the effect of differences in age and education is reflected in the "expected" earnings. Labor quality, as measured by these variables, appears to be somewhat lower in the South than in the rest of the country, and highest in the West. The regional difference is slightly greater for males than for females. In fact, white females in the South have slightly higher "expected" earnings than in the Northeast and North Central.

A significant regional wage differential remains after standardizing for color, age, sex, and education. (See table 2.) For all nonagricultural employed persons, the differential between the South and the rest of the country is approximately 17 percent. It is much greater for nonwhites than for whites and is smallest for white males where the differential is of the order of 14 percent.

It is worth noting that the standardization procedure used here is not the only one available for studying this problem. It would be equally appropriate to standardize by using the actual earnings rates for each color, age, sex, and education cell in each region, weighted by the national distribution of man-hours. When the two standardization

TABLE 1. AVERAGE HOURLY EARNINGS, NONAGRICULTURAL EMPLOYED PERSONS, BY REGION, 1959

Item	South	Non-South	North-east	North Central	West
Dollars per hour					
Total.....	\$2.12	\$2.65	\$2.62	\$2.60	\$2.76
White males.....	\$2.54	\$2.99	\$2.97	\$2.94	\$3.09
White females.....	1.56	1.83	1.84	1.75	1.97
Nonwhite males.....	1.40	2.22	2.07	2.25	2.43
Nonwhite females.....	.92	1.50	1.55	1.40	1.56
Index, South=100					
Total.....	100	125	124	123	130
White males.....	100	118	117	116	122
White females.....	100	117	118	113	126
Nonwhite males.....	100	159	149	161	174
Nonwhite females.....	100	163	168	152	170

SOURCE: U.S. Censuses of Population and Housing: 1960 1/1,000 Sample.



procedures yield markedly different results, interpretation is difficult. Fortunately, in this instance the two standardization procedures give similar results. For white males the difference in results is of the order of 1 percent. For nonwhite females it goes as high as 2 percent.

This section has shown that only a portion of the gross non-South/South wage differential is attributable to demographic differences in the labor force. It is sometimes argued that the remainder is largely attributable to differences in city size, rather than to a regional differential at given city sizes. The next section deals with the question of wage differentials associated with city size.

### City-Size Differentials

A strong and consistent positive relation exists between earnings and city size. Average hourly earnings tend to rise with city size in every region and for every color-sex group. The rate of increase is sharpest in the South, and least pronounced in the Northeast and West. It is also sharper for nonwhites than for whites. Because the South has a relatively large proportion of nonwhites, a question arises whether the sharper city-size gradient is predominantly a regional or color phenomenon. The last four rows of table 3 show that only the regional difference is significant. Holding color constant, the city-size gradient is steeper in the South than in the non-South for both whites and nonwhites. Holding region constant, there is no evidence of a steeper gradient for nonwhites than for whites.

TABLE 2. RATIO OF ACTUAL TO "EXPECTED" HOURLY EARNINGS, BY REGION, 1959

Item	South	Non-South	North-east	North Central	West
	Ratio				
Total.....	0.89	1.04	1.04	1.03	1.06
White males.....	.90	1.03	1.02	1.03	1.05
White females.....	.89	1.04	1.07	1.00	1.07
Nonwhite males.....	.80	1.16	1.09	1.20	1.21
Nonwhite females.....	.79	1.21	1.30	1.16	1.19
	Index of ratio, South=100				
Total.....	100	117	117	116	119
White males.....	100	114	113	114	117
White females.....	100	117	120	112	120
Nonwhite males.....	100	145	136	150	151
Nonwhite females.....	100	153	165	147	151

Little of the city-size wage differential can be explained by differences in color, age, sex, or education (table 4). There is a slight tendency for "expected" earnings in rural areas to be below average, but on the whole the labor force "mix" is similar in all city-size categories.<sup>3</sup> Strictly speaking, similarity of expected earnings only proves that the "mix" is similar on average; there could be significant offsetting differences in the distributions by years of schooling or other variables. In fact, the distributions are quite similar, but there is a tendency for the larger cities in the non-South to have a greater than average share of workers in the lowest and the highest educational classes.

The sharp variation in actual earnings, combined with great similarity in "expected" earnings, means that the ratio of actual to "expected" varies greatly with city size. These ratios indicate that within each region there is a very considerable range of earnings, after standardizing for color, age, sex, and education. They also show that within each color-sex group, wages vary considerably by city size after standardizing for age and education.<sup>4</sup>

### Regional Differential Adjusted

The South has a much larger share of its non-agricultural work force outside of Standard Metropolitan Statistical Areas and a much smaller share in SMSA's of 1 million and over than does the non-South. This fact, plus the existence of a significant wage differential across city sizes within regions, suggests the possibility that a substantial portion of the regional wage differential observed in table 2 is a reflection of the city-size effect.

One method of adjustment consists of taking the ratio of actual to expected in each city size in each region and weighting it by the share of that city size in national total man-hours.<sup>5</sup>

<sup>3</sup> When the differences in "mix" are very small, the problem of choosing between alternative standardization procedure is unimportant.

<sup>4</sup> The city-size differential may be biased upward to the extent that some nonagricultural employed persons may have been employed in agriculture in 1959, and a disproportionate share of such persons may be in the areas outside SMSA's. The chances of this being an important source of bias seem very slight.

<sup>5</sup> The possibility of an alternative standardization procedure arises again and again, fortunately, the other procedure gives very similar results, except for nonwhites in the individual regions of the non-South.



TABLE 3. AVERAGE HOURLY EARNINGS, NONAGRICULTURAL EMPLOYED PERSONS, BY CITY SIZE, 1959

Item	Rural	Urban places		Standard Metropolitan Statistical Areas			
		Under 10,000	10,000-99,999	Under 250,000	250,000-499,999	500,000-999,999	1,000,000 and more
Dollars per hour							
Total.....	\$2.00	\$2.12	\$2.23	\$2.39	\$2.43	\$2.56	\$2.84
South.....	\$1.71	\$1.82	\$1.94	\$2.15	\$2.31	\$2.34	\$2.62
Non-South.....	2.22	2.30	2.39	2.54	2.50	2.67	2.87
Northeast.....	2.33	2.37	2.41	2.41	2.36	2.51	2.79
North Central.....	2.11	2.22	2.33	2.61	2.61	2.79	2.90
West.....	2.36	2.43	2.50	2.65	2.62	2.71	2.98
White males.....	2.24	2.43	2.61	2.78	2.77	2.96	3.29
White females.....	1.45	1.49	1.57	1.65	1.69	1.82	2.00
Nonwhite males.....	1.28	1.26	1.33	1.53	1.89	2.00	2.08
Nonwhite females.....	.83	.69	.91	.85	1.05	1.24	1.47
South:							
Whites.....	1.80	1.98	2.14	2.34	2.46	2.54	2.86
Nonwhites.....	1.06	.99	.99	1.13	1.28	1.37	1.54
Non-South:							
Whites.....	2.22	2.31	2.40	2.56	2.52	2.71	2.96
Nonwhites.....	1.80	1.62	1.84	1.90	2.13	2.18	1.96

<sup>1</sup> Based on fewer than 50 observations.

Whereas, after adjusting for color, age, sex, and education, the differential between the non-South and the South was of the order of 17 percent; it is about 9 percent after city size is also taken into account. City size does make some difference, but does not explain all of the regional differential. It makes the greatest difference in the Northeast, and the least in the North Central. The regional differential continues to be much greater for nonwhites than for whites.

It is also possible to recalculate the city-size differentials holding region constant. The effect of this adjustment proves to be relatively small. In general, hourly earnings in the largest urban areas are approximately 30 percent higher than in the rural areas and small towns, and approximately 15 percent higher than in the small Standard Metropolitan Statistical Areas.

**Conclusions**

The observed average hourly earnings in the non-South are about 25 percent higher than in the South. About one-third of this differential is attributable to regional differences in the labor force as measured by color, age, sex, and education; about one-third is related to regional differences in city size; and about one-third of the differential remains, after adjusting for labor force composition and city size.

These estimates cannot be precise, partly because of the limitations of the data, and partly because the standardization techniques are necessarily imperfect. Some experimentation with alternative standardizations produced similar results; these estimates therefore are probably reasonably good guides to the order of magnitude of the various factors that contribute to the regional wage differential.

For white males alone, the gross non-South/South differential is approximately 18 percent. Differences in education and age explain less than one-fourth of the differential; city-size differences explain more than one-third; and the regional differential, after adjusting for all these factors, is slightly more than one-third the gross differential. In the case of white females, education and age do not explain any of the 17 percent regional differential, but city size explains about one-half of it. For nonwhites, the gross differential is of the order of 60 percent. Differences in education and age explain about one-fourth of the differential for males, but only one-tenth for females. The reverse is true for city size, so that both nonwhite groups show the same net differential, approximately 35 percent.

An attempt to explain interindustry differentials in average hourly earnings through multiple regression analysis offers some confirmation of these findings. The percentage of employment in

TABLE 4. "EXPECTED" AVERAGE HOURLY EARNINGS, BY CITY SIZE, 1959

Item	Rural	Urban places		Standard Metropolitan Statistical Areas			
		Under 10,000	10,000-99,999	Under 250,000	250,000-499,999	500,000-999,999	1,000,000 and more
Dollars per hour							
Total.....	\$2.41	\$2.53	\$2.48	\$2.49	\$2.50	\$2.50	\$2.53
South.....	\$2.26	\$2.39	\$2.35	\$2.41	\$2.46	\$2.43	\$2.47
Non-South.....	2.53	2.62	2.55	2.54	2.52	2.54	2.54
Northeast.....	2.56	2.59	2.55	2.51	2.46	2.53	2.54
North Central.....	2.49	2.60	2.51	2.54	2.54	2.52	2.51
West.....	2.59	2.72	2.64	2.63	2.62	2.57	2.61
White males.....	2.70	2.89	2.86	2.86	2.85	2.91	2.95
White females.....	1.74	1.77	1.78	1.76	1.76	1.78	1.76
Nonwhite males.....	1.63	1.68	1.76	1.86	1.82	1.87	1.89
Nonwhite females.....	1.10	1.09	1.18	1.17	1.18	1.23	1.23
South:							
Whites.....	2.37	2.56	2.53	2.57	2.59	2.60	2.66
Nonwhites.....	1.44	1.45	1.49	1.55	1.55	1.56	1.61
Non-South:							
Whites.....	2.54	2.63	2.57	2.57	2.55	2.61	2.63
Nonwhites.....	1.67	1.55	1.63	1.74	1.63	1.77	1.69

<sup>1</sup> Based on fewer than 50 observations.

the South, the percentage of employment in large cities, "expected" hourly earnings, extent of unionization, and size of employer were used as explanatory variables. Taken alone, the regional variable is significantly related (inversely) to hourly earnings. The significance of the relationship is sharply reduced when account is taken of "expected" earnings and is further reduced when account is also taken of the percentage of employment in large cities. The remaining relation between earnings and percentage in the South is entirely explained by industry differences in extent of unionization.

One of the important conclusions of the paper is the findings of a substantial difference in hourly earnings across city size. Furthermore, these differences are relatively unaffected by standardization for labor force composition and regional mix. Standardized hourly earnings in the SMSA's of 1 million and over are typically 25 to 35 percent higher than in the areas outside SMSA's within the same region, and about 15 percent higher than in SMSA's of less than 1 million. The city-size gradient is steeper in the South than in the rest of the country. Multiple regression analysis across industries again tends to confirm these findings. Furthermore, the regression analysis rejects the hypotheses that the higher earnings in the large cities can be attributed to unionization or size of employer.

The non-South/South differential is found to be inversely related to skill level as measured by education, sex, and color. The fact that the regional differential varies with education within each color may help to shed new light on an old problem—the reason for the large regional wage variation for nonwhites compared with whites. This has usually been explained in terms of greater market discrimination against nonwhites in the South than in the non-South. But there is an alternative explanation. It may reflect, at least in part, the fact that nonwhites are disproportionately of low skill, both in the South and the non-South, and that the regional differential is greater, the lower the skill level, regardless of color. This hypothesis appears worthy of further study. An alternative way of interpreting the data would be to say that there is more economic segregation in the South than in the non-South. This depresses the price of nonwhite unskilled labor but raises the

relative price of nonwhite skilled labor because of its relative scarcity.

The city-size differential in hourly earnings appears to be about the same at all levels of education. One possible explanation of this differential is differences in cost of living. Adequate data are not available for a thorough check of this hypothesis. Fragmentary information provided by the Bureau of Labor Statistics on the cost of living in different cities suggests some slight correlation between hourly earnings and prices,<sup>6</sup> but intercity differences in cost of living appear to be small relative to differences in hourly earnings. However, it should be noted that conventional measures of cost of living do not include items like length of time needed to get to work which may vary systematically with city size.

One of the most promising hypotheses to explain the city-size differential is that it reflects differences in labor quality not captured by standardization for color, age, sex, and education. This might take the form of better quality schooling, more on-the-job training, selective in-migration to the big cities of more ambitious and hard working persons, or other forms. Another possible explanation is the existence of a disequilibrium in the supply of labor and capital. Surplus labor from agriculture may tend to move first to the small towns, and then later to the larger cities. Capital may be more readily available in the large cities. If there is disequilibrium, we should observe a tendency for labor to migrate from small to large cities, and for industry to move in the reverse direction.

Possible explanations of the city-size differential such as unmeasured labor quality, cost of living, and disequilibrium are not mutually exclusive. Since the differential to be explained is quite large, it is possible that all of them are valid and significant, with each explaining a part. Just as the regional differential has been put to good use in the testing of economic theories, it would appear that the large city-size differentials in hourly earnings revealed in this paper could provide a fruitful basis for considerable new economic analysis.

<sup>6</sup> See "City Workers Family Budget for October 1951," *Monthly Labor Review*, May 1952, pp. 520-522, and "The Interim City Workers Family Budget," *Monthly Labor Review*, August 1960, pp. 785-808.

# Oak Glen— A Training Camp for Youth

JANE R. CHAPMAN\*

In 1963, the California legislature established Oak Glen training camp for unemployed youth in a rural area between Riverside and San Bernardino, Calif.<sup>1</sup> Little is known about the effectiveness of current programs such as the one at Oak Glen because little serious research has been done on work camps. For this reason, the U.S. Department of Labor arranged for the Stanford Research Institute (SRI) to undertake a study which would determine the extent to which the Oak Glen program was meeting its stated goals.<sup>2</sup> The urgent need for this information led to primary reliance on existing data, such as camp files or employment service information.

The study covered 479 young men who either entered the program or were eligible to enter between November 1963 and July 1964. Its objectives were to determine: the proportion of trainees who find employment or enroll in further training following the camp experience; the extent to which trainees who entered the program but terminated before completing the program may have benefited from their experience—that is, have found employment or enrolled in additional training or education programs; the factors within the camp experience that benefited trainees in moving toward the goal of employment or further training or education; and the characteristics of boys who are likely to benefit from such a program and the characteristics of those who are not.

The Oak Glen Camp prepared young men 16 to 21 years old for jobs as forestry trainees and in occupations related to camp operations, such as

cooks and laundry workers. A voluntary educational program, including courses in reading and arithmetic, was also available to the youth. The enrollment period was usually for 6 months, although this was at times extended to 1 year. In order to qualify for the program, prospective trainees had to be out of school; unemployed with poor employment prospects because of lack of skills and education; and without conviction for felony.

A "profile" of typical trainee characteristics provides perspective on the challenge faced by the Oak Glen Camp. The average trainee had neither employment experience, nor knowledge of how to look for a job. His life had been an almost unrelieved series of failures. His physical condition was not good. He had an IQ below average, was a low achiever in reading and arithmetic, and did not know how to use the most elementary tools. He came from an economically disadvantaged, and often a broken, home.

## Termination of Training

Because a great number of trainees dropped out of the Oak Glen program, the question of termination was a crucial one for the camp. Of the group of trainees entering the program in November 1963, 66 percent terminated before graduation. The rate dropped for those entering in the summer of 1964 (to 58 percent), but the differences were not statistically significant. The camp staff felt that the first few weeks were critical and that if they kept a trainee for that length of time there was a good chance that he would stay the full term. Among all trainees entering during the period studied, 22 percent terminated during the initial 2 weeks.

As would be expected, the graduates of the program were more likely to become employed, enter the military, or return to school than were the

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<sup>1</sup>In the summer of 1965, support of the Oak Glen Camp was transferred from the State of California to the Office of Economic Opportunity.

<sup>2</sup>*An Evaluation of the Concept of Trainee Camps for Unemployed Youth*, Gertrude D. Peterson (Stanford Research Institute, Menlo Park, Calif., 1965). A monograph based on the full report was published by the Department of Labor: *Oak Glen—A Training Camp for Unemployed Youth* (Manpower Administration, Manpower/Automation Monograph No. 5, Washington, D.C., 1966). Both the original report and the monograph contain a bibliography resulting from the literature search undertaken as part of the study.



terminees. In fact, the likelihood of terminees being employed increased the longer they stayed in camp.

Determining the real reasons for dropping out of camp was extremely difficult. It was necessary for the researchers to rely on subjective file material which gave a staff member's opinion as to the reason for a termination. The accuracy of this information, therefore, could have been affected not only by the trainees' reluctance to reveal reasons for leaving the camp, but also by the staff's interpretation of the trainees' explanations.

The most frequent reason for dropping out cited in the trainees' files was a general one—"disinterested, unwilling to participate." Forty-six percent of the terminations were attributed to this reason. Dismissals from camp accounted for 13 percent of the terminations; 11 percent were attributed to trainee immaturity, and 3 percent to emotional or unstable behavior. Of all the trainees who dropped out before graduation, 9 percent said finding employment was their reason, and 2 percent indicated an intention to enter military service. The remaining 6 percent had a variety of reasons for leaving.

The researchers considered homesickness among the young men a serious cause for dropping out, which can perhaps be accounted for by the fact that a large proportion of them were under 18 years of age. Though only 10 percent of the terminations were ascribed to this problem, the research team felt that not all cases of homesickness were identified.

A number of prospective trainees did not show up at Oak Glen after acceptance into the program, and it was not possible to obtain information for 44 percent of these cases. It was determined that 17 percent of the "no shows" joined the Armed Forces. The balance accepted employment (17 percent); returned to school (10 percent); changed their minds about joining the program (7 percent); or were kept away by family problems (4 percent).

Whether trainees graduated or terminated varied sharply according to their level of education. The more education a trainee had before coming into the program, the greater the likelihood of his graduating. The data showed a steady progression from 24 percent graduating among trainees who had not completed the ninth grade to 58 percent among those with a high school

diploma. The age of the trainee also seemed to affect his propensity to drop out. It was clear from the data that 16 yearolds were least likely to graduate, and 19 yearolds were most likely to graduate.

### Educational Factors

Of the Oak Glen trainees studied about 21 percent were high school graduates; about 61 percent had had some high school education; and 11 percent had completed less than the ninth grade. The educational attainment of 7 percent was unknown.

The SRI study found differences in post-training employment status according to educational level. High school graduates were more likely to be working (whether they graduated or terminated), while those who had not completed the ninth grade were less likely to be working. The same was true of improvement in general attitude, as rated by the camp staff. The more education a trainee had, the more likely he was to be rated as having improved in attitude over the course of the program. The research team determined that there was a steady progression in the staff's rating of attitude improvement—from 31 percent of those who had not completed the ninth grade to 57 percent of those who graduated from high school.

The reading levels of the trainees were far below the level indicated by the years of education completed. Most trainees used the camp's educational facilities and the gains in reading achievement while at Oak Glen appeared to be significant. Among all the graduates tested for reading gain, 47 percent had gained a year or more. This was considered particularly impressive, because the trainees in general had never done well in school. A gain of a full year during the 6-month training period is twice the gain that would be expected of an average student in a regular school in the same period of time.

The level of mathematics achievement on entering the training program was considerably lower than reading achievement among the trainees. Those graduates who were retested were at a much higher math level upon completing the program—55 percent at the sixth grade level or higher—than when tested upon entering the program. Of those retested, 45 percent gained a year or more,

and 25 percent gained from a half to nine-tenths of a year. The marked improvement in reading and mathematics resulted in part from the fact that graduates tended to have higher entry scores in these subjects. Nevertheless, the gains were considered by the staff and by the researchers to be impressive.

There were no great changes over time in the IQ scores of trainees. Among all trainees, 23 percent had IQ scores below 80; 54 percent between 80 and 99; and 23 percent 100 or over. This information was compared with a number of other variables, but IQ did not prove to be a potential predictor of trainee success.

### Ethnic Group

There were no significant changes in the distribution of trainees by ethnic group over the time period studied. The great majority of trainees were white (76 percent) with 12 percent Negro, 11 percent Mexican American, and 1 percent from other nonwhite groups.

Several cross tabulations were run by ethnic group, but none of the differences found was significant. The research team considered this lack of significant differences an important finding in itself, because it indicated that regardless of ethnic group, trainees entered with essentially the same background, performed equally in camp, and were meeting with essentially the same degree of success on leaving Oak Glen.

### Observations

Most of the factors studied by the researchers were readily measurable with existing data. During their weeks of study and observation at the camp, however, a number of impressions were formed. The analysis based on these impressions is for the most part subjective, and was not systematically documented. Since the impressions related to important aspects of the Oak Glen program, they are worth discussing.

The research team emphasized the unusual dedication of the camp staff to their task. The staff believed in the program and put forth extraordinary effort to help each trainee develop in accordance with the program objectives. The researchers felt that staff dedication was probably crucial to the success of any such program. The

camp director and other staff members had applied specifically for assignment at Oak Glen because they believed in the concept of the program, and this element of "self-selection" was considered salutary. In addition, many of the State Forestry Division personnel had had previous experience in forestry camps for convicts and juvenile delinquents.

Though dedication to the overall purpose of the camp was uniform, it was observed that the Forestry Division foremen varied greatly in their approach to the trainees. Some were quite authoritarian, while others tended to be permissive. It appeared that the most authoritarian of the foremen were in general the least effective, however, several ex-trainees wrote later expressing gratitude for learning strict discipline from these foremen.

The researchers considered the camp administration imaginative in thinking of ways to give praise and rewards to trainees. Whenever possible, the reward was tangible—a certificate or a trophy. For example, the trophy for "Trainee of the Week" provided immediate rewards and continuing goals and other certificates and trophies were presented at the graduation ceremony. The staff felt that since the lives of the trainees had been marked by failure—in school, in work, and at home—every effort should be made to help trainees achieve even small successes.

The research team concluded that the individual attention given to trainees appeared to be an important factor, since trainees could feel for the first time in their lives that "somebody cared." The dedication of the staff and their general behavior made their concern clear to the trainees, and they made every effort to assist each trainee and persuade him to complete the program successfully.

The research team noted that there were indications that the location of the camp had a significant effect on trainees. Oak Glen is in a mountainous area in a national forest and gives the impression of being isolated from civilization. It appeared that the isolation affected some trainees adversely and was a contributing factor to their termination.

There was some feeling among the researchers that the climate may also have had an adverse effect on the trainees. The weather in the camp area is not severe in comparison with many other parts of the United States, but it is more severe than most of the trainees were accustomed to.

Snow may occur during the winter, and it is more often foggy and rainy than in nearby areas. There was speculation that when the weather was dreary, more terminations occurred.

## Conclusions

The SRI study took a preliminary step toward determining the types of young people that can best be aided through such residential programs and the program ingredients which give the highest degrees of success with youngsters of diverse backgrounds. The need for more comprehensive and refined research was stressed by the researchers, but they felt that even within the limitations of the available data, two general conclusions emerged from their analysis.

The first relates to the success of the Oak Glen program. Full evaluation could not be made at this point; however, there are numerous indications that the program had been "successful" or fulfilled its objectives to some degree. One criterion for eligibility was that the individual be unemployed with no employment prospects. Given this situation, the fact that graduates were more likely to become employed or return to school than were those who terminated would indicate that the program was indeed successful. Among all graduates for whom there was followup information, 69 percent were employed compared with 54 percent of the trainees.

If the educational advancement of the trainees can be considered a measure of success, the Oak Glen program had significant accomplishments. A high proportion of trainees made use of the educational facilities, and the average gain in reading achievement was twice that expected of an average student in a regular school. The level of education of the trainee upon entering the program was cited by the researchers as the only potential predictor of completing the program.

The second conclusion relates to the objectives of the Oak Glen program. The researchers felt that, ultimately, a program like that at Oak Glen can be evaluated only in terms of specific goals.

During the period under study, the goals, as set forth by the Legislature, were general—"to develop [in the trainees] the traits and attitudes necessary to become productive members of society." In addition to specific, measurable goals, the more subjective effect of the program on the lives of individual human beings should be evaluated. The study concluded that it is important to know whether a trainee goes to work or returns to school after leaving the camp. But it would also be useful to know the effect of the camp on the young men in more subtle ways, such as attitude changes; an increase in self-respect, self-reliance, and the like. Unfortunately, the full impact of such a program may not be known for years. Adolescence and young adulthood tends to be a difficult period for many young men, not just the disadvantaged—making it even more difficult to trace the effects of camp life.

In its recommendations for future research on work camps, the SRI team suggested that more background and attitudinal data on trainees is needed. More extensive and reliable followup information on trainees after they leave work camps was also cited as critical to evaluation studies. Any such program must inevitably stand the scrutiny of an economic evaluation, that is, measuring the net economic benefits of the program, if any, to the trainees and to the public. A detailed economic evaluation of the Oak Glen program was not within the scope of the SRI study, but this area was cited as one deserving future research. The use of a control group (a group like the trainees in every way except that they do not have the experience of the program) was urged for future work camp research. It was felt that only when it is known what would have happened to the trainees if they had not gone to Oak Glen can the program be fully evaluated.

The SRI study was clearly an exploratory effort in the field of studying and assessing work camps for young people. But, to the extent that the youth population and operations at the Oak Glen Camp are similar to those at other work camps, the study's findings may offer useful guidance.



# Special Labor Force Report

## Job Tenure of Workers, January 1966

HARVEY R. HAMEL\*

IN A DYNAMIC ECONOMY in which changes in technology and in the demand for various kinds of goods and services create a changing demand for labor in each industry, occupation, or locality, a substantial degree of job mobility is needed to achieve full utilization of the labor force and enable the economy to operate at full capacity.<sup>1</sup> On the other hand, the individual employer and employee are often more interested in job security and stability. The employer prefers stability because it means costs of hiring and training new workers are kept down. To the employee, stability means relative freedom from job losses or layoffs and protection of his unvested equity in fringes.

A survey of job attachment in January 1966 provides information on one aspect of mobility—the length of time that workers had been continuously employed on the job they held at the time of the survey. Data indicate that employees stayed with the same job or employer an average of 4.2 years, a slight decline from the 4.6 years measured in the January 1963 survey. A rise in the proportion of workers under age 25—the group typically having the shortest length of time on the job—accounted for part of the change. In addition, the rapidly tightening job market during the 3-year period between surveys probably caused the number of workers making job shifts to improve their economic status to increase.

The survey examined the differences in job tenure by age, sex, color, industry, and occupation. Men averaged nearly twice the length of time on the current job as women in both the 1966 and the 1963 survey. Job tenure for men was significantly greater in each age group. Considering

length of employment, one-third of the employed men, but only one-fifth of the employed women, had 10 years or more of consecutive employment.

Negro men averaged fewer years on their current job than white men, probably because of the concentration of Negro men in seasonal and casual jobs.<sup>2</sup> On the other hand, white and Negro women averaged about the same length of time on their current job.

As indicated in previous surveys, job tenure varied considerably with occupation and industry of the employed. Occupationally, self-employed farmers and professionals, managers, and craftsmen had the longest job tenure. Among industry groups, workers in the transportation and communications industries had the longest continuous association with the same employer.

### Measuring Job Attachment

This article is based primarily on information from a supplementary question—"When did . . . start working at his present job (or business)?"—in the regular monthly survey of the labor force conducted for the Bureau of Labor Statistics by the Bureau of the Census through its Current Population Survey for the week ending January 15, 1966.<sup>3</sup> The 71 million persons employed at that time averaged slightly over 4 years of continuous

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<sup>1</sup> See "Job Mobility in 1961," *Monthly Labor Review*, August 1963, pp. 897-906, and "Geographic Mobility and Employment Status, March 1962-March 1963," *Monthly Labor Review*, August 1964, pp. 873-881. These articles were reprinted as Special Labor Force Reports Nos. 35 and 44. An article on Occupational Mobility will appear in a forthcoming issue of the *Monthly Labor Review*.

<sup>2</sup> Data for nonwhites will be used to represent Negroes who are about 92 percent of all nonwhites in the United States.

<sup>3</sup> For wage and salary workers, a "job" was defined as a "continuous" period of employment with a single employer; for self-employed workers, as a "continued period of employment in a particular type of business in the same locality."

Previous survey findings were published in "Job Tenure of American Workers, January 1963," *Monthly Labor Review*, October 1963, pp. 1145-1152 (reprinted with additional tabular material and explanatory note as Special Labor Force Report No. 36), and in *Current Population Reports*, Series P-50, No. 36.

association with their current employers (table 1). Four and a half million (6 percent) had acquired their current jobs prior to the United States' entrance into World War II and had held these jobs for 25 years or more despite two wars, changing occupational and industrial structures in the economy, and several business downturns with high levels of unemployment. Another 8.7 million workers (12 percent) had held the same job for more than 15 years but less than 25. On the other hand, nearly 38 million persons (35 percent) had started their jobs since January 1961. About 18.5 million of the latter group were relative newcomers to their jobs, having acquired them during the year prior to January 1966.

Though this study measures the propensity of employed persons to remain with a particular employer for a given period of time, it does not identify the reasons for this tendency. The factors which influence a worker's decision to remain or not to remain on a particular job are both numerous and personal. A few appear obvious. A worker whose earnings are relatively high and who takes pride and satisfaction in his job is more likely to remain on that job for a long time. The underpaid dissatisfied worker who believes he can earn more elsewhere would probably want to change jobs. Expertise in work, pleasant working conditions, and steady employment also influence job tenure, and workers who value security are inclined to remain on a particular job, while those interested in personal advancement prefer to search for new opportunities.

### Financial Pressures

Private pension plans are often specified as a contributing factor to job immobility or continued tenure.<sup>4</sup> There is a good deal of controversy on the extent to which pension plans act as financial inducements for persons to remain working for a particular employer. Older workers who had accrued substantial benefits would probably be more hesitant to lose pension rights. For many other reasons, these older workers are not as prone as young workers to make voluntary job shifts. In 1965, a Presidential Committee on pension funds reported that pension plans have little effect on involuntary job changes but they do affect the voluntary mobility of older workers with many

TABLE 1. LENGTH OF EMPLOYMENT OF WORKERS ON CURRENT JOB, BY SEX, JANUARY 1966

[Thousands of persons 14 years old and over]

Period when current job started	Both sexes	Male	Female	Percent distribution		
				Both sexes	Male	Female
Total workers employed in January 1966.....	71, 230	45, 959	25, 271	100. 0	100. 0	100. 0
July 1965-January 1966.....	13, 012	7, 365	5, 647	18. 3	16. 0	22. 3
January-June 1965.....	5, 403	3, 326	2, 077	7. 6	7. 2	8. 2
January-December 1964.....	6, 800	3, 885	2, 915	9. 5	8. 5	11. 5
January-December 1963.....	5, 107	2, 958	2, 149	7. 2	6. 4	8. 5
January 1961-December 1962..	7, 263	4, 440	2, 823	10. 2	9. 7	11. 2
January 1956-December 1960..	10, 731	6, 995	3, 736	15. 1	15. 2	14. 8
January 1951-December 1955..	7, 379	5, 337	2, 042	10. 4	11. 6	8. 1
January 1946-December 1950..	5, 677	4, 344	1, 333	8. 0	9. 5	5. 3
January 1941-December 1945..	3, 047	2, 295	752	4. 3	5. 0	3. 0
January 1936-December 1940..	1, 724	1, 389	335	2. 4	3. 0	1. 3
Before January 1936.....	2, 726	2, 149	577	3. 8	4. 7	2. 3
Date not reported.....	2, 361	1, 476	885	3. 3	3. 2	3. 5
Median years on current job..	4. 2	5. 2	2. 8	-----	-----	-----

years of service under a given plan.<sup>5</sup> Specific provisions related to vesting, early retirement, and portability are contained in a substantial number of private pension plans; they could, to some extent, counteract the effect that plans have on voluntary mobility. Vested benefits are like money in the bank: even if a worker changes jobs, the pension he has accrued is usually payable when he reaches 65, the retirement age in most pension plans. Vesting, therefore, tends to decrease barriers to mobility. Early retirement and portability provisions (in which the worker carries his pension rights with him when he changes jobs) have a similar effect on job mobility.

Other factors play a role in a worker's decision to remain on his job. Seniority and other service-related benefits may be more of a deterrent to a voluntary job change than pension rights; seniority may result in better types of job assignments, relative freedom from layoffs, and better prospects for promotion.

Workers in manufacturing are more likely than those in other industries to be covered by pension plans. (The only exception is transportation, communications and public utilities.) In January 1966; men working in factories averaged nearly 2 years longer on their current job than other

<sup>4</sup>For a more detailed analysis of the relationship between pension plans and job mobility, see *Labor Mobility and Private Pension Plans* (BLS Bulletin 1407, 1964), and *Private Pension Plans and Manpower Policy* (BLS Bulletin 1359, 1963).

<sup>5</sup>See *Public Policy and Private Pension Programs, A Report to the President on Private Employee Retirement Plans by The President's Committee on Corporate Pension Funds and Other Private Retirement and Welfare Programs, January 1965.*

nonfarm wage and salary employees. Whether the longer job tenure among factory men is associated with the high concentration of pension plan coverage in the industry has not been determined. Other factors encouraging job stability mentioned earlier could play a more important role in determining the length of time these workers remain with the same employer.

**Personal Characteristics**

The average job tenure of employed men declined by 6 months between January 1963 and January 1966, but there was virtually no change in average tenure among men in the various age groups (table 2). A change in the age distribution of the employed during the 3-year period was a prime cause of the decline; the proportion of employed men under 25 years of age increased to 17 percent in 1966 (from 14 percent in 1963). A second factor might be the economic recovery which would induce more workers to change jobs. Job duration for all employed women and for Negro workers remained about the same in both surveys.

The length of continuous employment on the current job differs substantially among workers depending on their age, sex, and color. Job tenure varies directly with age; workers under age 35 averaged only about 1.5 years on their current job while those 35 years old and over averaged 8 years. Younger workers have been in the job market fewer years than older persons, voluntarily change jobs more frequently, and are more subject to unemployment, and therefore show shorter job durations. (As students, younger persons work at temporary or intermittent jobs, and after leaving school they often try several different jobs before settling down into one.) Nearly one-third of the persons under age 35 but only 10 percent of those over that age had worked at their current job for half a year or less. Frequency of job change decreases with age, and when older workers do change jobs, it is often involuntarily.<sup>6</sup>

Men averaged nearly twice as long as women on their current job—5.2 compared to 2.8 years. As many studies have previously indicated, women

often leave the labor force, especially during the central working ages, because of their family responsibilities. A larger percentage of women than men have part-year jobs, or work in part-time jobs which are often of shorter duration than full-time jobs. Also, a greater proportion of all employed women than of all employed men are under age 25, the age group in which average job duration was less than 1 year. When the data are examined with age held constant, however, the men average longer tenure. Differences in job tenure for men and women become much sharper in the central working ages. Though there was only a 1-year difference in job tenure between men and women age 25 to 34, the gap grew to 4 years for 35 to 44 year olds and 7 years for 55 to 64 year olds.

Job attachment was much longer for single women workers than married women in each age group, except for women under age 25 where the average duration was about the same for both groups, as shown in the following tabulation:

	Single		Married	Other marital status
	1966	1963	1966	
All employed women.....	1.6	3.1	4.2	
14 to 24 years.....	.8	.9	.7	
25 to 34 years.....	3.5	1.7	1.6	
35 to 44 years.....	8.9	3.3	2.8	
45 years and over.....	15.5	6.4	6.7	

The overall measure of job tenure for women of all ages, however, was lower for single than married women. Most of the single women are under 25 years of age where tenure is very short, while

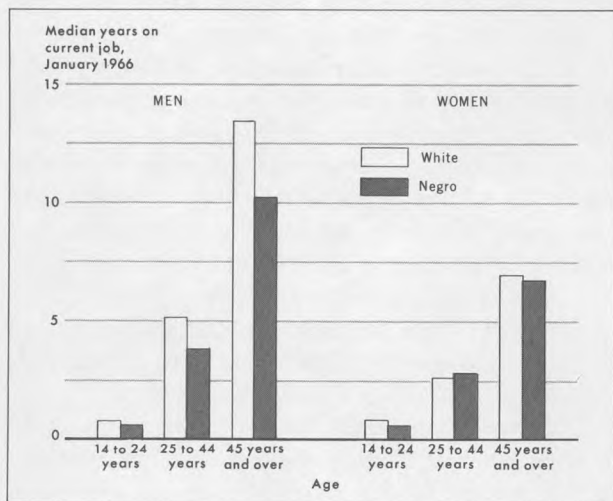
TABLE 2. MEDIAN YEARS ON CURRENT JOB BY AGE, SEX, AND COLOR, JANUARY 1963 AND 1966

Age and Color	Median years on same job					
	Both sexes		Male		Female	
	1966	1963	1966	1963	1966	1963
<b>AGE</b>						
Total, 14 years and over.....	4.2	4.6	5.2	5.7	2.8	3.0
14 to 17 years.....	0.6	0.7	0.6	0.7	0.6	0.6
18 and 19 years.....	.5	.5	.5	.5	.5	.5
20 to 24 years.....	1.0	1.1	1.0	1.0	1.1	1.1
25 to 34 years.....	2.7	3.0	3.2	3.5	1.9	2.0
35 to 44 years.....	6.0	6.0	7.8	7.6	3.5	3.6
45 to 54 years.....	8.8	9.0	11.5	11.4	5.7	6.1
55 to 64 years.....	13.0	11.8	15.8	14.7	9.0	7.8
65 years and over.....	13.7	13.8	15.5	16.6	11.2	8.8
<b>COLOR</b>						
White.....	4.3	4.7	5.5	5.9	2.8	3.0
Nonwhite.....	3.1	3.6	3.4	4.1	2.8	2.9

<sup>6</sup> See "Job Mobility in 1961," op. cit.



Chart 1. White Men Averaged More Years on Their Job Than Negro Men But the Job Tenure of White and Negro Women Was About the Same



most of the married women are in the older age groups where average duration tends to be higher. Among widowed, divorced, or separated women, job tenure for each age group was similar to that for married rather than single women. Women who usually worked at part-time jobs averaged a shorter period (1.7 years) with the same employer than women who usually worked full time (3.3 years). Part-time women workers are inclined to have temporary or seasonal jobs and to move in and out of the labor force more frequently than women who usually work at full-time jobs. Part-time workers also tend to be younger than full-time workers.

White men employed in January 1966 averaged about 2 years longer on their current job than Negro men—5.5 and 3.4 years, respectively. For men over 45, there was more than 3 years difference in job tenure—13.4 versus 10.2 years (chart 1). The proportions of white and Negro men who have been continuously employed on their current job for over 15 years were 23 and 16 percent, respectively. The variations are caused by the significantly larger proportions of Negro men who work at part-time jobs which tend to be of shorter duration than full-time jobs; employed Negro men are also more concentrated in the less stable unskilled and semiskilled occupations where unemployment rates tend to be highest.

For women, however, length of job attachment did not vary for white and Negro workers—each

group averaged about 3 years. Though Negro women are more concentrated in less stable occupations than their white counterparts, an element which would imply shorter job tenure, this factor is offset by the greater propensity of Negro women to remain in the labor force for economic reasons. In 1965, for example, 46 percent of all Negro women compared with 37 percent of all white women of working age were in the labor force.

### Job Tenure by Occupation and Industry

As observed in past surveys, job tenure was generally longer in those occupations and industries that require a more than average investment by employed persons in training, capital, or both. Not all occupations requiring a high degree of education or skill are characterized by long job tenure, however. In fact, salaried professional and technical persons worked fewer than the average number of consecutive years on their current job, probably because of the rapid expansion in employment in this field in recent years and the favorable employment opportunities engendered by this growth.

The average number of years that men were on the same job as of January 1966 ranged from a high of 19 years for farmers and farm managers to a low of 2 years for nonfarm laborers (table 3). The longest duration was reported by self-employed men—farmers, businessmen, and professionals such as doctors, dentists, lawyers—a majority of whom were over 45 years old. Twenty-eight percent of the self-employed professionals and 44 percent of the farmers had worked continuously in their current business for over 20 years. These men have invested considerable time and money in their careers and businesses, and traditionally they remain at the same work for a long time.

Skilled craftsmen outside the construction industry, including machinists, metal craftsmen, and foremen, were on the same job for an average of 11 to 13 years, more than twice as long as the average male worker. This long job duration reflects the older age composition of these skilled workers—nearly half were age 45 or older.

The shortest job tenure for men occurred among farm and nonfarm laborers, carpenters, service workers except protective service workers, and sales employees. Many of these workers were in

seasonal industries and hence had involuntary interruptions in their job tenure.

Occupational differences in the job tenure of women workers were generally similar to the variations in job attachment found among employed men. Among farm laborers, however, women averaged considerably longer on their current job than their male counterparts—11.6 years and 2.7 years, respectively. Most of these women were unpaid workers helping to run family farms. The small number of women who operated farms themselves had the longest average job tenure of any occupation group—male or female—over 21 years.

The largest number of employed women worked in clerical occupations where the average length of employment was 2.7 years—not significantly different from that for all women. The second largest group were in service occupations, such as private household workers and waitresses; their jobs lasted an average of only 2 years. Women employed as managers held their jobs, on the

average, three times as long as those in sales and service occupations. The short average duration of sales and service jobs results from several factors—their seasonal and temporary nature, the comparatively large proportion of part-time workers employed, and the number of women intentionally coming into the labor force for temporary periods who seek this type of employment.

Job tenure varied widely not only by industry but also by whether or not a person was self-employed or working for a wage or salary. In agriculture, the average male hired farm worker held his current job for only 2 years but the self-employed farmer for nine times as long. Among nonfarm workers, about 19 percent of the self-employed but only 11 percent of the hired workers had been on the job for over 20 years.

The average tenure of 4.6 years for all men employed as nonagricultural wage and salary workers conceals a great deal of industry variation. Within this group, railroad employees had the

TABLE 3. MAJOR OCCUPATION AND INDUSTRY GROUP AND CLASS OF WORKER: LENGTH OF EMPLOYMENT ON CURRENT JOB, BY SEX, JANUARY 1966

[Percent distribution]

Occupation, industry, and class of worker	Male							Female						
	Total <sup>1</sup>	5 years or less	Over 5 to 10 years	Over 10 to 15 years	Over 15 to 20 years	Over 20 years	Median years on job	Total <sup>1</sup>	5 years or less	Over 5 to 10 years	Over 10 to 15 years	Over 15 to 20 years	Over 20 years	Median years on job
Total, 14 years and over.....	100.0	49.3	15.8	12.0	9.8	13.2	5.3	100.0	63.9	15.3	8.4	5.5	6.9	2.8
OCCUPATION														
Professional, technical, and kindred workers.....	100.0	49.2	18.6	12.6	8.6	11.0	5.3	100.0	60.1	15.2	9.2	6.4	9.0	3.5
Farmers and farm managers.....	100.0	15.5	13.1	10.6	14.9	45.9	18.7	100.0	18.5	13.4	5.9	10.1	52.1	21.6
Managers, officials, and proprietors, except farm.....	100.0	38.0	18.2	13.6	12.9	17.4	8.2	100.0	42.7	21.0	12.5	8.6	15.2	6.5
Clerical and kindred workers.....	100.0	50.4	15.1	12.4	10.2	11.9	5.0	100.0	66.0	15.9	8.2	4.3	5.6	2.7
Sales workers.....	100.0	60.7	15.1	8.6	7.0	8.5	3.3	100.0	67.4	16.3	7.3	4.1	4.9	2.2
Craftsmen and kindred workers.....	100.0	42.8	16.0	14.1	11.7	15.4	7.0	100.0	44.9	16.5	16.5	11.5	10.7	6.4
Operatives and kindred workers.....	100.0	53.7	14.8	12.0	9.1	10.3	4.3	100.0	59.0	15.1	9.6	8.4	7.9	3.4
Private household workers.....	(2)						(2)	100.0	73.6	10.4	6.1	5.4	4.5	1.9
Service workers, except private household.....	100.0	60.2	15.1	10.7	6.8	7.1	3.3	100.0	72.6	15.3	6.8	2.6	2.7	1.8
Farm laborers and foremen.....	100.0	63.5	17.1	8.8	5.0	5.6	2.7	100.0	32.2	14.6	9.7	15.1	28.3	11.6
Laborers, except farm and mine.....	100.0	67.4	11.4	8.3	6.4	6.5	1.8	100.0	63.4	5.0	13.9	5.0	12.9	2.2
INDUSTRY AND CLASS OF WORKER														
Agriculture.....	100.0	34.2	14.2	10.0	11.1	30.5	10.9	100.0	33.3	14.2	8.9	12.6	31.1	11.5
Wage and salary workers.....	100.0	67.9	12.6	8.5	6.2	4.9	1.9	100.0	79.3	12.1	2.6	4.3	1.7	.8
Self-employed workers.....	100.0	15.8	12.9	10.7	14.6	46.0	18.7	100.0	21.3	14.2	6.3	9.4	48.8	19.7
Unpaid family workers.....	100.0	50.2	31.2	10.0	2.3	6.3	5.0	100.0	18.9	15.1	12.8	17.7	35.5	15.9
Nonagricultural industries.....	100.0	50.4	15.9	12.2	9.7	11.9	5.0	100.0	64.6	15.3	8.4	5.3	6.4	2.8
Total wage and salary workers <sup>3</sup> .....	100.0	52.3	15.7	12.0	9.1	11.0	4.6	100.0	65.8	15.2	8.2	5.0	5.9	2.6
Mining.....	100.0	47.2	13.2	15.7	10.4	13.6	5.9	(2)						(2)
Construction.....	100.0	64.7	14.9	9.3	6.6	4.4	2.4	100.0	69.3	13.2	3.7	5.3	8.5	2.6
Manufacturing.....	100.0	45.7	15.5	13.7	10.7	14.4	6.3	100.0	57.1	15.7	10.4	7.7	9.1	3.8
Transportation.....	100.0	36.8	15.6	13.7	12.6	21.3	9.2	100.0	64.2	15.5	8.6	4.3	7.3	2.6
Communications and public utilities.....	100.0	30.9	15.5	21.0	16.4	16.1	10.9	100.0	52.8	13.6	8.5	10.3	14.8	4.6
Wholesale and retail trade.....	100.0	63.9	14.6	8.3	6.2	6.9	2.7	100.0	71.3	14.7	6.3	3.7	4.0	2.0
Service and finance.....	100.0	63.0	16.3	9.3	5.5	6.0	3.1	100.0	69.1	14.8	7.5	4.0	4.6	2.4
Public administration.....	100.0	39.5	19.1	15.7	13.3	12.4	7.6	100.0	55.8	19.5	12.7	5.1	6.9	4.1
Self-employed and unpaid family workers.....	100.0	34.2	17.6	13.9	14.5	19.8	9.5	100.0	49.3	17.5	10.9	9.6	12.7	5.2

<sup>1</sup> Excludes persons not reporting length of time on current job.  
<sup>2</sup> Percent and median not shown where base is less than 100,000.

<sup>3</sup> Includes forestry and fisheries not shown separately.

TABLE 4. PERCENT OF WORKERS 25 TO 54 YEARS OLD WITH CURRENT EMPLOYER OVER 10 YEARS IN JANUARY 1966 WHO CAN BE EXPECTED TO REMAIN WITH SAME EMPLOYER 10 ADDITIONAL YEARS, BY AGE AND SEX<sup>1</sup>

Age in January 1966 and sex	Percent with current employer in January 1966		Age in January 1976	Percent surviving from 1966 to 1976	Percent of those with current employer over 10 years in January 1966 remaining with same employer to January 1976	
	Over 10 years	Over 20 years			Unadjusted for deaths	Adjusted for deaths
<b>MALES</b>						
25 to 29 years	3.6		35 to 39	98.0	66.7	65.4
30 to 34 years	19.4		40 to 44	97.2	42.8	41.6
35 to 39 years	34.6	2.4	45 to 49	95.6	49.1	46.9
40 to 44 years	48.1	8.3	50 to 54	93.0	58.2	54.1
45 to 49 years	51.6	17.0	55 to 59	89.0	72.1	64.2
50 to 54 years	57.0	28.0	60 to 64	83.6	71.8	60.0
55 to 59 years	61.9	37.2				
60 to 64 years	65.1	40.9				
<b>FEMALES</b>						
25 to 29 years	2.5		35 to 39	98.8	56.0	55.3
30 to 34 years	9.5		40 to 44	98.3	49.5	48.7
35 to 39 years	15.1	1.4	45 to 49	97.4	60.3	58.7
40 to 44 years	24.3	4.7	50 to 54	96.0	49.4	47.4
45 to 49 years	30.4	9.1	55 to 59	94.1	55.3	52.0
50 to 54 years	33.8	12.0	60 to 64	91.3	75.4	68.8
55 to 59 years	41.5	16.8				
60 to 64 years	53.2	25.5				

<sup>1</sup> The estimation procedure can best be described by the following example: 34.6 percent of working men 35 to 39 years old were reported to have been with their current employer over 10 years in January 1966. Similarly, the percent of those 45 to 49 years old with over 20 years of service with their current employer was 17.0 percent. Dividing the latter percent by the former yields an estimate of the proportion of male workers now age 35 to 39 years with over 10 years of service with their current employer who can be expected to remain with the same employer an additional 10 years, when they would be 45 to 49 years old. In this example, the result is 49.1 percent, as shown in column 5 of the table. However, this computation makes no allowance for the loss of workers due to mortality. It is therefore necessary to multiply this percent by the proportion of male workers who could be expected to survive from age 35 to 39 years to age 45 to 49 years. For this example, 10-year survival ratios were obtained from the U.S. Department of Health, Education, and Welfare, Social Security Administration, "Illustrative United States Population Projections," Actuarial Study No. 46 (May 1957), tables 6-H and 7-H (the "high mortality" assumption). In our example, the adjusted percent comes to .491 X .956, or 46.9 percent.

In extending this procedure to estimate the proportion of workers who would remain with the same employer to the age of retirement, it is necessary to introduce further assumptions regarding job retention rates for periods of service beyond 20 years' duration.

longest tenure, over 18 years on their current job. More than 1 out of 4 railroad workers had been working at the same job for 25 years or more. In addition to their potential Railroad Retirement pension benefits, a large proportion of railroad workers are older men who because of their age<sup>7</sup> and seniority are not inclined to change jobs voluntarily or involuntarily. Other industries in which men had very long job tenure were communications and public utilities and Federal service (especially the postal service where average job tenure was over 10 years).

The average length of continuous employment was substantially greater among men working in factories than it was for all men working for a wage or salary. However, job tenure of men employed in the durable goods manufacturing indus-

tries declined between January 1963 and January 1966 from an average of 7.2 years to 6 years, partly because of the large increase in employment in these industries since 1963. The greater volume of hiring in recent years was clearly indicated by the larger proportion of men employed for 3 years or less in 1966 than in 1963, as shown in the following tabulation:

	Percent employed at same job for 3 years or less	
	January 1966	January 1963
Primary metal	23.3	17.5
Fabricated metal products	36.6	33.7
Machinery, except electrical	38.1	28.6
Electrical machinery	37.7	32.8
Transportation equipment	36.0	26.2
Automobiles	34.4	21.7
Other transportation equipment	37.7	31.0
Other durable goods	37.6	32.2

Notwithstanding the decline, workers in the primary metals industries had long job tenure, averaging 11 years. Nearly 15 percent of the men working in the industry had been employed on their current job for 25 years or more. Automobile workers averaged about 7 years on their current job, and workers in the stone, clay, and glass industries also had longer than average job tenure—7.5 years. Among the nondurable goods industries, longest job tenure was found in such diverse manufacturing industries as tobacco, paper, petroleum, leather goods, and rubber and plastic goods.

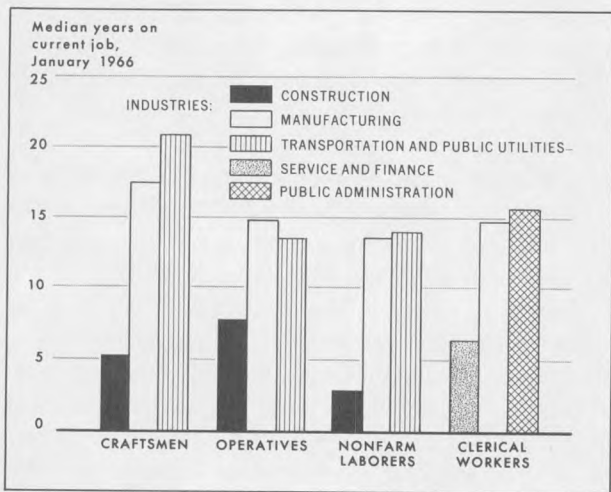
Construction workers were among those with the shortest job tenure, averaging only 2.4 years; more than one-third of these men had been on their current job 1 year or less. Construction jobs usually are of short duration and the demand for workers in the industry fluctuates with the seasonality of the work. In the lumber and wood products industry, workers also had short job duration because of seasonal factors. Other industries in which men had comparatively short job duration were retail trade and service—particularly business and repair services, private households, personal services, and entertainment.

Average job tenure for men in a particular occupation varied considerably with the industry in which they were working. For example, crafts-

<sup>7</sup> Sixty percent of railroad blue-collar workers are 45 years old and over.



Chart 2. Among Men 45 Years Old and Over, Job Tenure Varied Considerably for Workers Within Individual Occupations



men 45 years old and over averaged 13.5 years on their current job. The range extended from 5.2 years for construction craftsmen to 22.5 years for craftsmen in the transportation industry (e.g., skilled railroad workers). Craftsmen in manufacturing industries averaged 17.4 years on their current job (chart 2). Laborers generally were connected with their current job a much shorter time than more highly trained workers. However, among men 45 years and over laborers employed in manufacturing and transportation had been working on their current job about 14 years, nearly three times as long as skilled construction workers.

**Continuation on Present Job**

Data on job tenure are used to make rough estimates of the proportion of workers already having long job attachment who can be expected to re-

<sup>8</sup> A similar table and analysis based on January 1963 data appeared in Special Labor Force Report No. 36.

main on their current jobs a specified number of additional years.<sup>8</sup> For example, from table 4, it is possible to project the proportion of employed men or women in particular age groups with 10 years or more experience on their current job as of January 1966 who can be expected to remain on that job another 10 years. This computation yields rough estimates of job retention ranging from about 40 to 70 percent for men and women in various age groups.

These projections assume that the pattern of job attachment at successively older ages as of January 1966 can be used to represent the pattern of job attachment for each age cohort as it ages over time. The patterns of job attachment observed among working men in January 1966, however, reflect the interruptions of civilian careers brought about by World War II and the Korean conflict. For this reason, the proportion of men 35 to 54 years old having over 20 years of continuous service with their current employer in January 1966 was undoubtedly lower than it would have been had it not been for these national emergencies.

Consequently, smaller proportions of men 30 to 44 years old than of men 25 to 29 (as of January 1966) are expected to remain with their current employer an additional 10 years. This percentage would normally be expected to rise with advancing age, and projections of job retention derived for men in these ages may require further adjustment before they can be used to describe future experience of men who are now in the younger age groups.

A similar procedure could be used to estimate the proportion of workers who could be expected to remain with a given employer until they reached the age of retirement or until they become eligible for retirement benefits. Such projections could be used as rough guides in estimating the costs of private pension plans.

# Work Limitations and Chronic Health Problems

CARL ROSENFELD  
AND ELIZABETH WALDMAN\*

MANY PEOPLE who are not working report chronic health conditions that may limit their work abilities. In fact, of the 2.2 million men 25 to 64 years of age who were neither working nor looking for work during the year ended June 1965, 60 percent reported chronic health problems. These and other findings from a Public Health Service survey<sup>1</sup> indicate the difficulty of escaping unassisted from the frequent linkage of ill health, low income, and work restrictions. The health of the population therefore assumes major significance in any program aimed at decreasing the Nation's unused or underutilized manpower resources. Presented here are data on the age, sex, and labor force status of the persons in the civilian noninstitutional population whose work abilities were limited by chronic health conditions or impairments.

Individuals reported varying degrees of restriction in performing their usual activities, depending on the nature of their condition. Chronic health problems may range from only minor limitation to total inability to work.

Among men 25 to 64 years old, health problems most frequently affected the work capacity of those who were not in the labor force. As shown by the chart and table 1, chronic health conditions limited more than 60 percent of the 2.2 million men not in the labor force in the year ended June 1965. These 1.4 million men included about 900,000 who reported they were not able to work at all. The remainder believed that their condition limited the amount or kind of work they could perform.

Of the 1 million unemployed men 25 to 64 years old, about 20 percent reported some work limita-

tion related to health (table 2). In almost all cases, the disability affected the amount or kind of work rather than preventing work completely. It may be that this limitation prevented many from taking a job, even if only a part-time job for which they would otherwise be qualified. Of course, within this group work limitations may be relatively more numerous among the long-term unemployed (15 weeks or more) than among those jobless for only a few weeks.

A smaller proportion of the employed men 25 to 64 years old, about 7 percent (2.6 million out of 36.8 million), said that a chronic health condition caused them to curtail their work activities.

Leading causes of limitation on work or other activity for men and women are heart conditions, arthritis and rheumatism, and orthopedic impairments of the back, spine, and extremities (excluding paralysis), and to a lesser extent mental and nervous disorders, hypertension without heart involvement, visual impairments, and asthma and hay fever. Chronic health problems were found to occur more frequently and to cause an increasingly higher rate of chronic disability with advancing age. Disability rates of persons with heart conditions show a significant increase among persons age 45 and over, particularly among men.

At least one chronic condition was reported by about half (54 percent) of the 47.6 million men 17 years old and over in the labor force. The proportion was about the same for the employed as for the unemployed, and for both groups the proportions, as expected, increased with age. For example, 38 percent of the men 17 to 24 years old in the labor force, but 75 percent of those 65 years and over, had at least one chronic condition.

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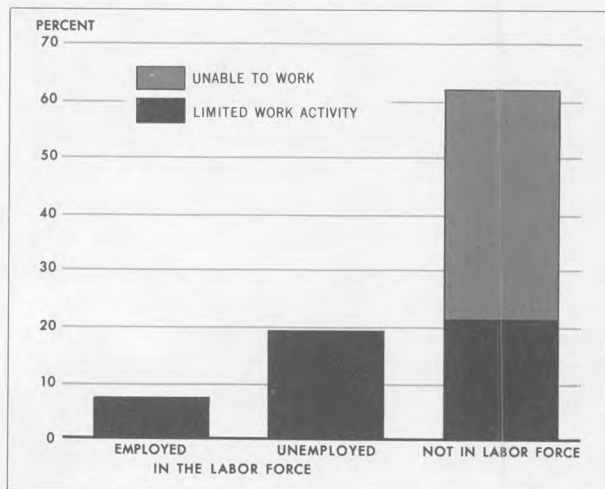
<sup>1</sup>The preliminary figures in this article were derived from the National Health Interview Survey (HIS) which was conducted by the Public Health Service, U.S. Department of Health, Education, and Welfare during the period July 1964 through June 1965. The figures are averages of data collected each week during the year and reflect each respondent's evaluation of his physical status and related work activity limitations.

Respondents provided information on illness, injuries, chronic health conditions, and impairments at the time of the survey. For those who had chronic conditions such as asthma and hay fever, mental and nervous conditions, heart conditions, arthritis and rheumatism, or impairments such as deafness, blindness and deformities of back or limbs, the respondents indicated whether the illness or impairment prevented them from working altogether or whether it limited the amount or kind of work.

Despite slight differences in definitions of employment status and in methods of compiling data as between the HIS and the BLS-CPS surveys, the numbers in the two surveys are not very different for the various labor force groups.

However, there were sharp differences between the employed and unemployed men in the proportions who reported that their conditions affected their ability to work. About 13 percent of the 1.8 million unemployed men reported they were limited in amount or kind of work they could perform, a proportion double that for employed men. Even higher proportions were found among unemployed men in the older age groups; work limitations were as high as 23 percent for those 45 to 64 years old and 31 percent for those age 65 and over.

Proportion of Men 25-64 Years of Age, Employed, Unemployed, and Not in the Labor Force, with Limited Work Activity, July 1964-June 1965



**Men Not in Labor Force**

Nearly all adult men no longer in school and in good health are in the labor force. Those men who are not in the labor force, because of special circumstances or situations, can be expected to have a chronic condition and be unable or limited in their ability to work more often than persons who are in the labor force. The exception would be in the younger group 17 to 24 years of age. About 2.4 million of the 10 million men 17 years old and over who were not in the labor force in 1965 were 17 to 24 years old. Undoubtedly, many of the young men were attending school. Relatively few young men whether in or out of the labor force had some degree of work limitation, an indication of the small proportion with a chronic condition, and the probability that even among those with a health problem the condition had not yet deteriorated far enough to affect their ability to work.

old and, as would be expected, most frequently for those 45 to 64 years old. About half of the nearly 600,000 men 25 to 44 years old who were neither working nor looking for work reported some disability; 34 percent were not able to work at all, and 14 percent said they were limited in the amount or kind of work they could perform. Over 40 percent of the 1.6 million men 45 to 64 years old not in the labor force reported they were unable to work and another fourth said they were restricted as to the amount or kind of work they could do.

Work limitation owing to health problems occurred more among men 25 to 44 years

In this survey, men 45 years and over who were not employed or looking for work were asked whether they had retired. In the age group 45 to 64, a million of the 1.6 million not in the labor

TABLE 1. EXTENT OF WORK LIMITATIONS AMONG MEN NOT IN THE LABOR FORCE, 25 YEARS OLD AND OVER, JULY 1964-JUNE 1965

[Numbers in thousands]

Age of men	Total not in labor force	Total with work limitations		Not able to work at all		Able to work but limited in amount or kind of work	
		Number	Percent of total not in labor force	Number	Percent of total not in labor force	Number	Percent of total not in labor force
Total, 25 years and over.....	7,621	4,492	58.9	2,561	33.6	1,930	25.3
25 to 64 years.....	2,189	1,365	62.4	893	40.8	472	21.6
25 to 44 years.....	580	279	48.1	198	34.1	81	14.0
45 to 64 years.....	1,610	1,086	67.5	695	43.2	391	24.3
Retired.....	1,023	695	67.9	445	43.5	250	24.4
Not retired.....	587	391	66.6	249	42.4	142	24.2
65 years and over.....	5,431	3,127	57.6	1,669	30.7	1,458	26.8
Retired.....	5,006	2,872	57.4	1,511	30.2	1,361	27.2
Not retired.....	425	254	59.8	157	36.9	97	22.8

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

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



force reported that they had retired. Among the retired, the proportions who were not able to work or who had some work limitations were the same as for the men who had left the labor force but who did not consider themselves retired.

Among the 5.4 million men 65 years and over who were not in the labor force, the incidence of partial work limitation was about the same as for men 45 to 64 (about 25 percent), but the proportion who were not able to work at all was smaller—31 percent compared with 40 percent. The lower incidence of total restriction among the aged men may indicate that (1) many men with the more debilitating health conditions may have died before reaching age 65 and (2) more men who retire or otherwise leave the labor force before reaching

65 do so because their illness is so severe that it prevents them from working at all, rather than just restricting the amount or kind of work they can do.

## Women

The proportion of women 17 years old and over in the labor force who reported having a chronic condition was about the same as for men, 56 percent and 54 percent, respectively. However, a smaller proportion of the 1.6 million unemployed women than of the unemployed men had work limitations, about 10 percent of the women compared with 14 percent of the men. For the unemployed 45 to 64 years old, work restrictions were

TABLE 2. LABOR FORCE STATUS OF PERSONS 17 YEARS OLD AND OVER, BY PRESENCE OR ABSENCE OF CHRONIC CONDITIONS AND WORK LIMITATIONS, BY AGE, JULY 1964-JUNE 1965  
(Percent distribution)

Age and condition	Male				Female			
	Total population	Employed	Unemployed	Not in labor force <sup>1</sup>	Total population	Employed	Unemployed	Not in labor force <sup>1</sup>
Total, 17 years and over: Number (thousands).....	57,585	45,836	1,760	9,989	64,501	24,629	1,640	38,233
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With 1 or more chronic conditions.....	57.3	54.1	52.0	73.1	62.2	55.9	58.8	66.4
Limited (or unable) in work activities.....	14.2	7.2	14.4	46.1	12.1	5.8	9.7	16.4
Limited in other activities.....	3.3	3.3	2.8	3.5	5.1	3.3	5.0	6.3
Activity not limited.....	39.9	43.6	34.8	23.6	44.9	46.8	44.0	43.7
With no chronic conditions.....	42.7	45.9	48.0	26.9	37.8	44.1	41.2	33.6
17 to 24 years: Number (thousands).....	9,962	6,918	675	2,369	11,337	4,909	635	5,793
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With 1 or more chronic conditions.....	37.6	37.7	40.4	36.2	41.1	40.1	45.2	41.6
Limited (or unable) in work activities.....	3.4	2.8	5.5	4.6	2.6	1.7	6.5	3.0
Limited in other activities.....	1.7	1.4	2.2	2.2	2.0	1.7	1.6	2.3
Activity not limited.....	32.5	33.5	32.9	29.4	36.5	36.7	37.0	36.3
With no chronic conditions.....	62.4	62.3	59.6	63.8	58.9	59.9	54.8	58.4
25 to 64 years: Number (thousands).....	40,014	36,795	1,029	2,189	43,481	18,775	973	23,734
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With 1 or more chronic conditions.....	57.6	56.0	58.4	84.1	62.7	59.0	66.8	65.4
Limited (or unable) in work activities.....	10.3	6.9	19.2	62.4	9.3	6.2	11.4	11.6
Limited in other activities.....	3.4	3.4	2.9	2.9	5.1	3.6	7.1	6.1
Activity not limited.....	43.9	45.6	36.2	18.8	48.3	49.2	48.3	47.6
With no chronic conditions.....	42.4	44.0	41.6	15.9	37.3	41.0	33.1	34.6
25 to 44 years: Number (thousands).....	21,613	20,507	526	580	23,686	9,622	642	13,422
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With 1 or more chronic conditions.....	52.2	51.6	51.5	74.1	58.0	54.7	63.7	60.1
Limited (or unable) in work activities.....	5.6	4.2	12.5	48.1	5.9	4.7	11.2	6.5
Limited in other activities.....	2.7	2.7	2.5	2.8	4.2	3.2	6.7	4.7
Activity not limited.....	43.8	44.6	36.5	23.1	48.0	46.8	45.8	48.9
With no chronic conditions.....	47.8	48.4	48.5	25.9	42.0	45.3	36.3	39.9
45 to 64 years: Number (thousands).....	18,401	16,288	503	1,610	19,795	9,153	330	10,312
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
With 1 or more chronic conditions.....	64.0	61.6	65.6	87.6	68.2	63.6	73.0	72.2
Limited (or unable) in work activities.....	15.8	10.4	26.0	67.5	13.3	7.9	11.8	18.2
Limited in other activities.....	4.2	4.3	3.4	3.0	6.1	3.9	7.9	8.0
Activity not limited.....	44.0	46.9	36.0	17.2	48.8	51.7	53.3	46.0
With no chronic conditions.....	36.0	38.4	34.4	12.4	31.8	36.4	27.0	27.8
65 years and over: Number (thousands).....	7,610	2,123	55	5,431	9,683	945	32	8,706
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	( <sup>2</sup> )	100.0
With 1 or more chronic conditions.....	81.9	74.6	74.5	84.8	84.6	75.7	-----	85.5
Limited (or unable) in work activities.....	48.9	27.2	36.4	57.6	36.2	17.8	-----	38.2
Limited in other activities.....	4.8	6.2	7.3	4.2	9.0	6.0	-----	9.3
Activity not limited.....	28.1	41.2	32.7	23.0	39.4	51.7	-----	38.0
With no chronic conditions.....	18.1	25.4	25.5	15.2	15.4	24.3	-----	14.5

<sup>1</sup> Data for females not in labor force are not strictly comparable to those for the males because of data collection procedures; limited in work activities refers to ability to keep house.

<sup>2</sup> Percent not shown where base is less than 50,000.

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

reported by 12 percent of the women, a proportion half that for the men.

Among employed workers 25 to 64 years old, equally small proportions of men and women had restrictions related to work; among those 65 and over, the proportion with limitations was much greater for men than for women, 27 percent and 18 percent, respectively. Perhaps the older women with work limitations were more likely than men their ages to leave the labor force.

Information similar to that for men is not available for women not in the labor force, since the health survey did not distinguish between women who had limitations with respect to household duties and those related to paid employment.

**Disability and Income**

The lower the family income, the higher the incidence of chronic health conditions which result in reduced activities. Of course, in many cases, the low income may be the consequence of the disabling chronic condition rather than the cause. The proportions of persons with chronic disabilities increase with each successive age group, but within each group these proportions decrease dramatically as family income rises. This inverse age-income relationship is illustrated as follows:

Age group and family income	Percent of total population with chronic conditions which limit or result in inability to perform major activity <sup>1</sup>
Under 45 years.....	3.0
Under \$3,000.....	5.6
\$7,000 and over.....	2.0
45 to 64 years.....	14.4
Under \$3,000.....	30.1
\$7,000 and over.....	7.7
65 years and over.....	41.5
Under \$3,000.....	47.0
\$7,000 and over.....	32.6

<sup>1</sup> Major activity refers to work, keeping house, or going to school.

SOURCE: *Age Patterns in Medical Care, Illness and Disability, U.S., July 1963-June 1965* (U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics), Series 10, No. 32, table 22.

In one HEW study,<sup>2</sup> the author speculates that "poorer diet, poorer environment, or poorer health habits associated with lower income" may be responsible for the higher prevalence of chronic disabilities among lower income families. Conversely, as family income increases, decreasing proportions of the population tend to have chronic conditions which restrict activities, probably be-

<sup>2</sup> *Medical Care, Health Status, and Family Income* (U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics), Series 10, No. 9, p. 53.

cause of early diagnosis and treatment resulting from better medical care. Because persons with high incomes are less likely to have jobs requiring strenuous physical activity, they may also be better able than persons in low income families to continue working despite chronic disabilities.

More nonwhite than white persons, as well as persons in low-income families, were limited in their major activity not only because of the type of major activity performed (for example, blue-collar rather than white-collar work), but also because nonwhites do not visit physicians as often as whites for diagnosis and correction or relief of chronic conditions.

According to this study, over 5 million persons who have work limitations of one kind or another were working or looking for work. Therefore, it would seem reasonable to conclude that some of the persons not in the labor force could be usefully engaged if efforts were made to find out what kind of work they can do and under what circumstances.

As an initial step in improving the utilization of manpower, efforts might be directed to the 1.3 million men 25 to 64 years old who are not in the labor force and who have no work limitations at all or only some curtailment of amount or kind of work. As shown below, this group includes about 825,000 men (a few of whom may still be in school) who either have no chronic condition or have a chronic condition but no work limitation, and about 475,000 with some work limitation.

Age group	Men not in labor force, excluding unable to work (in thousands)				
	With no work limitations				
	Total	Total	With no chronic condition	With a chronic condition	With work limitation
Total, 25 to 64 years.....	1,297	824	349	475	472
25 to 44 years.....	351	300	150	150	81
45 to 64 years.....	915	524	199	325	391
Not retired.....	337	196	81	115	142
Retired.....	578	328	118	210	250

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

The above totals include about 575,000 men 45 to 64 years old who reported they had retired but were able to work. Undoubtedly, some of these retired men as well as some of the others not in the labor force might be available for work if they could obtain required job training, particular prosthetic devices, or special environmental conditions at work.

# Adjustment to Plant Closure

## Cooperation in Planning for the Transfer of Negro Workers Into a White Community

EDITOR'S NOTE.—*This article is excerpted, with minor stylistic modifications, from "A Report to the Automation Fund Committee" on workers' adjustment to the closing of the Armour and Co.'s meat processing plant in Kansas City. The report was prepared by James L. Stern, professor of economics, University of Wisconsin, who supervised the Kansas City activities of the Committee. Accounts of the Committee's actions in other closure situations were reported in the Review in November 1965 (pp. 1297-1301), January 1964 (pp. 53-57), and August 1961 (pp. 851-857).*

IN ACCORDANCE WITH the collective bargaining agreement between Armour and Co. and the United Packinghouse Food and Allied Workers Union, AFL-CIO, the company issued a 90 days' advance notice on June 1, 1964, that the slaughtering facilities at the Kansas City, Kans., plant would be closed on August 31, 1964. The action led to the elimination of the jobs of about one-half of the approximately 1,900 workers in the bargaining unit. Later the company found it necessary to terminate all activities at that plant and notice was given at the beginning of February 1965, to the remaining workers that the plant would be completely closed and all jobs eliminated as of the end of May 1965. This report reviews the activities that the Automation Fund Committee undertook to minimize the adverse effect of the closing upon the employees of the Kansas City plant. (Members of the committee are listed at the end of the article.)

The application of provisions in the collective bargaining agreement about interplant transfer, separation pay, and pensions afforded substantial assistance to workers with at least 1 year of service

in their adjustment to the plant closing. Initially, 328 workers obtained jobs in other Armour plants, 220 retired, and approximately 1,250 took separation pay averaging \$2,000 a person.

The successful effort to increase the number of workers taking interplant transfers raised questions of community relations and adequate housing, particularly as regards unionized Negroes from large urban centers moving into small all-white rural communities in areas that were not considered hospitable to unions. The Automation Fund Committee, established under the 1959 contract, undertook a special program to facilitate the adjustment in a situation of this nature involving the transfer of almost 50 minority group members to Worthington, Minn. Assimilation of the Negroes and workers of Spanish-American descent was accomplished successfully mainly because community leaders, including representatives of the newspaper, church, local government, business, and fraternal and social clubs created a community relations climate favorable to the integration of the newcomers into the life of the community.

### Community Relations

On July 30, 1963, an announcement had been made that Armour and Co. would build a plant in Worthington. The first steps taken by the Committee in the summer of 1964, a few months before the plant was scheduled to open, were to ascertain the views of the community about the forthcoming transfer, and to estimate the number of workers who would be transferring and how many of these were Negroes. Unfortunately, the Worthington community had gained the impression from early news reports that most of the jobs in the new plant would be filled by local residents. These assertions



eventually were contradicted by the company-union agreement on transfers, providing that up to 80 percent of the jobs in the plant would be filled by employees from other Armour plants. This development had not at first been publicized in Worthington, and there was no discussion of how this agreement would affect local residents' opportunities of employment at the new establishment.

In the early summer of 1964, Worthington citizens became aware of rumors that some Armour workers would be transferring to their city. Several Negroes and one worker of Spanish-American descent came from Kansas City to Worthington for a weekend, to survey the housing situation for others who would be considering transfer in the fall. White workers from the St. Paul, Minn., plant and from the Sioux City area also visited the city. The Worthington Daily Globe ran a lengthy story about the pending plant opening and the possibility that a rather large number of workers would transfer to Worthington.

Telephone conversations with Worthington community leaders at that time made it clear to the Committee that it would be useful for top company and international union officials to arrange a visit to Worthington to discuss the dimensions of the forthcoming transfer. Armed with all the information that they could gather, several members of the Committee and their representatives flew to Worthington on August 1 to meet with community leaders. It should be noted that much of the success of the efforts of the community and of the Committee is attributable to the personal help provided by James Vance, the editor of the Daily Globe, and to the excellent press coverage by the newspaper. The Globe helped immeasurably in the creation of a community relations climate which facilitated the integration of Negroes into this previously all-white community.

### Meetings With Local Leaders

During the 1-day visit, representatives of the Committee attended a series of meetings with Worthington city officials, political leaders, businessmen, and representatives of religious, educational, social, and fraternal organizations. Representatives of the press and radio were present at one of the meetings.

The procedure was approximately the same at each of these meetings. First, a company representative on the Committee reviewed the developments leading to the location of the new Armour plant in Worthington, and summarized information concerning the anticipated employment, volume of production, and date of the plant opening. A representative of the public members of the Committee explained that 550 workers in other Armour plants had indicated a desire to be considered for transfer to Worthington, and that from this list, the company would transfer to Worthington in September approximately 125 employees who would become a nucleus of the first shift. The community leaders were also told that an additional group of about the same size would be asked to report to Worthington about 60 days later to staff the second shift. An assumption was stated that approximately one-third of the workers transferring would be Negroes or of Spanish-American descent.

The Committee knew from past experience that many of the men on the transfer list would not move when the time came. It had some idea—not certainty—as to how many Negroes would transfer to Worthington, yet, it faced a problem in communicating its estimates to the community. It did not want to convey the impression that only a few Negroes would transfer and that nothing needed to be done; nor did it want to raise the possibility that most of the transferees would be Negroes. The one-third guess, or about 50 of the first 150 workers to be called, was made with the hope that it would be correct, and with the realization that even though it was a most tentative figure, it would be accepted by the community as the definite statement of the proportion of the transferees who would be minority group members.

A union representative on the Committee, a Negro, then told the community leaders that the Committee was concerned about the impact of the transfer on the community, and that it was hoped that the transferees would be good citizens and would participate in the life of the town. The final speaker, another company member of the Committee, explained the wage scale that would be used at the plant and indicated the types of jobs that would be performed and the wages paid for this work. The total presentation at each meeting was short and questions and discussion were en-

couraged. There was extensive discussion of the limited housing available and of the desirability of avoiding racial discrimination.

Committee members were impressed by the spade work that had apparently been done by a few of the most influential leaders of the community. When housing was discussed, one real estate man said that he knew he would be asked if he would sell property to Negroes and, therefore, had asked each of his clients whether any of them would refuse to sell to a Negro. He said that only 2 of more than 100 had expressed reservations. He explained, in a slightly defensive fashion, that he had made this survey so that he would later avoid any embarrassment that might occur if he showed a home without first alerting the owner that the potential buyer was a Negro. Ministers stated that they had discussed the advantages of integration over segregation among themselves and had given sermons on this topic during the previous weeks. Women leaders of the Welcome Wagon, City Hostess Service, League of Women Voters, Newcomers Club, and the Worthington Country Club stated that they looked forward to welcoming all new community residents. Representatives of the school system inquired as to the number of children who would be coming and expressed their willingness to help the children of transferees minimize the difficulties of shifting to a different school system.

### Temporary Accommodations

When representatives of the Committee left Worthington that evening, they were greatly impressed by the apparent desire of the community to welcome all newcomers and to avoid the establishment of segregated housing. They could not help but wonder, however, if these good intentions could be realized. It was clear that housing was in short supply, particularly by rental housing. At the outset many of the workers would need temporary inexpensive sleeping rooms while they looked for more permanent housing for themselves and their families. The question of whether rooms in private homes would be available to Negroes in an all-white community of private single-family dwellings, with few apartments, was one which would put an unusual burden on the community. The Committee and the community leaders put

aside their misgivings and embarked on a program to meet the critical housing problem.

The union representative on the Committee delegation that went to Worthington sent a housing survey form to all potential transferees to determine whether the whole family was making the move together or whether temporary housing was needed for the man, what type of housing was desired for the family, and when it would be needed. Results of the housing survey were sent to the town's Chamber of Commerce office which had agreed to pass the information on to all the real estate companies. In addition, community leaders urged all residents of the area "to list available housing with their local realtor. This includes rental houses, apartments, vacant farm buildings, and rooms. Those having real estate to sell have also been asked to place it on the market."<sup>1</sup>

The first 57 responses to the housing survey confirmed that most of the initial demand would be for rental rooms—44 of the group asked for this type of accommodation. Also, although 25 of the 57 respondents were homeowners and 22 indicated that they wished to purchase homes in Worthington, it was clear that this could not be done immediately as they needed first to sell their present homes. Thirty-four of the respondents indicated a desire to rent rather than buy, and half of these said they needed at least three-bedroom homes. However, much of the rental housing demanded was not for immediate use as most men preferred to come alone first and then make arrangements for their families.

Arrangements were made by the Committee for the union to open a local union office 1 week before the transferees were due to report for work, to act as a referral center for housing. Advertisements were run in the newspaper encouraging people with rooms for rent to call this office. Agreements were made with the two local hotels to house incoming transferees at low weekly rates. The Negro union official who had visited Worthington previously returned at the time of the transfer to be on hand to help solve any racial problems that might arise. All was in readiness when the plant opened on September 21.

By the middle of October, there were 151 employees working in the plant—27 local male resi-

<sup>1</sup> Worthington Daily Globe, Oct. 6, 1964.

dents, 115 male transferees, and 9 female transferees. Thirty of the men and 2 of the women transferees were Negroes. It was clear also that further expansion of the plant's employment would benefit mainly local residents as only about 1 in 4 of the workers on the transfer list had accepted transfer and there were only a few more scheduled to come. A survey taken in December 1964, after the second shift had been hired, showed that of the 165 who were working in Worthington at that time, 41 were Negroes and 4 were of Spanish-American descent.

No racial problems arose during the first month, although the search for rental housing proved to be difficult. Two weeks after the first transferees arrived, the *Daily Globe* ran a story about the housing problems. It noted that "workers are staying in local hotels and motels, rooming houses, and tourist homes and even sleeping in their cars."<sup>2</sup> Residents with rooms to rent were again encouraged to call the housing service being operated at the local union headquarters. No mention was made of the needs of any racial group, but the accompanying picture of the nine local union officers showed two of them to be well-dressed, respectable appearing Negroes.

The next day the newspaper ran a followup story in which the president of the local union said that "calls started coming in this morning. . . . Some people said they really had not thought of renting a room or apartment, but since there is such a shortage they decided to make their space available. I think we can get this problem worked out."<sup>3</sup> The union president noted that there were still about 20 people who were renting hotel rooms but would prefer more permanent accommodations. Again, no reference was made to any problems facing Negroes, but accompanying this front page story was a picture of the first union meeting which showed several Negroes among those present. Two weeks later the newspaper ran another front page story summarizing the housing situation as follows:

Placement of Armour workers in local and area housing is progressing satisfactorily, but more rental units are needed. . . . Union officials have been amazed at the number of housing units made available. It was greater than had been earlier expected. . . .

[The local union president] went on to say assimilation of Armour men of minority races into the community has been very little of a problem. . . . He said: "Most of the men really like Worthington and are pleased with their move here."<sup>4</sup>

A representative of the Committee visited Worthington in December to ascertain whether there was need for further activity on the part of the Committee. He found there was not. One Negro to whom he talked reported that strangers stopped him on the street to shake hands and welcome him to Worthington. A tour of the town was made to see what type of housing had been obtained by the transferees. Many of the people still were in temporary housing, but the addresses of the Negroes and whites who had purchased or rented homes were fairly well scattered throughout the city. From the outside appearance of the homes and from comments of community residents, the Committee representative could not find any difference between the housing acquired by the Negroes and that of the whites.

### Two Years Later

Two years after the first transfer took place a final recheck was made of the housing acquired by Negroes and workers of Spanish-American descent. The situation at that time, in September 1966, was that 35 of the 41 Negroes and 3 of the 4 workers of Spanish-American descent who had been working in Worthington in November 1964 had remained in the community. This compared favorably with the proportion of the white transferees who settled in the community. The three men of Spanish-American descent had been renting one house in the fall of 1964; 2 years later, all of them had brought their families to Worthington and found homes for rent in different areas. The 35 Negroes also were fairly well dispersed around the city. They had purchased 6 homes and were renting at 16 different addresses. Approximately 10 of the 35 Negroes may still be in temporary housing since 9 of the 19 married men with children have not yet brought their families to Worthington. Three of these men still live in hotels, as does one married man without children whose wife has not accompanied him to Worthington. At the time of this final survey, Committee representatives were told again by community leaders that the Negroes are accepted in the community and that a few of them have become quite active in community affairs.

<sup>2</sup> *Ibid.*, Oct. 7, 1964.

<sup>3</sup> *Ibid.*, Oct. 8, 1964.

<sup>4</sup> *Ibid.*, Oct. 22, 1964.



The Committee is pleased with the results of the transfer to Worthington. It recognizes that the credit for the success of the move goes mainly to the community leaders of Worthington who created the atmosphere in which integration was possible. The remaining credit is due the minority group members who acclimated rapidly to the changed environment, and to the people of Worthington who welcomed them and facilitated their acceptance into the community. Integration of 40 minority group members into a town of

10,000 is not a problem of the magnitude encountered in major urban centers today. Yet the accomplishment should not be underrated. Worthington is situated near the Minnesota area where a packinghouse strike occasioned widely publicized outbreaks of violence. Acceptance of unionized minority groups into this part of the State in the fashion in which it was done illustrates to the Committee the favorable results that can be obtained from advance community planning to meet the impact of sudden change.

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The Automation Fund Committee was created by the Collective Bargaining Agreement between Armour and Co., the Amalgamated Meat Cutters and Butcher Workmen of North America (AFL-CIO), and the United Packinghouse, Food and Allied Workers (AFL-CIO). Members of the committee are:

*For the company*—Harold E. Brooks, vice president; Walter E. Clark, vice president, labor relations; Clifton B. Cox, assistant to the president; and Frederick R. Livingston, Kaye, Scholer, Fierman, Hays & Handler.

*For the Amalgamated Meat Cutters and Butcher Workmen of North America (AFL-CIO)*—Russell E. Dresser, vice president and director, packinghouse division, and James H. Wishart, research director.

*For the United Packinghouse, Food and Allied Workers (AFL-CIO)*—Ralph Helstein, president, and Jesse Prosten, director of contract administration.

*Co-chairmen*—Clark Kerr, president, University of California, and George P. Shultz, dean, Graduate School of Business, University of Chicago.

## Job Redesign for Older Workers: Case Studies

JOBS ARE CONSTANTLY being redesigned or altered for the purpose of improving production methods and plant efficiency. To the extent that the changes result in the reduction of various fatiguing tasks, they greatly benefit older workers, who are more affected by physical strain than the younger ones. But rarely are jobs adapted specifically to the declining physical capacities of older workers. In some instances, job redesign is the only way of keeping at the job aging employees who are still productive, a goal which is especially desirable under current conditions of labor shortage.

Apart from such immediate economic considerations, however, job redesign for older workers has important advantages from the standpoint of human and social values. By easing job strains, application of the job redesign principle protects the health and morale as well as the income of older workers.

This article describes how 10 industrial establishments in the United States successfully used methods of job redesign to maintain the employment and productivity, as well as the morale, of aging employees. It is based on the findings of a study conducted by the Bureau of Labor Statistics.<sup>1</sup>

The study's objective was to locate and report on cases of job redesign specifically related to problems of older workers. The individual case studies were carried out through interviews with officials of 10 companies which were selected for field visits from 284 firms that had replied to a mail canvass. The replies represented 56 percent of a total of 500 manufacturing companies, drawn from the *Fortune* plant and product directory of the 1,000 largest U.S. industrial corporations, which had been queried concerning their practices in aiding older workers through job adjustment.

Examples of job redesign were found in a wide variety of manufacturing industries. The case studies included plants producing aircraft engines, aluminum framing, building materials, carpets, computers, copper pipe fittings, footwear, heavy

iron pipe, precision instruments, and printed novelties. Employment at these plants ranged from fewer than 100 to many thousands of workers.

Some of the older workers whose jobs were redesigned were employed as low-paid porters, others were semiskilled machine operators, and a few were highly skilled craftsmen. Most of the workers affected were older men and women whose physical condition had not substantially affected their performance, but in several cases ailments had significantly reduced work capacity.

Only one of the cases studied—at the aircraft engine plant—involved a formal program of job adaptation to the functional capacities of workers, with participation by medical and other specialized personnel. More prevalent among the cases studied was the informal practice of redesigning jobs to improve operational efficiency of a specific aging worker or group of workers, by accommodating declining physical capacities. This practice was also used to retain at the job older workers who had suffered an illness that made it impossible for them to continue work under existing conditions. In these informal job redesign situations, the changes were generally effected with a minimum of fuss and at relatively little cost by the plant managers and foremen.

Where a group of workers were involved, the job adaptations were accomplished by removing the more strenuous tasks, such as heavy lifting, pushing, pulling, or carrying, from the older workers and assigning them to the younger ones in the same group. Mechanization resulting in job redesign for some older workers made their tasks much easier to perform. It also brought about displacement of workers in some cases, reassignment or retirement in others.

In several cases, a substantial rise in output per man-hour occurred as a result of the redesign. At the computer manufacturing plant, the substitution of tape recorded for visual instructions and

<sup>1</sup> The full study will be presented in a forthcoming BLS bulletin, *Job Redesign for Older Workers: Ten Case Studies*, prepared by the BLS under contract to the Office of Manpower Policy, Evaluation and Research, under Title I of the Manpower Development and Training Act. In recent years, the Organization for Economic Cooperation and Development has sponsored a series of seminars, several research publications, and a survey of cases on job redesign (of which the study is a part) in several countries. For example, see Stephen Griew, *Job Redesign* (Paris, Organization for Economic Cooperation and Development, 1965).

easier, more systematic access to components reduced work fatigue factors for a group of assembly workers age 45 and over. Output in the operation tripled and assembly errors were reduced to a minimum. In none of the cases studied was productivity adversely affected.

The case studies revealed that job redesign had some advantages for both the older worker and management, over the practice of reassigning such workers to other jobs. When the requirements of their jobs were eased, some older workers who were still productive continued to perform the tasks they knew, in their customary work places, rather than being shifted to unfamiliar work and surroundings. They continued to use their experience and skills and, with one exception, maintained or increased their prior earnings levels. Their employers benefited from the use of their skills. Job redesign made possible the retention of some skilled workers with declining capacities for whom reassignment or early retirement would not have been feasible.

Four of the ten individual case studies are summarized below. The first presents an application of job redesign within the framework of a formal job placement program. The others reflect studies with less formal procedures: in one, more mechanical aids replaced manual controls; in another, job redesign resulted from technological change; in the third, the redesign involved reallocation of duties among a group of workers.

### **Electric Motor Repairman**

A plant manufacturing aircraft engines had many thousands of employees, of whom two-thirds were production workers. The plant's formal and very thoroughgoing job analysis and employee placement programs were designed to provide continuing evaluations of each job in terms of physical demands, and of each employee in terms of his functional capacities, as well as necessary arrangements to assure that the job and the incumbent were matched.

This case study relates to the redesign of the job of an electric motor repairman, age 46, who had worked primarily on locating trouble and repairing and overhauling defective electric motors and other electrical apparatus. He visually inspected parts for imperfections, examined dials and gages on testing equipment for short or open circuits,

checked schematic diagrams, and planned details and sequence of operations for necessary repair work. Using a variety of hand and portable power tools, he disassembled motors and other equipment, cleaned parts, made adjustments, and repaired or replaced worn parts. He also operated various stationary power machines (drill press, engine lathe, and others).

In performing his duties in the repair crib or shop or in the plant production areas, the repairman moved gear and materials both manually and by equipment such as handtruck, tricycle, and chain hoist. From time to time during the workday, he lifted without mechanical help objects weighing from 10 to 65 pounds. A small amount of push and pull effort, ranging from 15 to 35 pounds, was also required. Except for occasionally sitting at a workbench in the electric motor repair shop, or riding a tricycle to different trouble spots in the huge plant area, the repairman was on his feet most of the workday. He walked about and climbed stairs, ramps, and occasionally a ladder to reach a work area. He was 1 of 8 electric motor repairmen on the plant's day shift. Their average age was 40 and their service with the company ranged from 10 to 20 years.

The repairman suffered a heart attack early in 1965. When sufficiently recovered to be able to report back to work several months later, he received a medical reexamination as required by company policy; the physician found that the extent of standing, climbing, lifting, and movement required by his full job would be too strenuous for him. By agreement among the plant's examining physician, the safety engineer, and the motor repair foreman, the physical demands of the repairman's job were substantially altered to adjust it to the restriction of the man's functional activity.

The repairman was still required to perform all the basic duties of an electric motor repairman. However, he was no longer required to move about and work in the plant production areas but remained in the electric motor repair shop. The lifting demands were limited to items weighing no more than 20 pounds for a total of 30 minutes during an 8-hour shift, as opposed to the full-job weight effort of 65 pounds for possibly 2 hours of the shift. Push and pull effort was removed entirely from his specific job requirements. He was allowed to stand only 3 hours a day, on an intermittent basis, provided that at least 15 minutes of



each hour was spent sitting. Climbing of ladders and riding a tricycle were also removed from his specific job demands.

These adjustments enabled the repairman to resume work without discomfort or danger at a job in which he could use his skills and experience fully. The changes in the requirements of his job did not affect its skill classification or its rate of pay.

### Crane Operator

The plant in question was engaged in processing slag (a residue of iron melting operations) to produce various types of aggregate for use in ready-mixed concrete and for other purposes. It employed about 50 workers. Its processing activities were an open-yard operation spreading over a 5-acre area that embraced several structures, piles of aggregate, and lines of railroad tracks. Cranes were used to move slag and aggregate in and out of the yard.

The job redesign relates to the work of the operator of an electric locomotive crane, which was used to load and unload various sizes of slag aggregate on and off open-top railroad cars.

Prior to redesign of the job, the crane operator had to put forth a great deal of physical effort working in the cab of the crane. To enter the cab, he climbed a short step-up ladder. He manually pushed and pulled three long-handled levers to actuate the booms (i.e., hoists) which either raised, lowered, or moved the bucket sideways. He also manipulated a lever to move the locomotive crane forward or backward along the track (third-rail powered). This involved the use of two friction clutch foot brakes, on which the operator had to place his full body weight while standing, to apply a braking action. Although he had a stool available, he could seldom sit down. To operate the levers and brakes he exerted considerable effort, using arm, leg, back and other muscles constantly. In the operator's own words, he "fought the machine all day."

There was only one electric locomotive crane at the plant, and consequently only one locomotive crane operator. His experience, muscular strength, and quickness and skill in the use of his hands and legs made the operator a highly valued employee.

The operator, who was 54 years of age and had operated a crane for most of his 25 years of service with the company, developed a painful skin disease on his legs and thighs. He lost strength and was having difficulty in standing. His work output declined. He was unable to continue working and left his job.

When the leg condition finally responded to medication, 21 months after leaving his job, he requested reemployment. He was now 56 years old. It was apparent he would have to work in a sitting position a good part of the time because his legs were still weak. Reassignment to another job was not feasible because all other jobs at the plant required standing most of the day. Moreover, the plant superintendent wanted to use the man's skill as a locomotive crane operator; replacements had not been very satisfactory.

The plant superintendent and a maintenance shop leadman knew that the locomotive crane controls and brakes would have to be modified to permit the operator to sit in the cab most of the day. They were aware of the improvements in control devices, such as easily operated mechanical foot brakes and pneumatic controls that could be substituted for the friction clutch foot brakes and long-levered manual controls with which the crane was originally equipped. The new parts were ordered and their installation took place over a weekend, at a total cost of about \$500.

The operator was able to return to his job. He now manipulates short air-powered levers or valves to work the clamshell bucket and to move the crane along the track. He no longer has to reach, pull and push long-levered handles. Slight pressure on the valves moves the booms. The new mechanical brakes require very little pedal effort, enabling the operator to sit at his job most of the day. He has retained his previous job classification and pay rate level.

### Material Handlers

The carpet manufacturing plant in which this case of job redesign occurred employed approximately 750 employees, of whom 610 were production workers. The average age of all production workers at the time of the study was 53, reflecting the plant's longtime position as the principal employer in a small town.

The warehousemen or material handlers at this plant had a physically strenuous job, requiring individual and team effort in lifting, handling, carrying and positioning of rolls of carpet weighing up to 800 pounds. The 11 men in this job usually worked in groups of 5 or 6. They had to manually lift and load the carpet rolls on dollies in the warehouse and push them to a loading platform, and then manually load the rolls onto freight cars or trucks. Each trip took about 15 to 20 minutes and covered approximately 150 feet. Removing the carpet rolls from the piled stacks in the warehouse and placing them in freight cars and trucks required frequent stooping, squatting, reaching, and climbing.

The average age of the 11 warehousemen was 55; their ages ranged from 46 to 68. All had a minimum of 25 years of service, and three were eligible for retirement. Because of an increasing number of accidents, and the advancing age of the men, the company management decided that some lessening of the heavy physical demands of the job was essential. The warehouse had been experiencing the heaviest incidence of injury among departments in the plant: 15 injuries were reported in the 5-year period preceding the job redesign, 6 of which resulted in lost time.

The plant's methods engineer and safety engineer decided that the most effective way to lower the physical requirements of the warehousemen's job would be to use a specially designed forklift truck with an 18-foot steel ramming rod or shaft, 4 inches in diameter, affixed to its front. The operator of the truck could lift and carry rolls with the rod, which could be lowered or raised as required. When inserted into the hard core paper center of a carpet roll, the operator could dislodge a particular roll from a stack of rolls and lift it for movement to the area or loading station.

Two of the specially designed forklift trucks were ordered. After some structural building changes to accommodate the 18-foot shaft, the system was fully implemented. Only 6 men were needed to do the work of the 11 men previously required. The average age of the six who stayed at the job was 54, with a range from 46 to 59. Of the remaining five, four men retired with benefits of a company pension and Federal social security payments. Their ages at retirement ranged from 63 to 68. The fifth worker, 58 years old, was

transferred to a different department where his work was lighter. His earning level was unaffected.

The base pay rate of the six warehousemen who stayed on the job remained the same; however, the group incentive rates were revised to reflect the change in method. The increased output per man of the mechanized operation resulted in an approximately 15-percent net increase in workers' hourly earnings. In the 6 years since the job redesign, there have been only five work-incurred injuries, only one of which involved loss of time from work.

### Top-Stitch Workers

A shoe manufacturing plant had about 7,700 employees, of whom 6,200 were production workers, most of them semiskilled. It required about 6 months for most workers to attain proficiency at the various shoemaking machines, which are the basic production equipment in use at the plant.

Among the machine operating jobs at the plant was that of the "top stitching" done by a group of 20 women. Most of them were over 50 years of age and had had long periods of experience at the work. The job involves stitching the shoe's lining to its upper leather on a sewing machine. Prior to the job redesign, the sequence of tasks was as follows: The worker walked from her sewing machine to a supply rack, 10 to 15 feet away, to collect a batch of materials—12 pairs of leather uppers for shoe tops and 12 pairs of linings—which weighed about 10 pounds. Finding the appropriate batches of leather and linings on the rack usually required squatting, stooping, and bending and occasionally some eye strain in looking for specific materials. She obtained her own thread and other supplies at nearby shelves and cabinets and returned to her machine to perform the stitching operation. She put the completed work in a box, which she later carried to a nearby area to make it available to the workers in the next operation. Each cycle required approximately 15 to 20 minutes.

Shortly before the job redesign was undertaken, the plant superintendent and department manager became aware that the productivity of the top stitchers had been declining seriously; it had fallen to 13 percent below standards set by time study

engineers. Moreover, the workers were complaining about the frequent bending, squatting, and stretching required to procure material from the supply racks. A steady increase in absenteeism was also taking place.

After studying the problem, management decided to redesign the job of the top stitchers by removing from it the chores that were not involved in the actual stitching or sewing operation. This called for assigning these tasks to two "service workers" chosen from among the 20 stitchers on the basis of personal bids. Two of the younger

stitchers (only four were under 45 years of age) were chosen to fill these service jobs because of the physical demands of the nonsewing tasks.

After the job redesign the top stitchers (reduced to 18 in number) could sit and work at their machines uninterrupted. Absenteeism declined and complaints about the work became infrequent. Productivity increased by 16 percent 2 months after the redesign.

—HERMAN J. ROTHBERG  
Division of Technological Studies

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Although population projections suggest that the proportion of old persons will remain relatively constant for the next quarter century, about 10 percent of the total, their absolute numbers will increase still further to about 25 million in 1985.

Significant changes are also taking place within the aged population itself. Between 1900 and 1963, the number of persons age 65-74 increased 5.2 times; by contrast, those age 75 and over increased 8.8 times. Moreover, estimates indicate that between 1963 and 1985 the number of persons moving into the 65-74 year cohort is expected to increase only 0.3 times, whereas those 75 years old and over will grow by over half. As a result, an increasing proportion of older persons will be in the upper end of the aged group.

—Sidney Goldstein, "Changing Income and Consumption Patterns of the Aged, 1950-1960," *Journal of Gerontology*, October 1965.



## Trade Union Approaches to Income and Price Policy

EDITOR'S NOTE.—*The following is taken from "Non-Wage Incomes and Prices Policy," the ninth in a series of reports published by the OECD Social Affairs Division in connection with their program of International Seminars. Sizable cuts have been made in this excerpt from the concluding chapter of the report.*

AFTER THE MOST detailed examination of the working of the British economy yet published, J. C. R. Dow said:

One of the major conclusions of this study is that the attempt to manage the economy by means of fiscal and credit policy alone has shown them to be not enough. They need to subserve a policy for directly promoting economic growth, and to be flanked by a wages policy.<sup>1</sup>

These conclusions are probably equally applicable to other countries. Trade unions may wish to change the reference to wages policy to cover all forms of income, or to delete it, but this is not at this stage the major point. What we are more interested in is the conclusion that neither monetary nor fiscal policy are capable of controlling the economy. The more complex the aims of the economy, the more things we want the economy to provide, the less satisfactory monetary and fiscal policy become. For, if we were to be content to have only a high level of employment as our goal, irrespective of growth and income distribution, it might be possible to adjust taxes and use monetary policy to obtain it.

We do not in fact have only one simple economic goal. We have a number of them, and they are often in conflict. Thus, high levels of employment create high levels of demand which create inflationary conditions which cause balance of payments problems and so on. It is necessary therefore that we accept the limitations of monetary and fiscal policy. For if they cannot control the economy in such a way as to give us what we want, then we must support or supersede them

with other policies, or abandon some of our economic goals.

The choice is perhaps academic. Trade unions cannot abandon the goal of high employment. It might be possible to obtain high employment without growth, but if so, unions will have to decide if they will settle for it. If we come down to the fundamentals, it is extremely doubtful whether any trade union organization can in practice reject any of the goals of high employment, growth, some limitation on rising prices, and some policy on income distribution. These are now part of the very fabric of trade unionism. The only issues are the relative importance and particular interpretation adopted in particular countries.

### Competitive System

One of the major distinguishing features of trade union approaches and policies is acceptance of the view that the working of market forces can fundamentally provide the sort of economic environment and results that are considered desirable. It may be necessary to make some changes in the working of these forces, or to alter the institutions and structure of the economy in order that the forces are able to operate, but the bulk of the burden of achieving desirable objectives is to be laid on the working of economic forces. It may be that it is thought that obstacles to competition should be removed. Strong antimonopoly legislation and restrictions placed on the activities of cartels might be regarded as not only necessary but also sufficient conditions for the smooth functioning of an economy. This is not meant to imply a return to the working of the invisible hand of competition as preached by nineteenth century economists. Competition is not to be completely free and unhindered; it is to operate within certain rules and through certain institutions. Thus, one rule might be that no firm is to be allowed to be so successful at competition that it defeats all its rivals and becomes a monopoly. Or, another, that there will not be competition in all products.

The essential conditions for the working of this kind of system might require that the government provide machinery for creating and maintaining conditions suitable for, or necessary for, the maintenance of competition. The pressures then generated by different producers competing for sales, and different social groups competing for shares in

<sup>1</sup> J. C. R. Dow, *The Management of the British Economy* (London, Cambridge University Press, 1964).

income, will lead to an allocation of economic resources most conducive to fast growth and at the same time the pressure of unions for higher wages will encourage firms to develop and install labor-saving techniques which will lead to productivity increases. Prices will be kept low by the removal of cartel arrangements and the fostering of competition.

To meet criticism of naïvete this outline scheme can be made more sophisticated to enable or compel the government to intervene to maintain a level of demand sufficiently high to provide full employment. For it is generally accepted that there is no reason at all why the working of the competitive process should of itself lead to full employment. But once the government has been given this responsibility, once it is accepted that the State should interfere to regulate in some ways the working of the economy, it is difficult to provide a method which does not also affect other aspects of the economy.

### Stimulus to Change

Given this condition, it might then be argued that free collective bargaining can result not only in the development of pressure to modernize, but also in the development of institutional changes which will lead to the achievement of trade-union goals. Thus the establishment of capital-savings schemes on the Italian or German lines could be seen as an extension of free collective bargaining, under conditions of competitive economic forces which did not require any increase in government power or State interference in the working of the economy, beyond the passing of laws to enable such agreements to be made. The resulting effects on profit retention, investment policies, economic growth, and the development of relatively backward areas or industries of the economy could all take place under the stimulus of competition and collective bargaining.

It might be objected in turn that these proposals, while possibly encouraging investment in productivity-increasing equipment, and while perhaps encouraging firms to resist wage demands, need not do so. For it might still be the case that, if the government maintains the level of demand sufficiently high to ensure full employment, firms will still feel able to increase prices and so will have little real cause to resist wage demands. A firm

will have strong pressure not to resist wage demands if other firms are granting them. It will increase its wages in the hope of retaining its labor force. Thus the methods might work only if everyone believes they are going to work. That is, if all firms believe that no other firm is going to increase wages the pressure for wage increases might be resisted. On the other hand, it is just in these circumstances that any single firm has the most to gain. If it is the only firm increasing wages it might be able to attract additional labor.

### The Role of the Trade Union

It is not clear what the role of the trade unions is in these circumstances. Presumably they are to press for wage increases, because this is how they increase the real conditions of their members in a competitive society, and their wage pressure is also expected to be an important factor leading to changes in productive techniques to increase productivity. In these circumstances, an increase in industrial conflict appears inevitable. This may be regarded as good or bad, as undesirable or as the normal means of resolving differences of opinion between workers and employers in a competitive system. Even if there is not additional conflict, will the outcome of these pressures have a significant effect on the allocation of labor? Will it lead to changes in the relative earnings of different groups of workers in different industries, so that labor is drawn to those industries which can use it more efficiently and thus pay more?

The evidence about the allocative role of wages in existing economic systems is not encouraging.<sup>2</sup> There might be some effect. If all wages tend to move together at more or less than same rate of increase, then the less profitable or declining industries will find that they have to increase their wages at much the same rate as the profitable, expanding industries if they are to retain their labor force.

So, even if there is ultimately some allocative effect on labor, there may be a lot of inflation generated in the process.

Two lines of reply could be developed to this. It could be said that the inflationary pressures could be prevented by some modification of the bargaining processes on a bilateral basis. Or the inflationary effects could be ignored; it does not

<sup>2</sup> See *Wages and Labor Mobility* (Paris, Organization for Economic Cooperation and Development, 1965).

follow that because trade unions are concerned in certain instances about the consequences of inflationary pressures they must always modify all their policies to prevent any price increases. They may decide that inflation is a small price to pay for keeping free collective bargaining and that they would be able to secure adequate protection for their members and the weaker members of society from their own strength, given the maintenance of high levels of demand, so that they need not fear inflation. To some extent this might depend upon the balance of payments position.

Unions need to determine their attitudes to the harmonization of their objectives and the means by which they hope to achieve them. This will always prove a difficult task, as they aim to achieve a number of different goals some of which might be in conflict. To some extent this fundamental issue is superimposed on the related question of whether or not unions should participate in economic decision-taking on a broader front. If they do wish to so participate it will almost inevitably mean that they will have to change their existing methods, procedures, and attitudes.

### **Institutional Changes**

Some trade unions will reject proposals to rely on the improved working of more effective market forces, and believe that there can be no solution from sharpening up certain aspects of competition, even though this may be a desirable supplement to other policies. They will advocate changes to alter the way in which the economy works.

Basically, they will be starting from a position of saying that competition cannot provide the things trade unions want. The modern complex economic system, with its increasing technological pressures towards bigger and bigger productive units, and the growth of business and unions as political pressure groups or powers, means that the old views of competition are redundant.

The adoption of more active manpower policies which change the type and distribution of the labor force between different industries, areas, and skills could have considerable effect on prices and growth. It might allow a redistribution of labor to take place more easily without having recourse to the somewhat imprecise and possibly ineffective but almost certainly inflationary method of bidding up wages. To the extent that inflationary pressures

were thus avoided it should be possible to prevent prices rising; in some circumstances it might be possible to reduce prices even after allowing for the costs of retraining or moving labor, as the skill and quality of labor improves.

The modern system of international payments and exchange prevents a government from abdicating responsibility for certain aspects of economic policy. Membership of the International Monetary Fund (IMF) implies that the economy will be run in certain ways so that certain results on balance of payments will not occur. There are limitations on devaluation opportunities. It may be that some unions have not yet caught up with the implications of these things for them and their ability to indulge in free collective bargaining in conditions of full employment.

Whether unions have seen this or not, governments have. This is why they attempt to influence wage determination.

### **Price Policy**

A price policy might require that wage increases be kept within certain predetermined limits. Sometimes, it may be the case that unions reject price control because they are not prepared to concede wage restraint. If a guidepost policy was adopted so that the overall average increase in wages was dependent on the average rate of increase in productivity over the past few years, this could involve the trade unions in accepting a rate of increase in incomes which was determined by the actions of another group. For many of the decisions affecting the rate of increase in productivity are investment decisions and these are taken by employers. Unions might decide that they could not accept this limitation on their permissible rate of increase in real income. It might be possible to solve this difficulty by giving trade unions some voice in the investment decisions. They would then be partly responsible for determining the increase in productivity.

The distribution of income is an issue of vital concern to trade unions. They do not accept the existing distribution, and therefore seek to change it. A guidepost policy often builds into the system the continuation of existing distribution between social groups. Exhortations to exercise voluntary restraint would be unlikely to be effective; it is unrealistic to expect either employers or



unions to exercise restraint in a policy vacuum. They can only exercise restraint if it is reasonable for them to expect that other groups will not take advantage of their self-discipline. It is very difficult to see how this can be achieved without some form of machinery to exercise control or to offer guidance in specific cases.

It could well be, therefore, that unions will have to change their organizations and institutions. They may have to submit to some form of centralized trade union authority; in some countries this will require a much greater change of practice than in others. In Britain, for example, it will be very difficult to persuade unions to transfer some of their authority to a centralized organization. For it is one of the underlying aspects of this subject that, unless some changes are made, trade unions will lose effective control over the determinants of their real wages, as the reality of economic power shifts away from the areas over which the unions have traditionally exerted influence.

Unions will have to decide whether they should participate in price policies, or whether they should confine themselves primarily to wage questions and allow prices to be settled by the working of the economic system as a whole, or in response to more specific government policies.

If machinery for controlling prices is established, it will be necessary for unions to become versed in the problems associated with price determination, and to provide staff competent to judge when increases are permissible and when they are not. There will be conflicts between the apparent short-term interests of the members of the unions involved in the industry concerned, and the interests of the rest of the movement in their role of consumers. The more open the participation in controlling the economy becomes, the more important it is that unions be equipped for dealing with these possible conflicts. This might require organizational changes of a drastic nature or it may be sufficient to change union attitudes to each other and their mutual relationship.

Thus the difficulties should not be seen as additional burdens which result from making changes which are then compared with a situation in which there are no difficulties. The real comparison should be between the difficulties which will arise if certain courses of action are adopted and those

which will arise if action is not taken and the existing course of development continues. It is possible to be so concerned to point out the weaknesses and faults in a proposed new system that one forgets the faults in the existing one.

### Capital Growth

Unions have a basic decision to take; do they prefer to try and obtain their share of capital growth through the orthodox processes of collective bargaining, or do they seek to introduce some form of capital sharing? A number of schemes have been discussed but it may be that the choice will depend not so much on the amount of increase which may be received by workers as upon the matters of principle which unions believe to be involved in choosing one method rather than another. There is a possibility that the policy adopted by a trade union movement need not be that which would result in the highest overall level of economic growth. On the other hand, it might be that certain combinations of policies will best satisfy unions and encourage the highest growth rate of the economy. For example, some unions believe that a tough wages policy by them, combined with a suitable general economic framework conducive to growth, will lead to the best results all round. It might be that by pursuing tough wage bargaining policies which force the marginal firms out of business the general rate of economic growth is increased. Others prefer a system of capital sharing allied perhaps with some form of incomes and prices policy.

Capital savings schemes are regarded by many unions as the only effective way by which the needs of faster growth can be reconciled with trade union participation in the control of industry and with substantial redistribution of income and wealth. It is seen as an adaptation of trade union approach and bargaining rights to meet the peculiar needs of the 1960's. It attempts to come to grip with the requirements and workings of a modern economy. Its opponents may believe that by drawing the trade unions into joint decision-taking, which must in some ways bind them to accept some of the consequences of their decisions, there will be a weakening of trade union strength, and all that will be gained will be the transfer of some income that would have been received in the

form of wage increase into a form of saving. The schemes are seen as detracting unions from their main purpose.

### International Cooperation

Although trade unions profess their belief in international trade union cooperation, and indeed, often produce striking demonstrations of their support of it, there is often a feeling that workers in one country are attempting somehow to beat those in another. Or workers in one country are told that their problems arise from the fact that they are overpaid or work less hard or are less productive than workers in other countries. This is particularly noticeable when balance of payments problems are being discussed. If one reads through the reports of trade union debates on incomes policy in Britain, for example, one cannot help noticing how often the argument is used that an incomes policy is desirable so that Britain will be able to sell more abroad. This is always meant to imply that more will be sold at the expense of some other country. The opponents of incomes policy always try to show that there really isn't any need for one, as foreign wages, or labor costs per unit of output, are higher than at home, or rising faster. It is impossible to avoid the feeling of basic conflict between the international and the internal aims of unions. Employers often play on this; demands for reductions in the length of the working week may be countered by a recitation of the hours worked by competitors abroad.

There seems very little doubt that if there were some international coordination it could well be easier to speed up the pace of social and economic advance by trade unions. In the field of international payments and trade there would appear to be much room for trade unions to work out a policy which is acceptable to them, whereby high levels of employment and sustained rates of growth could be reconciled with means of financing international trade. There is a danger that if an incomes policy were introduced in one country and appeared to be working, it could either be doing so by taking trade from some other country, or its effects could ultimately be negated by actions in foreign countries. Dutch experience shows how external wage movements and levels can be one of the factors exerting pressures which can be so

strong as to seriously challenge the stability or working of a policy.

With the importance of world trade, an internationally agreed policy is as important as is a national approach to wages inside any one country. To the extent that internal competition and attempts to either increase differentials or maintain previous relativities can result in trade unions mispending their strength and ultimately having a lower level of real income, so can there be international disharmony with probably greater harmful effects.

Further, the spread of international companies, large or giant firms with factories or outlets in many countries, has made it more important that unions adjust their organization, or they will be at a disadvantage. Firms will be able to switch their production according to their own interests, and indeed may even try and enlist the support of unions in one particular country to help undermine the strength elsewhere. There may be considerable benefit to be gained by trade unions exchanging information about relative price structures in their own countries. Not only in the case of products from international companies but other commodities, too, so that unions will have more information on which to approach a prices policy. A similar exchange of details of cost and profits structures might prove of a great benefit.

The need for international cooperation is strongest in small countries. They are often at the mercy of price movements in larger ones. It is probably the case that no matter what steps are taken to control internal inflationary pressures and to coordinate the various strands of economic policy in countries such as Norway, Austria, and the Netherlands if there is inflation in the more important trading countries it will spread to these other countries. Small nations may be unable to isolate themselves from price rises elsewhere. They clearly have a direct interest, therefore, in trying to prevent inflation developing in the larger countries. They will also have to modify their price policy in the light of the policies in larger nations. Not only the rate of change of prices but also price structures and levels will probably be much influenced by what happens overseas.

The tendencies towards free trade areas and common markets, plus the uneven levels of economic development, are leading to a greater inter-

national mobility of labor. There is a danger that the migrant labor, which generally takes the less skilled and lower paid jobs, will be looked down on by the national labor force and ignored by the trade unions. It is probably true that the level of organization of this kind of worker is lower than the average, although to some extent this will be because they work in industries which are difficult to organize anyhow. But too often, it may be the case that no strong efforts are made. Unions will also have to consider to what extent they are prepared to admit foreign workers, and what the effects on their home economy will be if this supply of additional labor dries up. For if the less developed countries are successful in their development policies, the supply might well be restricted or stopped altogether.

It might be possible to secure some form of international cooperation which could enable detailed and reliable information of selling prices to be passed on from exporting to importing countries, so that when the trade barriers are removed and tariffs reduced trade unions can exert pressure to

ensure that the reductions in taxes or tariffs are actually passed on to consumers. It is widely believed that these cost reductions become absorbed by importers or other middlemen and so possible price reductions are not in fact achieved.

### The Choice

One thing this report has tried to do is to point out that a choice must be made between various methods of controlling the economy. It is not possible to choose whether or not to control it, only how this is to be done. A modern industrial economy, like peace, is indivisible.

The real choice facing trade unions therefore is not whether there should be governmental intervention, but how much intervention, in which areas, and by what methods? No matter how free a "free enterprise system" may be, the government intervenes to influence some incomes and to exercise some restraints on some price formation. It might take the form of antimonopoly legislation or action against cartels, but action there is.

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Trade unions also contribute another dimension to the discussion which may or may not be uppermost in the thoughts of government policymakers; namely, their own value system. In the system of priorities of trade union thought there are a number of important yardsticks by which they have regularly tested broad economic policy, management conduct and the operations of the economy. These center around the demands for economic growth, rising standards of living and greater equity in the distribution of income and capital. Moreover, the unions have jealously guarded the rights to free bargaining; rights which they have acquired only after a century of battle. They are keenly aware of the need to participate freely and fully in the decisionmaking process.

—From *Non-Wage Incomes and Prices Policy: Trade Union Policy and Experience* (Organization for Economic Cooperation and Development), 1966.



# Foreign Labor Briefs\*

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## **Common Market—*Social Development***

The basic changes in the European Economic Community (EEC) since its establishment in 1958 were reviewed in the annual report for 1965 which the EEC Commission recently submitted to the European Parliament: Private per capita consumption increased by one-third, i.e., by 4.2 percent per year; the working population increased less than 4 percent, to 74.6 from 72.4 million; the number of unemployed persons fell to 1.5 million from 2.75 million; labor mobility increased, as the number of Italian workers placed in other member countries rose to 268,000 from 156,000, and the number of vacancies filled by workers coming from outside countries grew to 578,000 from 84,000; gross hourly wages rose by almost 80 percent, while annual net income showed a real mean increase of about 40 percent; the number of working hours decreased, particularly in Germany, the Netherlands, and Italy, and length of annual leave increased (to 2½ or 3 weeks from 2 weeks in Germany, to 3 from 2 weeks in Belgium, and to 4 weeks from 3 weeks in France); the school leaving age was raised; and the housing shortage eased, though the rate of progress was not fast enough and construction costs and rents increased considerably.

Finding it impossible to say which of these developments have been caused by the free play of market forces and which by the creation of the EEC, the Commission stated that the Community has influenced all social developments either directly or indirectly and that social issues cut across national frontiers and can be solved only by joint efforts at the Community level.

## **Communist China—*Mobilization***

Numerous ways of increasing harvest employment have been discussed in the Chinese press. In several Provinces, the Armed Forces are reported

to be “volunteering” to work in the countryside, “taking with them Chairman Mao’s works and tools for harvesting.” Local militia units, Red Guards, teachers, and students have also been mobilized. A model “farming division” was praised for carrying out military training and farm production “side by side, with a hoe in one hand and rifle in the other.” At one oil field, 90 percent of the workers’ wives formed production brigades for farm work. An experimental type of mobilization was initiated at the Canton Iron and Steel Works; hundreds of workers and trainees are participating in a farm and study program involving 5 hours of farm work, 3 hours of military or cultural activity and reading of the works of Mao, and 2 additional hours of study.

## **Denmark—*Wage and Price Restraint***

The Government issued a strong appeal for restraint on wages and profits in a letter from the Prime Minister to business and labor organizations. The October 3 appeal was supported in separate analyses prepared by the National Bank, the Economic Secretariat of the Economics Ministry, and the Council of Economic Advisers. The latter unanimously recommended protection of the competitive position in the export markets through wage and price restraint in addition to continued tight fiscal and monetary policies. Based upon an anticipated growth rate of 3 to 4 percent in 1967 and a maximum domestic price rise of not over 3 percent, guideposts are set for an annual increase in total money incomes not to exceed 6 percent. These guideposts have an immediate relevance for the national bargaining sessions between the central labor and management organizations which began in mid-October. Labor spokesmen have already protested the guides.

## **German Democratic Republic—*Financial Aid***

Returnees to East Germany as well as migrants from West to East Germany may obtain small nonrepayable grants to cover immediate expenses

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\*Prepared in the Office of Foreign Labor and Trade, Bureau of Labor Statistics, on the basis of material available in early November.

and long-term, low-interest loans (3 percent interest and possibly less with repayment waived in exceptional cases) under a new law of October 3. Previously only West Germans moving to East Germany were entitled to financial assistance. The grants are expected to encourage the return of former residents, especially those of working age.

### **Latin America—Maritime Workers**

Maritime and dockworkers unions in two major Latin American countries were recently affected by Government actions. A new Argentine law, which went into effect on October 18, eroded the powers previously exercised by port unions. Port workers in Buenos Aires, affiliated with the International Transport Workers' Federation (ITF), quickly responded to the new regulations by paralyzing loading and unloading operations with a strike by as many as 30,000 workers. The Government reacted just as quickly by intervening the port workers' union and removing port workers who remained on strike from the labor register.

Under the terms of the new regulations, port facilities will be operated 24 hours a day—four 6-hour shifts. The two shifts from 7 a.m. to 7 p.m. will receive straight-time pay, and the other two will get time and a half. Time required to change clothes or for preparatory work not specifically assigned will not be counted as worktime. Cargo or work determined to be unhealthy by the Transport Secretariat (or the Port Captain) will be compensated by a 30-percent premium with no reduction in hours of work; commodities recently so classified total 48, a great reduction over the previous list. Only national holidays applicable to industrial and commercial workers will apply to port workers; "special" holidays will not be permitted. Ports are no longer under the jurisdiction of the Labor Ministry, but are within the jurisdiction of a Port Captain appointed by the President and responsible to the Secretary of Transportation.

Early in October, the Brazilian Government revoked a 1945 law granting employees in public sector enterprises the right to form trade unions. A majority of maritime and port workers were thereby removed from trade union membership and the future of the union of maritime workers—the majority of whose dues-paying members are employed on Government-owned shipping lines—was endangered.

Earlier in 1966, railway and maritime workers were transferred from civil service status to the jurisdiction of Brazil's consolidated labor laws; port workers were given the choice of retaining civil service status or transferring. The labor force of the Government-operated transport enterprises was restructured to eliminate excess personnel, who were to be paid while being trained for other jobs.

These measures led to work slowdowns in the major port of Santos as workers protested longer working hours and large cuts in their take-home pay. Later unions criticized the measures because they affected membership and because they deprived unions of many rights to which they are entitled under other Brazilian labor laws.

### **Spain—Decline in Emigration**

The long-time trend of net emigration from Spain was reversed in 1965, according to figures published recently by the Spanish Institute of Emigration (SIE), through which about 60 percent of all emigrants are channeled. In 1965, the Institute assisted a total of 191,472 Spaniards emigrating to other countries, compared with 218,348 in 1964; this indicates a decrease of about 12 percent. Emigration to European countries declined 27 percent (from 102,146 in 1964 to 74,539 in 1965) and to overseas countries 16 percent. Moreover, the figures on emigrants returning to Spain (52,730 in 1963; 98,993 in 1964, and 120,678 in 1965) reveal that in 1965, for the first time, the number of returnees exceeded that of migrants leaving Spain for other European countries.

# Significant Decisions in Labor Cases\*

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## Labor Relations

**Duty to Bargain.** The National Labor Relations Board has held<sup>1</sup> that an employer was required by the Labor Management Relations Act to bargain with his employees' representatives about a decision to terminate a portion of his operation permanently.

Owners of three corporations functioning as a single integrated enterprise decided to close one of them (Ozark) for economic reasons, and the management of the plant shortly thereafter began to lay off the employees on the basis of seniority. At no time, however, were the employees or their representative notified of the reason for the layoffs. Eventually the plant was closed completely and its equipment transferred to another of the companies for storage. The Board found that the employer had clearly breached his duty to bargain about the effects of its decision to close the plant and discharge all employees "without consulting with the union or giving it an opportunity to bargain over [the matter]." A "more difficult issue," the Board held, was whether the employer had also violated the law when it failed to bargain over the decision to close the plant permanently.

The Board first disposed of the question as to whether the case should be dismissed because of the U.S. Supreme Court's dictum in *NLRB v. Darlington Manufacturing Co.*<sup>2</sup> that a total closing of business could not be the subject of an unfair-labor-practice charge, but a partial closing could. The Board found that the present case involved only a partial closing since Ozark was only 1 of the 3 companies which jointly formed a single employer, and therefore *Darlington* did not require dismissal of the complaint.

In pursuing the issue of bargaining over the decision to close a plant, the Board leaned heavily on the Supreme Court's ruling in *Fibreboard Paper Products Corp. v. NLRB*.<sup>3</sup> There the Court held that subcontracting of work led to termination of employment and, therefore, was within the statutory "terms and conditions of employment" regarding which bargaining is mandatory. Since the Ozark plant closure—a partial one of the entire enterprise—also led to termination of employment, the Board held, it affected "terms and conditions of employment" and was, therefore, subject to bargaining. Furthermore, the Board said, partial closure of plant in this case, just as subcontracting in *Fibreboard*, was "a problem of vital concern to labor and management within the framework established by Congress as most conducive to industrial peace."

The Board found the factual situation in this case similar to that in *Fibreboard* in another respect. The Court noted there that the economic factors underlying the employer's decision to contract out work were primarily related to the cost of labor, such as size of the work force, fringe benefits, and overtime payments—matters "peculiarly suitable for resolution within the collective bargaining framework." Two of the factors relied upon by this employer to justify its decision to close the Ozark plant—rate and quality of production—are traditional subjects of bargaining.

The Board brushed aside the employer's argument that imposing the duty to bargain in this situation so impedes management flexibility that the act ought not to be read to require it. It pointed to experience showing that such problems can be resolved through negotiation. Only slightly more consideration was given to the employer's further argument that the question of

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\*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> *Ozark Trailer, Inc. and Allied Industrial Workers, Local 770*, 161 NLRB No. 48 (Oct. 27, 1966).

<sup>2</sup> 380 U.S. 263 (1965); see also *Monthly Labor Review*, May 1965, p. 566.

<sup>3</sup> 379 U.S. 203 (1964); see also *Monthly Labor Review*, February 1965, p. 191.



plant removal and shutdown are impossible of resolution by collective bargaining. In refuting this argument, the Board indicated that bargaining about decision on plant shutdowns and removals does take place and need not be futile. For example, the Board said, "unions have accepted cuts on wages and fringe benefits to save employees' jobs threatened by proposed plant relocation."

**Rehiring of Economic Strikers.** Refusing to enforce an NLRB reinstatement order, a U.S. court of appeals ruled<sup>4</sup> in line with the Board's own previous decisions that retainment of reinstatement rights by economic strikers is determined at the time they apply for reemployment. The court held, further, that if no job vacancy exists at the time the striker seeks reemployment, but should subsequently develop, the employer is obligated neither to seek out the economic striker nor to give him preference.

About half the employees of a house trailer manufacturer went on strike in support of contract demands, and by the time the strike ended, 21 of them had been replaced. The employer decided not to return to full-scale prestrike production but to continue operation with the number of workers employed at the end of the strike. Two days after the strike ended, six strikers applied for but were denied reemployment. Two and one-half months later the employer hired six new employees and passed over the strikers in doing so.

In deciding the unfair labor practice charge by the six strikers who had been passed over, the Board concluded that the men had not been permanently replaced and their jobs had neither been abolished nor absorbed. It decided, therefore, in line with the U.S. Supreme Court's opinion in *NLRB v. MacKay Radio and Telegraph Co.*,<sup>5</sup> that the manufacturer had committed an unfair labor practice.

Concurring in the Board's oft stated<sup>6</sup> position regarding the rights of economic strikers who have not been replaced permanently, the court found it difficult to understand why in this case the Board

ruled differently. The court concluded that the six complaining strikers had been replaced permanently. It reasoned that the abolition or absorption of a job is the equivalent of replacement and that under the *MacKay* decision, the employer may refuse to rehire the strikers. The question of whether a striker has been replaced, the court continued, is to be determined as of the date of his request for reemployment. Since the facts indicated that as of the date of the strikers' applications for reemployment the jobs either had been filled, abolished, or absorbed, the employer had no duty to reinstate them, the court held.

In reaching this conclusion, the court noted, but refused to accept, the ruling of the Board that the economic striker "retains his status as an employee and his right to preferential rehiring as long as he has a reasonable expectation of recall to work within the foreseeable future." The court pointed out that the Board itself had never used this theory of "reasonable expectation of recall" for the purpose of determining whether a striker had been replaced (although it had used it in election situations). It added, "And we are not inclined to do so." The court reiterated that the question of whether a vacancy exists is determinable upon a striker's application for reemployment. In this case, the availability of the claimants' jobs was not established, the court held, and the only support for their claims was the employer's stated intention to resume normal prestrike production "at some time in the future."

**Appropriate Bargaining Unit.** In a 3 to 2 opinion, the NLRB held<sup>7</sup> that a discount department store and one of its concessioners were joint employers of the concessioner's employees, and that the employees of both should be treated as a single bargaining unit for the purposes of a representation election, despite a specific agreement between them that they would not constitute a "copartnership or joint venture."

A discount department store (owned by Thriftown) consisted of a number of departments some of which were operated by separate firms under special agreements. Its business, however, was conducted in such a manner as to give the appearance of being an integrated department store. Advertising was in the store's name, checkout facilities were centralized, and there was no

<sup>4</sup> *NLRB v. Fleetwood Trailer Co., Inc.* (C.A. 9, Sept. 8, 1966).

<sup>5</sup> 304 U.S. 333 (1938). That case held that an employer has a duty to reinstate on a preferential basis those economic strikers who have not been permanently replaced.

<sup>6</sup> See *Brown and Root, Inc.* 132 NLRB 486 (1961).

<sup>7</sup> *Thriftown, Inc., and Astra Shoe Co.*, 161 NLRB No. 42 (Nov. 1, 1966).

physical separation of departments. Astra, one of the lessees, was licensed under an agreement that allowed Thriftown to control advertising, price policies, and decision on what articles could be sold; Thriftown also had authority to audit records, adjust customer complaints, terminate the agreement on 15 days' notice for a "good cause" or a 60-day notice without cause, and receive a commission on Astra's gross sales. The employees were also required to wear common uniforms and to obey all company rules. However, Astra did retain the right to hire, fire, and determine the pay of its employees.

The central issue of the dispute was whether all store employees—Thriftown's as well as concessioners—should be treated as a single bargaining unit. In reversing a regional director's determination,<sup>8</sup> the Board expressed the opinion that he had "failed to take into consideration the special nature of the relationship which existed between the parties in a discount department store, and therefore did not give sufficient weight to those factors which established actual or potential control by Thriftown over the labor policies of Astra."

The Board observed that the owner of a discount department store entering into an operating agreement would retain the authority required to enable him to "take those steps necessary to remove the causes for disruption in store operations." The Board then determined, on the basis of the operating agreement, that Thriftown had extensive actual power to control the department's operations, as shown by its right to dissolve the relationship entirely, its retention of overall managerial control, and the extent to which it had retained the right to establish the manner and method of work performance. Therefore, Thriftown was in a position to influence Astra's labor relations policies, the Board held.

The Board indicated that this holding should not be interpreted to mean that under such agreements there will necessarily be a joint employer relationship. But, it said, "where . . . the parties operate an integrated business enterprise under a single roof and the provisions of the operating agreement establish that the owner possesses significant control over the operational and personnel policies of the operator, the owner and operator are joint employers of the employees

of the operator." Once having found the existence of a joint employment relationship, and since no union had sought a more limited unit, the Board determined that all the employees should be treated as a single bargaining unit.

The dissenting Chairman McCulloch and Member Fanning were of the opinion that no joint employer relationship existed (and thus one bargaining unit was inappropriate) because of the specific disavowal of intent, as expressed in the operating agreement, to create such a joint employment relationship. The provisions for Astra to hire, fire, and pay its own employees further showed absence of intent to create such relationship, nor was evidence produced to show actual control of Astra's employees by Thriftown.

The minority thought there must be some legal foundation for holding a joint employer relationship, that is, either language in the operating agreement that the lessor is empowered to influence the lessee's labor policy or proof that the lessor had actually done so. Neither was shown, the opinion stated.

### Railway Labor Act

**Scope of NRAB's Authority.** "In obedience to the Supreme Court's order on remand," a Federal court of appeals reversed itself by ruling<sup>9</sup> that the National Railroad Adjustment Board had been warranted in holding a railroad to have violated an agreement by shifting its workload and eliminating certain jobs in disregard of the existing seniority system and without consulting the union. Such ruling was called for, the High Court indicated in the reversal, under its decision in *Gunther*<sup>10</sup> that the Railway Labor Act's provisions for the Adjustment Board should be considered as "compulsory arbitration" in this field.

By changing its train schedule and thus reallocating its workload, the railroad created additional jobs in one seniority district and eliminated jobs in another. The union, which was not consulted

<sup>8</sup> That Thriftown's influence over Astra's employees was too indirect to constitute a joint employer relationship, either under the lease agreement or in actual practice, and thus a single bargaining unit was inappropriate.

<sup>9</sup> *Hanson v. Chesapeake and Ohio Railway Co.* (C.A. 4, Sept. 16, 1966). The appeals court's original decision in this case was vacated by the Supreme Court May 16, 1966 (384 U.S. 211) and remanded for reconsideration.

<sup>10</sup> *Gunther v. San Diego & Arizona Eastern Railway Co.*, 382 U.S. 257 (1965).

on these changes, claimed that the provisions of the collective bargaining agreement protecting seniority rights had been violated, and brought the dispute before the NRAB.

In interpreting the agreement, the Board ruled that the rescheduling, which removed work from one district to another, did affect the seniority rights of union members and required consultation with the union.

This determination had been reversed by the district court, which had held that, under the agreement, making the schedule change was a prerogative of management, and that, therefore, the railroad had no duty to consult with the union. The court also held that the Board had exceeded its authority to interpret contracts when it changed and rewrote the bargaining agreement, and that

the issue in question was not covered by the contract.

Following the court of appeals' affirmation, the Supreme Court summarily vacated the judgment and remanded, directing the lower court's attention to the *Gunther* decision where it stressed that Congress had invested the NRAB with "broad power to arbitrate grievances" and plainly intended that the Board, composed of "railroad men, both workers and management," should exercise its expertise in interpreting controversial provisions of collective bargaining agreements, and that its determination is to be final.

The court of appeals vacated the district court's judgment and remanded the case for a determination of the amount of damages due to the aggrieved employees.



# Developments in Industrial Relations\*

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AGREEMENTS REACHED in November by 96,000 members of the Brotherhood of Railroad Trainmen and 27,000 members of the Brotherhood of Locomotive Firemen and Enginemen with Class I Railroads were expected to set a pattern for some 62,000 additional workers belonging to the three other operating unions in the industry. Two 2-year settlements in the footwear industry covering 20,000 workers followed the October agreement at Interco, Inc. First, 15,000 United Shoe Workers and Boot and Shoe Workers in seven southeastern and midwestern States were covered by a contract with the Brown Shoe Co. reached in mid-October, and on November 1, some 5,000 United Shoe Workers in the metropolitan New York area concluded a settlement with 18 manufacturers of women's quality footwear. The telephone negotiations round continued as agreements for at least an additional 32,000 Bell System employees were concluded. The first agreement covering manufacturing operators of Western Electric was also reached. Several agreements were reached in the shipbuilding industry, but a strike by 1,400 Electrical Workers (IBEW) employed by the Pacific Coast Shipbuilders Association continued, affecting 11,000 workers.

## Transportation

On November 2, the Brotherhood of Railroad Trainmen (BRT) with 96,000 members obtained a settlement with the Nation's class I railroads that provided a wage increase of 5 percent retroactive to August 12, and 3 weeks of vacation after 10 instead of 15 years. There were no provisions for additional changes in wages until the end of 1967. A similar agreement was accepted by the 27,000-member Brotherhood of Locomotive Fire-

men and Enginemen (BLFE) over the weekend of November 20. The other three operating unions were expected to follow the pattern of the BRT and BLFE.

The Teamsters (Ind.) and the Eastern Labor Advisory Association reached agreement in early November on a 1-year contract covering some 1,300 tank-truck drivers and mechanics from Washington, D.C., to northern New Jersey. The pact provided an immediate wage increase of 15 cents an hour and additional increases of 5 cents on May 1, 1967, November 1, 1967, and November 15, 1968, and 4 cents on November 15, 1969. Increases effective after the stipulated term of the agreement are typical of Teamster clauses designed to bring about greater nationwide uniformity of wage rates in the trucking industry. Other terms included reduction in the workweek from 50 to 48 hours, improved vacations, pensions, and health and welfare benefits.

## Telephones

The Illinois Bell Telephone Co. and the Electrical Workers (IBEW) agreed in early November to a 3-year contract providing wage increases averaging \$7.36 a week (18.4 cents an hour) for some 11,000 plant department employees<sup>1</sup> throughout the State.

Agreements between the Communication Workers and the Chesapeake and Potomac Telephone Company of Virginia and the Pacific Northwest Bell Telephone Co., were also achieved for workers in all departments. Affecting some 13,500 employees in Washington, Oregon, and northern Idaho and 7,500 employees in Virginia, these agreements provide weekly wage increases ranging from \$3.50 to \$8. All contracts followed the Bell pattern in vacations, pensions, life insurance, and health benefits; wages may be reopened after 18 months.

## Services and Trade

Discord in the entertainment field continued into November. On November 15, the opening of the New York City Ballet season was delayed by a strike over orchestra size by Local 802 of the Musicians. Under terms proposed by the ballet managers, all 55 musicians would work the per-

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

<sup>1</sup> Including linemen, cable splicers, and generator operators.

formances of the City Ballet at the New York State Theater in Lincoln Center, but only 46 would be employed for the Joffrey Ballet at the City Center's West 55th Street House, where officials claimed they could not use a larger orchestra. The strike ended the following day when a tentative 3-year agreement deferred the orchestra size issue until the second year of the contract.

On November 15, members of Local 77 of the Musicians ratified a 3-year contract with the Philadelphia Orchestra Association and ended an 8-week strike.<sup>2</sup> The 106 musicians of the Philadelphia Orchestra resolved the workload issue by having their maximum workloads reduced to four (from five) concerts a week and improving tour conditions. The previous \$200 a week minimum salary scale was increased to \$225 this season, \$230 the second season, and \$237.50 in the final season of the contract. Five instead of 4 weeks of vacation were provided in the first year of the contract, increasing to 6 weeks in the second year. Pension fund contributions by musicians and the association were raised to \$7.50 from \$5.

Members of the Musicians also ratified a contract ending a 3-week strike against the Southern California Symphony-Hollywood Bowl Association which had delayed the opening of Los Angeles' 1966-67 concert season. The 3-year agreement provided weekly minimum salaries of \$200 the first year (from \$180), \$210 in the second, and \$225 in the third year. It also permitted the resumption of the season on November 23. The concert season was increased from 38 to 46 weeks by the third year. The president of the association announced that the increases were made possible by a 90-day loan.

In late October, agreement was reached on a 3-year contract between the Building Service Employees and the Building Managers Association of Chicago. Covering some 8,000 janitors, the pact provided wage increases totaling 35½ cents an hour over the life of the agreement, and increased employer contributions to the health and welfare fund to 17½ from 8½ cents an hour.

<sup>2</sup> See *Monthly Labor Review*, December 1966, p. 1399.

<sup>3</sup> Local 441, Jacksonville; Local 1625, Miami; and Local 1636, Tampa.

<sup>4</sup> See *Monthly Labor Review*, December 1966, pp. 1396.

<sup>5</sup> Of the 14,000 Westinghouse Workers represented by the IBEW, about 3,500 are currently covered by a master contract.

Bargaining for the first time on a multilocal basis,<sup>3</sup> the Florida Retail Clerks agreed in late October with Food Fair Stores, Inc., on a 3-year contract which provided wage increases ranging from \$3 to \$11 a week over the contract term for some 2,700 employees of 130 stores throughout the State. Initial wage increases were retroactive to April 17. Weekly salaries for fulltime clerks, which had ranged from \$50 to \$68, were increased to \$53 to \$77. Employees whose salaries were above these ranges, such as department managers and head cashiers, received \$3 a week increases each year. Health and welfare benefits were also improved. Employees are now required to work only 2, instead of 4, 9-hour days a week.

### Metalworking

On October 24, the Communications Workers at Tonawanda, N.Y. ratified the union's first settlement in the Western Electric Co., Inc., current round of negotiations with its manufacturing plants. Covering 2,000 workers and extending for 3 years with a wage reopening after 18 months, the agreement provided a 12- to 23-cent-an-hour wage increase retroactive to September 28. According to union estimates, the increases averaged 17.9 cents an hour or 5.88 percent. The parties exchanged a letter of understanding on reduction in incentive rates. Other changes, similar to those in settlements with other Bell System affiliates, included 4 weeks of vacation after 20 instead of 25 years; a reduction in the social security offset in the pension plan to one-quarter from one-third; improved hospital-surgical-medical insurance; increased company payment of insurance premiums and improved eligibility for paid sick leave.

The strike of Electrical Workers (IBEW) at Westinghouse Electric Corp. continued into November, idling 11,000 workers at its peak. The IBEW was the only major union that failed to settle with Westinghouse in October.<sup>4</sup> Among the outstanding issues were the union's demands for a national agreement,<sup>5</sup> a common expiration date for local plant contracts, and a narrowing of geographic wage differentials. At the end of the month, some 4,000 members of the IBEW were still out.

Meanwhile, the Westinghouse plant at Lester, Pa., was struck by the Independent Electrical

Workers (UE) over the firing of a shop steward. The company claimed that he had fallen asleep on the job while the union contended that the steward was fired for opposing overtime for third-shift employees. The strike involving 4,600 workers was unrelated to contract negotiations. On November 17, the workers returned to their jobs, ending the walkout that began on November 1.

The Electrical Workers (IBEW) also struck the Raytheon Co., on November 13, idling 10,000 workers at 12 plants in the Boston area. Issues included the size of a new contract package and language covering work assignments. The company had offered a 2-year wage and supplementary benefits package, which it valued at 6.04 percent the first year and 5.49 percent the second year, and claimed that the union was demanding an annual package of 11 percent. Among the facilities affected were the Andover plant producing the Hawk ground-to-air missile, and the Lowell plant where the Sidewinder and Sparrow III air-to-air missiles are produced.

At the General Electric Co., some 15,000 members of four unions were still on strike over local issues.<sup>6</sup> Among the struck plants was the one at Schenectady, N.Y., where some 12,000 Electrical Workers (IUE) were out. The principal issue was the union's desire to modify the Make Schenectady Competitive (MSC) agreement established in October 1964. That agreement had provided for the transfer of 3,000 incentive workers to hourly wages with the company providing payments to compensate for the anticipated loss in earnings of the incentive workers.<sup>7</sup>

The IBEW agreed to a 3-year contract with Avco Corp.'s Ordnance Division in Richmond, Ind. The pact afforded 2,000 workers a 12-cent-an-hour, first-year wage increase with skill adjustments ranging from 10 to 24 cents; additional wage increases of 11 cents an hour were to be effective in both the second and third years. The contract also included improved vacation, pension, and insurance provisions. The plant produces aerial rockets and mortar shells as well as arming devices for the Navy's Polaris Missile.

Some 2,200 Marine and Shipbuilding workers in Bath, Maine, were covered by a 42-month agreement reached in mid-October with the Bath Iron Works Corp. Wage increases of 30 cents an hour over the term of the contract were provided, as was

a third week of paid vacation after 15 instead of 20 years.

Early in October, a 23-month agreement ended a 5-day strike by 1,400 Marine and Shipbuilding workers against Dravo Corp., in Neville Island (Pittsburgh), Pa. Wage increases of 4.5 percent were provided in both October 1966 and 1967. Adjustments ranging from 3 to 25 cents were included for skilled trades. Other terms included triple time (instead of double time and a quarter) for holiday work, and company assumption of the full cost of life, accident, and hospitalization insurance.

The Aluminum Company of America announced plans to pay \$717,000 on December 16 to workers at its New Kensington, Pa., plant as a result of a March 1966 agreement between the company and the Steelworkers who represented 1,700 of the plant's 2,200 employees.<sup>8</sup> (Employment at the plant had since been reduced to 1,650.) The union agreed to changes in work rules such as elimination of incentive pay, revision of seniority lists, and the transfer of some operations to other plants. In return, Alcoa set up a fund to permit early retirement at increased pensions for 175 workers and to provide lump-sum payments to workers whose pay would be reduced by the elimination of incentives. The \$717,000 payment will go to 800 workers who were either taken off incentives or early retirees who were on incentives before retirement.

## Other Manufacturing

A 2-year contract affecting approximately 15,000 workers in 35 plants in Missouri, Illinois, Indiana, Kentucky, Arkansas, Tennessee, and Mississippi was reached over the weekend of October 15 by the Brown Shoe Co., with the United Shoe Workers and the Boot and Shoe Workers. On January 1, 1967, pieceworkers were to receive a 6-percent wage increase and hourly workers 9 cents an hour, with additional increases of 7 percent and 12 cents, respectively, scheduled for January 1, 1968. Piece rates were to be raised on jobs not producing an average of \$1.54 an hour by February 1, 1967, and \$1.70 an hour by February 1, 1968.

<sup>6</sup> The Electrical Workers (IUE), Auto Workers, Plumbers, and Technical Engineers.

<sup>7</sup> For further details see *Monthly Labor Review*, December 1964, p. 1436.

<sup>8</sup> See *Monthly Labor Review*, May 1966, p. 539.



Pensions for those retiring on or after November 1, 1966, were increased to \$2 from \$1.75 a month for each year of credited service, and effective November 1, 1967, pensions for those retired before November 1, 1966, were to be raised to \$1.75 a month for each year of service. At age 68, pension credits can be accumulated to a maximum of 30 years. Insurance improvements, to be effective November 1, included up to 31 days of hospitalization benefits at a rate equivalent to the area cost for a semiprivate room (instead of \$15 a day), \$5 instead of \$3 a day for in-hospital doctors' visits, a \$350 instead of \$300 maximum surgical schedule, and a company agreement to pay the \$3 a month premium for Medicare. A reduction in service required for vacation eligibility and improved leave provisions and machine breakdown policies were among other benefits.

On November 1, the United Shoe Workers and 18 manufacturers of women's quality footwear reached agreement on 2-year contracts affecting an estimated 5,000 workers in the metropolitan New York area. A 15-cent-an-hour general wage increase was effective on November 1; the minimum starting rate was increased to \$1.50 from \$1.25 an hour, with a further increase to \$1.60 to be effective February 1, 1968; and the minimum after 1 year of service was raised to \$1.65 from \$1.50 an hour, and to \$1.75 on February 1, 1968. Provisions for 2 weeks of vacation after 3 years of service (instead of 3 years of employment and 5 years in the industry), and a third week after 10 years; and pensions of \$45 instead of \$40 a month effective September 1, 1967, and \$50 a month a year later, were included in the terms of the contract.

Blue Bell, Inc., the world's largest manufacturer of men's work clothes and play clothes with plants located primarily in the South, announced two 6-percent wage increases—the first to be effective October 31, and the second, on January 2, 1967.

A 2-year contract between the United Glass and Ceramic Workers and the Rohm and Haas Company at Bristol, Pa., provided some 1,900 workers a 3-percent general wage increase retroactive to October 25. Some maintenance workers were to receive a 5-cent hourly inequity adjustment. Other

terms included a ninth paid holiday; a fifth week of vacation after 20 years; improved pension and insurance benefits; and a liberalized company-sponsored savings plan. The agreement may be reopened on October 27, 1967.

### Minimum Wage

On October 16, President Johnson signed a bill raising the Washington, D.C., minimum wage and extending its coverage to an additional 200,000 men. Previously, some 88,000 women and children were covered. Under the new provisions, a \$1.25 minimum wage will be effective on February 1, 1967,<sup>9</sup> increasing to \$1.40 on February 1, 1968, and to \$1.60 on February 1, 1969. The new law also establishes a wage floor for all workers in the District with minor exceptions, with provision for establishing higher minimums for seven industry groups by administrative action. Formerly minimums were established only by Wage Board Orders. The new minimums are on an hourly basis, whereas formerly weekly minimums were established.

The largest increase will go to service employees of restaurants, hotels, and apartment houses whose previous minimums were set at \$28 for a 40-hour week, or 70 cents an hour. Those previously covered in building service, retail, and clerical and semitechnical capacities were already receiving \$1.25 an hour (\$50 for a 40-hour week). With the exception of workers in retail trade, where time and one-half for work after 40 hours was already in effect, time and one-half will be paid for work over 42 hours a week after April 15, 1967, and for work over 40 hours 6 months later.<sup>10</sup> Under the previous provisions, workers in other industry groups received a flat premium above their normal rate (e.g., 15 cents) for work beyond 40 hours.

The effect of the new minimum wage law and of the amendments to the FLSA effective in February 1967 and subsequent years will be closely related. A large proportion of the men brought within coverage of the new District minimum wage were already covered by the FLSA or will be covered when the amendments to this act go into effect. However, all workers within the scope of the District minimum will be subject to a \$1.25 minimum while the minimum for most newly cov-

<sup>9</sup> Service and nonservice workers employed in restaurants, hotels, and apartment houses will receive the increases 6 months after the other groups (in August of 1967, 1968, and 1969).

<sup>10</sup> Except for workers in hotels and restaurants whose final overtime rate will be established by regulation in August 1968.

ered workers under the FLSA will start at \$1. Moreover, the District minimum wage will cover all employees in retail trade, hotels, and restaurants, rather than only those in enterprises and establishments with a specified annual sales volume. As of 1967, about 70,000 of the 288,000 workers covered by the District of Columbia minimum will not be covered by the FLSA; this includes about 45,000 in retail trade, hotels, and restaurants having annual sales of less than \$500,000. Some of these will come within the scope of the Federal minimum in 1969, when its coverage will be extended to enterprises with \$250,000 or more in sales in these industries.

### Government

President Johnson signed a bill on November 12, giving the 6,200 District of Columbia school teachers an 8.9-percent average increase in wages and 4,200 policemen and firemen a 9.9-percent increase, each retroactive to July 1, 1966. The new legislation raised the starting annual salary for teachers to \$5,840 from \$5,350 and the uniformed rookies' starting salary to \$6,700 from \$6,010.

A "truce" between Pontiac, Mich., city officials and representatives of the Pontiac Police Officers

Association ended the 36-hour "sick call" walkout by policemen on November 3 and averted a strike that threatened to be the Nation's first full scale police strike in 47 years. It was estimated that sick calls reduced the police force to 20 percent of its normal work force of 117 men. Following the truce, policemen warned they would boycott their work again, "regardless of any penalty," unless their pay was raised. An Association spokesman claimed that Pontiac policemen earn between \$6,084 and \$7,059 a year, about \$1,000 less than policemen in Detroit and other cities in the area. Pontiac has some 85,000 residents.

In another dispute involving public employees, Rhode Island State employees stayed away from work to press their demands for a pay increase. The State, County, and Municipal Employees which represents some 3,500 of the 11,000 State employees had scheduled a 4-day walkout early in November, but the workers were ordered back to their jobs after 1 day by an injunction issued by Superior Court Justice John E. Mullen at the request of Governor John H. Chafee. Among the workers involved in the stoppage were kitchen and laundry workers at state institutions, ferry crews, and highway workers.

# Book Reviews and Notes

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## Pleasant Reading

*The Age of Keynes.* By Robert Lekachman. New York, Random House, Inc., 1966. 324 pp. \$6.

This book is primarily an account, with particular reference to the United States, of the impact on national economic policy of a bundle of ideas; it is not a personal and intellectual biography of John Maynard Keynes in the sense of Harrod's. Sufficient biographical detail is included, however, to provide a vivid picture of an extraordinary individual and of the development of his thought. It is a superb example of "popular" writing on economics; indeed, it can be read with pleasure as well as profit by any intelligent person with a modest grounding in the subject.

Keynes, born into comfortable circumstances, had an exceedingly full life as Cambridge don and bursar of his college, civil servant, editor, financial speculator, and member of the literary and artistic Bloomsbury set. His writing ranged from a treatise on probability to short essays in biography. He is reputed also to have exhibited that charming but sometimes exasperating provincialism that one tends to associate with English intellectuals. He was, with all this, the greatest innovator in economic thought since Adam Smith. *The General Theory of Employment, Interest and Money* (1936) provided the theoretical foundation for policy actions that have helped greatly to preserve relative political and economic freedom in the industrial civilizations of the West.

The first third of Professor Lekachman's volume is devoted to the early years of Keynes, his activities through the 1920's, the evolution of the ideas that went into *The General Theory*, and the substance of that powerful, and in places obscure, book. The great external influences on Keynes were the British economic difficulties during the latter part of the 1920's and the mass unemployment of the following decade. What Keynes did, in a word, was to replace classical doctrine on the

determination of output and employment with a theory of aggregate demand that provided a basis for positive governmental action, primarily through monetary and fiscal policy, to prevent wide swings in economic activity and to sustain growth.

*The General Theory* was addressed to technical economists. In terms of policy impact, the ideas it contained had first to win acceptance among that group, and then filter through to government policy officials and a wider public. Professor Lekachman traces this process in the United States through the New Deal, World War II, and the postwar period. It is a fascinating story. The Tax Reduction Act of 1964 appears to represent in this country the full acceptance of the central ideas of Keynes. "Never again," writes Professor Lekachman, "will an American Government profess helplessness in the face of unemployment, recession, and lagging economic growth."

Perhaps a concluding word of caution is necessary. In reading this book, one may get an oversimplified impression of the content of modern economics and of the nature of economic problems, despite the fact that Professor Lekachman discusses inflation, structural unemployment, and the question of balance between public and private spending. Actually, there is much still to be learned about aggregative economic behavior, and many of the older economic tools remain highly serviceable for analysis of resource allocation and a host of related problems. But this book does provide a splendid introduction to the contributions of one whom Professor Lekachman justly terms "the greatest economist of our age."

—H. M. DOUTY  
Senior Research Consultant  
Bureau of Labor Statistics

## Welfare Writings

*Essays in Normative Economics.* By Abram Bergson. Cambridge, Mass., Harvard University Press, 1966. 246 pp. \$5.95.

One may find in these essays a most thorough discussion of the assumptions, principles, and controversies which surround the theories of welfare economics. Bergson himself has made a notable contribution to clearing our minds on these matters. Students anxious to get their ideas straight should read very carefully what the author has to say. The essays were written at various dates



from 1938. One of the contributions is a most valuable essay on "socialist economics," in which Dr. Bergson presents a clear and succinct summary of the various arguments about the practicability of a socialist economic structure, as well as a discussion of the application of welfare-economics criteria to socialist planning.

There is not the space to take up some questions which are raised in at least one mind after reading this highly thought-provoking collection. There is the semiphilosophical issue of the nature of individual goals, the tendency to desire the unattainable, to wish to have one's cake and eat it too. Thus, in a country in which the State happens to be responsible for much of the investment expenditure (for instance, India), the public is likely to desire the fruits of the investment without wishing to pay for them. Is there then much meaning in the citizens' time preference? Private investors are often inspired, as a gambler is, by the hope of big gains. A taxpayer-investor has no recognizable return; as a citizen his share in his country is vague and unidentifiable, and spectacular projects become a species of politico-economic necessity, to convince the citizen that something is really being done with his money. However, there usually has to be some species of forced savings.

For different reasons, the citizens of New York have to cover out of taxation part of the cost of the subway. Are these examples of departure from a welfare optimum? If not, why not? How can this optimum be defined or identified, otherwise than in a pure free-market model, in which its existence is, so to speak, part of the definition of the model? An Indian, who had absorbed western economic education, declared at a seminar that the government ought to "maximize the social welfare function." It ought indeed, but how can this generalization be turned into usable criteria for Indian planners, or for their critics?

Bergson is aware that any elegant or rigorous theory has only limited application to the real world, but argues that "the welfare economist might still hope that the world would be a better place to live in with his counsel than without it." A very proper hope. In my view, the ideas so logically expressed by him would gain in force if he were to give greater consideration to dynamic and developmental problems, and if the concept of interdependence (which Bergson considers to be "overstressed") were extended beyond the narrow

question of individual satisfaction; the pursuit of deliberate economic policies designed to change an existing situation gives rise to interdependencies of other kinds, which, rather than being overstressed, are generally overlooked. The book is, however, definitely a worthwhile addition to an economist's library.

—A. NOVE

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### Stimulus to Study

*The New Technology and Human Values.* Edited by John G. Burke. Belmont, Calif., Wadsworth Publishing Co., Inc., 1966. 408 pp. \$5.25.

Although the editor of this book of readings has organized his selections systematically and coherently, he makes hardly any attempt to evaluate them or integrate the diverse conclusions reached.

The first section contains readings which show the different attitudes toward the advances of science and technology prevailing during the 19th century. Some discussions of the possible purposes and roles of education in modern life follow.

The development of automation is indicated as a major cause of changing human values, especially because of the effects it will have on the adequacy, in number, of jobs that the economy can provide and on the effective utilization of leisure time as it becomes increasingly available to the population. Dr. Burke includes conflicting views on the prospects of solving these problems.

The technological advances taking place are affecting many of the accepted human values. The sharp reduction in the death rate throughout the world during the past few decades has resulted in a population explosion that will shortly tax the earth's natural resources, unless mankind is able to control fertility effectively. Yet there is considerable disagreement by the contributors on whether this is possible to achieve. The readings cover the impact on individual rights brought about by the increased use of lie detectors, wiretapping, and drugs that affect behavior and the thought processes. A group of selections deal with the possible effects of the advances in biological science on the future of the human race.

The role of government in planning and controlling the progress of science and technology and prospects for the survival of democracy in the midst of these rapid changes are discussed in the final section of the book. Once again, the selections included contain differing opinions.

Many of the selections stress a particular point of view without presenting a balanced account of the overall problem under consideration, which may sometimes leave the general reader puzzled. On the other hand, this method may lead some students to undertake further inquiry into background and come up with opinions or conclusions of their own.

—ROBERT D. LEITER  
Professor of Economics  
City College of New York

### Thought Behind the Thinking

*The Structure of Economic Science.* Edited by Sherman Roy Krupp. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1966. 282 pp. \$10.60.

Thirteen economists and three philosophers have contributed original essays to this compendium of economic methodology. A philosophical approach is maintained throughout this valiant attempt to unify, or at least rationalize, the basic concepts and methods of a science noted for its acrimonious controversy.

The work is remarkable on several counts. It contains a distinguished group of authors, a well-articulated series of topics, a unity of purpose, an honest appraisal of strengths and weaknesses, a comprehensive variety of viewpoints, and a consistently high level of performance. This collection may well be considered indispensable by the professional economist and graduate student, but the typical undergraduate will probably find it too rigorous and profound.

Martin Bronfenbrenner, Henry Morganau, Sherman Krupp, Fritz Machlup, and Lawrence Nabers consider the matrix of theory and methodology, the relationship between observational data and theory, and the assumptions and components of theory. Questions are raised concerning the validity of techniques and procedures. Value judgments are both questioned and justified as a necessary means of investigation of phenomena. The basis of controversy is probed, and its

usefulness is demonstrated for an evolving and inexact science.

The limitations, achievements, and possibilities of mathematical economics are examined by William J. Baumol, Eugene Rotwein, Gerhard Tintner, and Kenneth Boulding. Realism vs. relevance, observation vs. concepts, induction vs. deduction are the conflicts that the mathematician must resolve. He must clearly delineate how and why some problems are clarified by quantitative analysis, and others are not. Oversimplification is obviously dangerous, but can become useful in avoiding inundation by an infinity of variables.

Probably the most intriguing task is that of defining a discipline and setting its boundaries. But economics is an eclectic science: Its assumptions and postulates are drawn from many fields, some closely related, but some only remotely akin. Emile Grunberg, James M. Buchanan, Benjamin Ward, and Kelvin Lancaster throw considerable light on the "spillins" and "spillouts" from the other disciplines, but emphasize the viewpoint that, except in a closed system, setting strict parameters and rigid definitions is not productive of results.

For many years economists have been aware of the significance of value judgments and the limitations they impose. Jerome Rothenberg, C. W. Churchman, and Richard B. Brandt subject the concept of values to rigorous analysis, and demonstrate the empirical validity and objective content of utility theory, without which the field of economic analysis would become circumscribed indeed.

The careful reader might conclude that, although the economist may be groping in a haze of confusion, he is fully alive, intellectually broad and curious, and vitally concerned with the pursuit of science and truth. James Buchanan says his weakness may be in tending to become a social engineer, but perhaps he should be compared with an architect who culls all the arts and sciences for material for his structure, which turns out beautifully, but is sometimes unsuited to its occupants. The curse of the economist is that his carefully elaborated models must be inhabited by unfathomable and unpredictable men.

—WALTER G. BECKER  
College of Business Administration  
Arizona State University

## Rational Defense

*America in the Market Place.* By Paul Douglas. New York, Holt, Rinehart, and Winston, Inc., 1966. 381 pp. \$7.95.

The very last paragraph in the book carries the "message" to which this entire work points. In the author's words, "By and large, there has been a loss during these last years in the will of nations to cooperate in the field of trade and international finance. If we are not to revert to a period of crass mercantilism, we should move forward on as wide a scale as possible. Thus far our national record has been a good one. Despite all the frustrations and provocations, we should not be weary of well-doing. It is in the broader interests of the world to cooperate. Let us do so with those nations which show an honest will to take part in these mutual endeavors and at the same time let us be on guard against the efforts of those who would tear down the international fabric of fair trade and mutual helpfulness."

Using an historical approach, beginning with the mercantilists, Senator Douglas surveys the shifts and turns in foreign trade and policy relating thereto in the parts of the world with which the United States has had the greatest economic contacts. He also surveys the arguments for free trade and for protection. He examines the problems created for international trade by a variety of national currencies and the recent and current effort through the International Monetary Fund to produce more stability in foreign exchange.

The book reflects the point of view and philosophy that stems from two, or perhaps three, careers in which the author has distinguished himself. The point of view of the educator-economist shows throughout the book by the conviction that greater and greater freedom of international trade would be desirable. But the pragmatism of the politician (and perhaps the military experience of World War II) enters to cause Senator Douglas, though looking nostalgically toward the free trade of the economist, to recognize that we have enemies who would destroy our way of life and that we must be realistic and selective in our foreign trade policy. His position in this analysis seems well-founded and defensible.

The portions of the book dealing with current financial, trade, and tariff policies reflect one of

the Senator's prime characteristics. That which he believes, he believes with conviction and a willingness to defend with great vigor. Thus, the currently applicable sections of the book are a strong defense of the position of the author as a Senator and of the Democratic elected officials at the national level. In a sense the work goes beyond strong defense; it offers rationalization.

Senator Douglas does not hold the same respect for appointive officials that he holds for those who are elected. In a few instances the position taken by the Department of State is recounted with apparent distaste.

Here is a cogent presentation and rationalization of a liberal Democrat of his philosophy and position on international economic relationships. The supporting historical background needed to state that position is inclusive. The book is well-written and well-organized; it does not require the training of a professional economist for profitable reading.

—GLENN W. MILLER  
Department of Economics  
The Ohio State University

## Academia and Industrial Relations

*Industrial Relations: Challenges and Responses.* Edited by John H. G. Crispo. Toronto, Ontario, University of Toronto Press, 1966. 156 pp. \$6.50.

Despite the excellence of the writing, this collection of papers has running through it a disquieting note of benign academic conservatism.

For example, James R. Bright in an article on "Automation and Wage Determination" poses a critical problem: Does automation upgrade or downgrade work? The question is so smothered by discussion on meeting the needs of management about wage determinants that job satisfaction and the meaning of work are ignored. This manner of concentrating on the irrelevant is typical of the tone of the volume.

Fred Harbison writes tellingly of collective bargaining, and his conclusions and perspective seem unassailable: Collective bargaining is not a vehicle for revolutionary change, but does it really make no difference to American life or the American worker whether a union raises critical social problems among its demands or only settles for 'more'?



Wilbert Moore in his article states that it may be "perverse" to suggest that industrial relations has no future. Agreed; it is perverse. Agreement stopped there. Being concerned about bureaucracy is no reason to deny "that we are dealing with two well-organized antagonists." It is obscurantism to subsume open divisions in the society under the blanket of bureaucracy, mass society, or the like.

Unions and the universities (these papers were presented at the founding of the Center for Industrial Relations, University of Toronto) are not dramatic change agents in our society. But both must do better in delineating the alternatives that exist for their constituencies.

—BILL GOODE  
Leadership Study Center  
United Auto Workers

### Further Proof

*Work and the Nature of Man.* By Fredrick Herzberg. Cleveland, Ohio, The World Publishing Company, 1966. 203 pp. \$6.

Herzberg's original study of job attitudes, with his resulting Motivation-Hygiene theory, published in *The Motivation to Work, 1959*, probably created more interest, concern, and criticism than any other similar study of recent years.

Briefly stated, this new theory postulates five major job satisfaction factors and five major job dissatisfaction factors. The satisfaction factors, or motivators, are achievement, recognition, work itself, responsibility, and advancement. The dissatisfaction or hygiene factors are company policy, administration, supervision, wage or salary, interpersonal relations, and working conditions. The principal result of the original study was the suggestion that job attitudes were two dimensional—one dimension involving the avoidance of unpleasantness and a separate dimension involving personal growth. Personnel policies designed to decrease job dissatisfaction may have the desired effects without increasing job satisfaction. A worker may become less "dissatisfied" without becoming more "satisfied."

In this book, Herzberg further develops the theory of the duality of man's needs; man as Adam trying to avoid pain-provoking events in his en-

vironment and man as Abraham attempting to fulfill his innate potential, his creativity. But even more important than the philosophical-historical theory development is the report of over 20 studies which seem to effectively overcome the basic shortcomings of the original theory; namely that the theory was an overgeneralization based on an inadequate, nonheterogeneous sample.

The original study was of 203 accountants and engineers in the Pittsburgh area. In his latest work, Herzberg reports on studies carried out in many areas of the United States; one study covers three other countries—Finland, Hungary, and Russia. Subjects in these studies were white- and blue-collar, in government and private employment. They were supervisors, administrators, scientists, engineers, technicians, factory operators and assemblers, nurses, food handlers, students, high- and low-skilled maintenance workers, housekeepers, etc.

The results of the extensive replication are impressive. The concept of the parallel nature of job "satisfiers" and job "dissatisfiers" seems to be more than mere theory and its implications for industry are great. As the author warns:

"Industry, as the dominating institution in our society, must recognize that if it is to use human beings effectively, it must treat them in terms of their complete nature rather than in terms of those characteristics that appear to be suitable to their organization. Industry cannot progress by continuing to perpetuate a half conceptual view of man. As already suggested, its present personnel programs, which in effect serve to minimize the natural symptoms of an amputated individual, can lead only to temporary, opiate relief and further the basic psychic pathology."

"There is one organizational change I feel is essential if we are to structure human institutions to meet man's needs and to reflect the dual structure of his nature as well. This reorganization would separate present-day industrial relations into two formal divisions. One division would be concerned with the hygiene-need system of the employee and the other section would be concerned with his motivator needs."

—BERTRAM GOTTLIEB  
Center for Labor and Management  
University of Iowa

## Reappraisalism

*A Reappraisal of Marxian Economics.* By Murray Wolfson. New York, Columbia University Press, 1966. 220 pp. \$6.75.

*Marxist Ideology in the Contemporary World—Its Appeals and Paradoxes.* Edited by Milorad M. Drachkovitch. Stanford, Calif., Stanford University, Hoover Institution on War, Revolution, and Peace, 1966. 192 pp. \$6.50, Frederick A. Praeger, Inc., Publishers, New York.

Marxism seems to be undergoing a new round of reappraisal—several books have been published recently on the subject.

“Is Marx right?” asks Dr. Wolfson and proceeds to argue that, as viewed in terms of current country development, he is not. But, “if one is to argue that even a modified capitalism is a viable social order, it is necessary to examine the argument [Marx] advanced.” After a searching scrutiny of Marx’s dialectic in chapter 1, the author finds the philosophy of materialist determination of history a “scientifically inadmissible way of making predictions” and incapable of withstanding a scientific test. Further, he says Marx’s economic analysis is based on false assumptions and reaches erroneous conclusions quite contrary to the claims of “scientific socialism.”

In chapter 3 the author reviews the labor theory of value, the cornerstone of Marx’s economic system, and concludes that abstract concept of a commodity’s value per se cannot stand the scrutiny of reality. First, it does not allow for the “multiple factor” (the action of various forces in determining the price), and second, it does not consider the influence of subjective demand upon the exchange of goods. Dr. Wolfson points out in chapters 3 and 4 that Marx’s value concept is contradicted by fact. In reality the profit motive continues to exist, the proletariat’s misery decreases instead of increases because wages rise; and the prophesy of the inevitable collapse of capitalism remains but a prophesy. And the theory of gradual disappearance of the State as a country develops seems to be working in the reverse.

The Hoover Institution’s compilation of seven essays is the last of three independent volumes of

material delivered at an international conference recently organized by the Institution on the subject of “One Hundred Years of Revolutionary Internationals.” The authors’ consensus is that Marxism has lost its strength as an economic system and a promise to the proletariat, but still retains attractiveness as an ideology. It is a matter of faith rather than reason, quite the opposite to what it set out to be about a century ago. It has become different things to different people throughout the world: hopefully a “dissolvent of the existing order” in the West, a doctrine of State building in the newly emerging and underdeveloped countries, and a “social cement” in Soviet Russia.

Most likely, the editor observes, Marxism’s present-day attractiveness resides in its role as a modern “revolutionary messianism,” and in the promise of power to leaders of a Communist State.

—EUGENE SKOTZKO  
Office of Publications  
Bureau of Labor Statistics

## Looking at the Future

*The Limits of American Capitalism.* By Robert L. Heilbroner. New York, Harper & Row, Publishers, Inc., 1966. 140 pp. \$4.95.

The classic but neglected field of political economy has one of its strongest exponents in Robert Heilbroner. In the two essays contained in this volume, he states and defends with wit and brevity the following provocative and by no means uncontroversial propositions: (1) American capitalism is today, at one and the same time, more solidly entrenched and more insecure than ever before in our history; (2) the business community is still the single most important shaper of national policy, although this power has markedly and steadily decreased; (3) leading capitalists have begun to evolve a philosophy which accepts a leadership role for nonbusiness elites in formulating public economic policy; (4) the movement toward a planned society will continue, not under the politically prohibitive title of “economic planning,” but under the generally approved title of “manpower planning”; (5) the elimination of poverty for those at the lower level of the economic scale is likely to occur within the next generation or two, but will not be coupled with a change in our patterns of income

distribution under which extreme wealth is concentrated in the hands of a few; (6) the power of science and scientific technology is the one force in our society that in the longrun may undercut the foundations of capitalism, creating new social structures and institutions in its place.

Heilbroner's position demonstrates once again the essential conservatism of the neo-Keynesians. In the face of the challenge of Marxian socialism, they would preserve the main structure of capitalism by introducing conscious public control to protect the existing system from its own destructive tendencies.

—CHARLES M. REHMUS

Department of Political Science  
University of Michigan

### Widening the Scope

*Consumer Behavior and the Behavioral Sciences.*

By Stuart Henderson Britt. New York, John Wiley & Sons, Inc., 1966. 592 pp. \$11.50.

A well-rounded understanding of consumer behavior is of great importance to the success of most business firms. Traditionally, the study of consumer behavior by practitioners and students has been undertaken within the single context of economics. In more recent years, however, there has been a growing recognition that other social sciences could provide worthwhile insights and analyses of why consumers behave as they do. This book provides a major contribution to that trend. It is written for persons in the field of marketing as well as in other business areas in which consumer behavior plays a significant role.

The behavioral sciences referred to in the title are anthropology, psychology, and sociology. Drawing from the extensive and diverse literature in these fields, Dr. Britt has put together 348 readings from 269 different authors. Although this book is not the first of its kind, it is certainly the most complete in scope. The table of contents alone contains 22 pages.

Such a vast compilation of individual contributions leads to two important observations.

First, there is obviously much material from the behavioral sciences which is relevant to consumer behavior. The task of integrating into a business framework what literature already exists must be accomplished before further progress can be made along these avenues of analysis.

Second, a collection of so many readings could easily result in a tedious and confusing volume. In this book, however, the readings have been shortened to emphasize major points and has been organized nicely into 9 major parts and 42 chapters. After first looking at the foundations of consumer behavior, the editor focuses on readings discussing cultural influences (the sphere of anthropology), individual influences (the sphere of psychology), and group influences (the sphere of sociology). Next, some contributions to consumer behavior from economics, although not specifically classified as a behavioral science in this book, are presented.

These early parts provide the background for the consideration of specific marketing topics such as the relationship between the consumer and the business firm, product attributes, and various types of promotion. The culmination of all these ideas is found in the last major part of the book which deals with decisionmaking by consumers.

Each chapter is prefaced by a brief introduction and description of its subsequent readings. The chapters are then subdivided into readings in background and theory, examples of pertinent research and applications, and problems that need to be solved in connection with the readings of that chapter.

The organization of the material is the outstanding feature of this book. Each essay forms an integral part of a total chapter. This is especially helpful because the contents are not amenable to easy and fast reading, since many of the topics and approaches described will be opening new doors for most people.

—THOMAS R. WOTRUBA  
Associate Professor of Marketing  
San Diego State College



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*The Contribution of Education to Economic Growth [Canada].* By Gordon W. Bertram. Ottawa, Economic Council of Canada, 1966. 150 pp. (Staff Study 12.) \$1.90, Queen's Printer, Ottawa.

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*A Digest of Provincial Labor Laws Governing Municipal and Provincial Employees in Canada.* Compiled by Richard L. Salk. Chicago, Public Personnel Association, 1966. 107 pp. (Personnel Report 664.) \$6.

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- 122 D-5. Indexes of wholesale prices for special commodity groupings
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### E.—Work Stoppages

- 124 E-1. Work stoppages resulting from labor-management disputes

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<sup>1</sup> Tables A-1 through A-6 are new monthly tables; A-7 and A-8 will appear quarterly, January, April, July, and October issues of the *Review*. Tables A-9 through A-13 were formerly numbered A-2 through A-6. Old table A-1 has been discontinued.

<sup>2</sup> This table will not be published after October 1966. See note on p. 1338.

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.—Labor Force and Employment

TABLE A-1. Summary employment and unemployment estimates, by age and sex, seasonally adjusted

[In thousands]

Employment status	Nov. 1966	Oct. 1966	Sept. 1966	Aug. 1966	July 1966	June 1966	May 1966	Apr. 1966	Mar. 1966	Feb. 1966	Jan. 1966	Dec. 1965	Nov. 1965	Annual average	
														1965	1964
<b>TOTAL</b>															
Total labor force.....	81,249	80,414	80,342	80,549	80,233	80,185	79,313	79,674	79,315	79,279	79,644	79,408	78,906	78,357	76,971
Civilian labor force.....	77,927	77,135	77,113	77,371	77,098	77,086	76,268	76,666	76,341	76,355	76,754	76,567	76,111	75,635	74,233
Employed.....	75,076	74,163	74,165	74,338	74,072	73,997	73,231	73,799	73,435	73,521	73,715	73,441	72,914	72,179	70,357
Agriculture.....	4,108	3,971	4,049	4,158	4,144	4,238	4,076	4,482	4,363	4,442	4,429	4,486	4,273	4,585	4,761
Nonagricultural industries.....	70,968	70,192	70,116	70,180	69,928	69,759	69,155	69,317	69,072	69,079	69,286	68,955	68,641	67,594	65,596
Unemployed.....	2,851	2,972	2,948	3,033	3,026	3,089	3,037	2,867	2,906	2,834	3,039	3,126	3,197	3,456	3,876
<b>MEN, 20 YEARS AND OVER</b>															
Civilian labor force.....	44,753	44,610	44,666	44,833	44,744	44,780	44,661	44,836	44,822	44,823	44,788	44,751	44,565	44,857	44,604
Employed.....	43,671	43,540	43,583	43,691	43,585	43,621	43,597	43,772	43,664	43,680	43,604	43,579	43,330	43,422	42,886
Agriculture.....	2,807	2,808	2,884	2,855	2,854	2,860	2,861	3,035	2,980	2,990	2,936	3,035	2,933	3,174	3,303
Nonagricultural industries.....	40,864	40,732	40,699	40,836	40,731	40,761	40,736	40,737	40,684	40,690	40,668	40,544	40,397	40,248	39,583
Unemployed.....	1,082	1,070	1,083	1,142	1,159	1,159	1,064	1,064	1,158	1,143	1,184	1,172	1,235	1,435	1,718
<b>WOMEN, 20 YEARS AND OVER</b>															
Civilian labor force.....	25,181	24,860	24,930	24,481	24,313	24,226	24,082	24,000	23,899	24,016	24,145	24,121	23,967	23,687	23,098
Employed.....	24,294	23,868	23,982	23,527	23,425	23,286	23,121	23,133	23,045	23,145	23,228	23,157	22,937	22,630	21,903
Agriculture.....	656	593	633	647	687	682	632	728	732	754	765	769	684	748	757
Nonagricultural industries.....	23,638	23,275	23,349	22,880	22,738	22,604	22,489	22,405	22,313	22,391	22,463	22,388	22,253	21,882	21,146
Unemployed.....	887	992	948	954	888	940	961	867	854	871	917	964	1,030	1,056	1,195
<b>BOTH SEXES, 14-19 YEARS</b>															
Civilian labor force.....	7,993	7,665	7,517	8,057	8,041	8,080	7,525	7,830	7,620	7,516	7,821	7,695	7,579	7,091	6,531
Employed.....	7,111	6,755	6,600	7,120	7,062	7,090	6,513	6,894	6,726	6,696	6,853	6,705	6,647	6,127	5,568
Agriculture.....	645	570	532	656	603	696	583	719	651	698	728	682	656	663	702
Nonagricultural industries.....	6,466	6,185	6,068	6,464	6,459	6,394	5,930	6,175	6,075	5,998	6,155	6,023	5,991	5,464	4,867
Unemployed.....	882	910	917	937	979	990	1,012	936	894	820	938	990	932	964	963

TABLE A-2. Seasonally adjusted rates of unemployment

Selected unemployment rates	Nov. 1966	Oct. 1966	Sept. 1966	Aug. 1966	July 1966	June 1966	May 1966	Apr. 1966	Mar. 1966	Feb. 1966	Jan. 1966	Dec. 1965	Nov. 1965	Annual average	
														1965	1964
Total (all civilian workers).....	3.7	3.9	3.8	3.9	3.9	4.0	4.0	3.7	3.8	3.7	4.0	4.1	4.2	4.6	5.2
Men, 20 years and over.....	2.4	2.4	2.4	2.5	2.6	2.6	2.4	2.4	2.6	2.6	2.6	2.6	2.8	3.2	3.9
20-24 years.....	5.0	4.2	4.3	4.8	3.6	5.0	4.9	4.3	5.0	4.4	4.2	5.1	5.7	6.3	8.1
25 years and over.....	2.2	2.1	2.2	2.3	2.5	2.3	2.1	2.1	2.3	2.3	2.5	2.3	2.5	2.8	3.3
Women, 20 years and over.....	3.5	4.0	3.8	3.9	3.7	3.9	4.0	3.6	3.6	3.6	3.8	4.0	4.3	4.5	5.2
Both sexes, 14-19 years.....	11.0	11.9	12.2	11.6	12.2	12.3	13.4	12.0	11.7	10.9	12.0	12.9	12.3	13.6	14.7
White workers.....	3.2	3.4	3.3	3.4	3.4	3.5	3.5	3.4	3.4	3.3	3.5	3.7	3.7	4.1	4.6
Nonwhite workers.....	7.4	7.6	7.8	8.2	7.9	7.9	7.6	7.0	7.2	7.0	7.0	7.5	8.1	8.3	9.8
Married men.....	1.7	1.9	1.9	2.0	2.0	1.9	1.8	1.8	1.9	1.9	1.9	1.8	2.0	2.4	2.8
Full-time workers <sup>1</sup> .....	3.4	3.4	3.4	3.5	3.7	3.8	3.7	3.4	3.4	3.3	3.5	3.7	3.8	4.3	4.9
Blue-collar workers.....	4.3	4.1	4.1	4.5	4.6	4.4	4.2	4.0	4.2	4.0	4.2	4.4	4.6	5.3	6.3
Experienced wage and salary workers.....	3.4	3.6	3.6	3.7	3.5	3.7	3.7	3.4	3.5	3.3	3.5	3.7	3.8	4.2	5.0
Labor force time lost.....	3.9	4.1	4.2	4.3	4.6	4.8	4.4	4.1	4.1	4.0	4.3	4.4	4.5	5.0	5.8

<sup>1</sup> Adjusted by provisional seasonal factors.

Beginning in the September 1966 issue, the statistics on the labor force have been expanded. Former table A-1 has been replaced by tables A-1 through A-8 in order to present more detail on age and sex, duration of unemployment, full- and part-time status, color, and occupation of the labor force.



TABLE A-3. Rates of unemployment, by age and sex, seasonally adjusted

Age and sex	Nov. 1966	Oct. 1966	Sept. 1966	Aug. 1966	July 1966	June 1966	May 1966	Apr. 1966	Mar. 1966	Feb. 1966	Jan. 1966	Dec. 1965	Nov. 1965	Annual average	
														1965	1964
Total, 14 years and over.....	3.7	3.9	3.8	3.9	3.9	4.0	4.0	3.7	3.8	3.7	4.0	4.1	4.2	4.6	5.2
14 to 17 years.....	11.1	12.7	13.3	11.9	12.6	12.6	14.7	12.5	13.1	11.7	12.7	14.7	13.2	13.7	14.7
14 and 15 years.....	7.6	8.0	9.4	7.3	7.8	7.8	9.5	6.4	6.7	7.8	8.7	12.4	9.0	7.6	7.9
16 and 17 years.....	12.8	14.7	15.2	14.1	14.9	15.0	17.2	15.6	16.3	13.5	14.7	15.8	15.4	16.5	17.8
18 years and over.....	3.3	3.4	3.3	3.5	3.5	3.5	3.4	3.3	3.3	3.3	3.5	3.5	3.7	4.1	4.7
18 and 19 years.....	10.8	11.4	10.9	11.1	12.1	12.3	11.9	11.8	10.4	10.3	11.2	11.6	11.3	13.5	14.9
20 to 24 years.....	5.2	5.3	5.2	5.5	4.6	5.8	5.5	5.2	5.2	5.0	5.4	5.6	6.6	6.7	8.3
25 years and over.....	2.5	2.6	2.6	2.7	2.8	2.6	2.6	2.5	2.6	2.6	2.7	2.7	2.9	3.2	3.8
25 to 54 years.....	2.6	2.7	2.6	2.8	2.7	2.7	2.6	2.5	2.6	2.6	2.7	2.8	2.9	3.2	3.8
55 years and over.....	2.4	2.5	2.5	2.6	2.8	2.4	2.8	2.5	2.7	2.8	2.8	2.8	3.0	3.2	3.8
Males, 18 years and over.....	2.8	2.7	2.7	2.9	3.0	3.0	2.8	2.7	2.9	2.9	2.9	3.0	3.0	3.6	4.2
18 and 19 years.....	9.9	9.7	10.0	9.5	10.9	11.5	10.8	10.3	9.9	9.3	9.7	9.9	8.7	12.4	14.6
20 to 24 years.....	5.0	4.2	4.3	4.8	3.6	5.0	4.9	4.3	5.0	4.4	4.2	5.1	5.7	6.3	8.1
25 years and over.....	2.2	2.1	2.2	2.3	2.5	2.3	2.1	2.1	2.3	2.3	2.5	2.3	2.5	2.8	3.3
25 to 54 years.....	2.1	2.1	2.1	2.2	2.3	2.2	1.9	2.0	2.1	2.2	2.3	2.2	2.3	2.7	3.2
55 years and over.....	2.4	2.4	2.7	2.8	3.1	2.6	3.0	2.7	2.9	3.0	3.0	2.7	3.1	3.3	3.9
Females, 18 years and over.....	4.1	4.6	4.3	4.6	4.4	4.5	4.6	4.3	4.1	4.1	4.4	4.7	5.0	5.1	5.7
18 and 19 years.....	11.8	13.2	12.1	12.8	13.5	13.1	13.3	13.5	11.1	11.5	13.1	13.6	14.3	14.8	15.1
20 to 24 years.....	5.4	6.7	6.5	6.5	5.9	6.8	6.4	6.4	5.5	5.9	7.1	6.3	7.7	7.3	8.6
25 years and over.....	3.2	3.5	3.3	3.5	3.3	3.3	3.5	3.2	3.3	3.2	3.3	3.6	3.7	4.0	4.6
25 to 54 years.....	3.4	3.8	3.7	3.9	3.5	3.6	3.9	3.4	3.5	3.4	3.5	3.9	4.1	4.3	5.0
55 years and over.....	2.4	2.8	2.3	2.3	2.3	2.1	2.6	2.0	2.5	2.4	2.4	2.9	2.9	2.8	3.5

TABLE A-4. Employed persons, by age and sex, seasonally adjusted

(In thousands)

Age and sex	Nov. 1966	Oct. 1966	Sept. 1966	Aug. 1966	July 1966	June 1966	May 1966	Apr. 1966	Mar. 1966	Feb. 1966	Jan. 1966	Dec. 1965	Nov. 1965	Annual average	
														1965	1964
Total, 14 years and over.....	75,076	74,163	74,165	74,338	74,072	73,997	73,231	73,799	73,435	73,521	73,715	73,441	72,914	72,179	70,357
14 to 17 years.....	3,577	3,324	3,257	3,539	3,412	3,438	3,231	3,489	3,382	3,397	3,546	3,406	3,401	3,165	3,065
14 and 15 years.....	1,196	1,059	1,079	1,214	1,139	1,198	1,107	1,258	1,223	1,142	1,221	1,155	1,198	1,091	1,052
16 and 17 years.....	2,381	2,265	2,178	2,325	2,273	2,240	2,124	2,231	2,159	2,255	2,325	2,251	2,203	2,074	2,013
18 years and over.....	71,480	70,798	70,837	70,805	70,616	70,440	70,057	70,304	70,017	70,100	70,212	70,069	69,521	69,015	67,292
18 and 19 years.....	3,522	3,376	3,294	3,595	3,586	3,542	3,294	3,418	3,392	3,347	3,424	3,370	3,226	2,962	2,503
20 to 24 years.....	8,032	7,912	7,856	7,948	7,989	8,010	7,997	7,979	7,850	7,792	7,759	7,739	7,738	7,702	7,304
25 years and over.....	59,926	59,510	59,687	59,262	59,041	58,888	58,766	58,907	58,775	58,961	59,029	58,960	58,557	58,351	57,485
25 to 44 years.....	30,608	30,347	30,372	30,139	30,028	30,086	30,175	30,211	30,244	30,392	30,397	30,410	30,118	29,998	29,616
45 years and over.....	29,289	29,021	29,162	29,059	28,904	28,798	28,588	28,715	28,615	28,641	28,676	28,587	28,411	28,353	29,870
Males, 18 years and over.....	45,510	45,335	45,326	45,614	45,572	45,548	45,397	45,634	45,467	45,487	45,474	45,420	45,137	45,056	44,231
18 and 19 years.....	1,848	1,778	1,776	1,942	1,946	1,897	1,783	1,874	1,874	1,850	1,897	1,839	1,780	1,634	1,345
20 to 24 years.....	4,575	4,534	4,524	4,615	4,624	4,605	4,594	4,623	4,595	4,549	4,553	4,543	4,569	4,583	4,370
25 years and over.....	39,087	39,023	39,026	39,057	39,002	39,046	39,020	39,137	38,998	39,088	39,024	39,038	38,788	38,839	38,516
25 to 44 years.....	20,349	20,315	20,353	20,382	20,363	20,444	20,565	20,578	20,576	20,633	20,530	20,546	20,445	20,448	20,363
45 years and over.....	18,713	18,667	18,659	18,647	18,576	18,583	18,439	18,571	18,493	18,498	18,521	18,490	18,316	18,391	18,153
Females, 18 years and over.....	25,970	25,463	25,511	25,191	25,044	24,892	24,660	24,670	24,550	24,613	24,738	24,649	24,384	23,959	23,061
18 and 19 years.....	1,674	1,598	1,518	1,653	1,640	1,645	1,511	1,544	1,518	1,497	1,527	1,531	1,446	1,328	1,158
20 to 24 years.....	3,457	3,378	3,332	3,333	3,365	3,405	3,403	3,356	3,255	3,243	3,206	3,196	3,169	3,119	2,934
25 years and over.....	20,839	20,487	20,661	20,205	20,039	19,842	19,746	19,770	19,777	19,873	20,005	19,922	19,769	19,512	18,969
25 to 44 years.....	10,259	10,032	10,019	9,757	9,665	9,642	9,610	9,633	9,668	9,759	9,867	9,864	9,673	9,550	9,253
45 years and over.....	10,576	10,354	10,503	10,412	10,328	10,215	10,149	10,144	10,122	10,143	10,155	10,097	10,095	9,962	9,717

NOTE: Due to the independent seasonal adjustment of several of the series, detail will not necessarily add to totals.

TABLE A-5. Unemployed persons, by duration of unemployment, seasonally adjusted

[In thousands]

Duration of unemployment	Nov. 1966	Oct. 1966	Sept. 1966	Aug. 1966	July 1966	June 1966	May 1966	Apr. 1966	Mar. 1966	Feb. 1966	Jan. 1966	Dec. 1965	Nov. 1965	Annual average	
														1965	1964
Less than 5 weeks.....	1,515	1,544	1,626	1,666	1,710	1,816	1,789	1,625	1,543	1,514	1,548	1,532	1,618	1,718	1,787
5 to 14 weeks.....	803	898	807	927	912	815	856	670	787	721	738	869	903	983	1,117
15 weeks and over.....	483	520	499	451	435	476	536	603	588	579	661	660	644	755	973
15-26 weeks.....	286	292	298	249	220	251	261	343	319	315	354	355	334	404	490
27 weeks and over.....	197	228	201	202	215	225	275	260	269	264	307	305	310	351	482
15 weeks and over as a percent of civilian labor force.....	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.9	0.9	0.8	0.8	1.0	1.3

TABLE A-6. Full- and part-time status of the civilian labor force, not seasonally adjusted

[In thousands]

Full- and part-time employment status	November 1966	October 1966	September 1966	September 1965	Annual average	
					1965	1964
<b>FULL TIME</b>						
Civilian labor force.....	66,308	66,424	66,889	66,017	66,135	65,008
Employed:						
Full-time schedules <sup>1</sup> .....	62,702	62,890	63,216	16,881	61,109	59,353
Part time for economic reasons.....	1,634	1,648	1,762	1,914	2,209	2,455
Unemployed, looking for full-time work.....	1,972	1,886	1,911	2,222	2,817	3,200
Unemployment rate.....	3.0	2.8	2.9	3.4	4.3	4.9
<b>PART TIME</b>						
Civilian labor force.....	11,337	10,827	9,934	9,304	9,500	9,225
Employed (voluntary part time) <sup>1</sup> .....	10,668	10,192	9,272	8,651	8,861	8,549
Unemployed, looking for part-time work.....	669	635	662	653	639	676
Unemployment rate.....	5.9	5.9	6.7	7.0	6.7	7.3

<sup>1</sup> Employed persons with a job but not at work are distributed proportionately among the full- and part-time employed categories.

TABLE A-7. Employment status, by color, sex, and age, seasonally adjusted

[In thousands]

Characteristics	Quarterly averages												Annual averages		
	1966			1965				1964				1963		1965	1964
	3d	2d	1st	4th	3d	2d	1st	4th	3d	2d	1st	4th	3d		
<b>WHITE</b>															
Civilian labor force .....	68,359	68,062	68,000	67,685	67,226	67,013	66,717	66,160	65,891	66,081	65,602	65,244	64,917	67,187	65,940
Men, 20 years and over .....	40,220	40,319	40,365	40,174	40,343	40,516	40,496	40,257	40,223	40,181	40,043	39,921	39,869	40,401	40,177
Women, 20 years and over .....	21,214	20,807	20,754	20,676	20,509	20,386	20,296	20,013	19,891	20,087	19,823	19,692	19,428	20,469	19,960
Both sexes, 14-19 years .....	6,925	6,936	6,880	6,835	6,374	6,111	5,925	5,890	5,777	5,813	5,736	5,631	5,620	6,317	5,803
Employed .....	66,058	65,692	65,689	65,145	64,559	64,125	63,832	63,190	62,954	62,957	62,386	61,999	61,710	64,432	62,876
Men, 20 years and over .....	39,321	39,433	39,418	39,157	39,215	39,273	39,244	38,941	38,871	38,798	38,594	38,402	38,385	39,232	38,799
Women, 20 years and over .....	20,519	20,063	20,070	19,910	19,722	19,545	19,431	19,152	19,028	19,155	18,836	18,743	18,482	19,652	19,047
Both sexes, 14-19 years .....	6,218	6,167	6,200	6,079	5,622	5,307	5,156	5,097	5,055	5,004	4,956	4,854	4,843	5,548	5,031
Unemployed .....	2,301	2,369	2,311	2,540	2,668	2,888	2,886	2,970	2,938	3,125	3,216	3,245	3,208	2,755	3,064
Men, 20 years and over .....	899	886	947	1,017	1,128	1,243	1,252	1,315	1,353	1,384	1,449	1,518	1,485	1,169	1,379
Women, 20 years and over .....	695	715	684	766	788	840	865	861	863	932	987	949	946	817	912
Both sexes, 14-19 years .....	707	769	680	757	752	805	769	794	722	809	780	778	777	769	772
Unemployment rate .....	3.4	3.5	3.4	3.8	4.0	4.3	4.3	4.5	4.5	4.7	4.9	5.0	4.9	4.1	4.7
Men, 20 years and over .....	2.2	2.2	2.3	2.5	2.8	3.1	3.1	3.3	3.4	3.4	3.6	3.8	3.7	2.9	3.4
Women, 20 years and over .....	3.3	3.4	3.3	3.7	3.8	4.1	4.3	4.3	4.3	4.6	5.0	4.8	4.9	4.0	4.6
Both sexes, 14-19 years .....	10.2	11.1	9.9	11.1	11.8	13.2	13.0	13.5	12.5	13.9	13.6	13.8	13.8	12.3	13.2
<b>NONWHITE</b>															
Civilian labor force .....	8,641	8,539	8,656	8,539	8,463	8,371	8,391	8,381	8,271	8,284	8,229	8,168	8,120	8,449	8,293
Men, 20 years and over .....	4,477	4,421	4,489	4,461	4,426	4,450	4,469	4,445	4,404	4,431	4,416	4,374	4,377	4,456	4,427
Women, 20 years and over .....	3,284	3,288	3,302	3,267	3,243	3,178	3,182	3,198	3,137	3,133	3,080	3,077	3,038	3,218	3,138
Both sexes, 14-19 years .....	880	830	864	811	794	743	740	738	730	720	732	717	705	774	728
Employed .....	7,954	7,896	8,042	7,872	7,765	7,690	7,642	7,602	7,446	7,467	7,420	7,264	7,261	7,747	7,480
Men, 20 years and over .....	4,256	4,207	4,275	4,242	4,164	4,193	4,156	4,125	4,081	4,089	4,054	3,978	4,008	4,190	4,088
Women, 20 years and over .....	3,044	3,081	3,108	3,039	2,996	2,937	2,940	2,922	2,842	2,854	2,800	2,782	2,747	2,979	2,855
Both sexes, 14-19 years .....	653	608	659	591	605	560	546	555	523	524	567	504	506	579	538
Unemployed .....	687	643	614	667	698	681	749	779	825	817	808	904	859	702	812
Men, 20 years and over .....	221	214	214	219	262	257	312	320	323	342	362	397	369	267	339
Women, 20 years and over .....	239	207	194	227	247	241	242	276	296	279	281	295	291	240	283
Both sexes, 14-19 years .....	227	222	206	220	189	182	195	183	207	196	166	213	199	196	190
Unemployment rate .....	8.0	7.5	7.1	7.8	8.2	8.1	8.9	9.3	10.0	9.9	9.8	11.1	10.6	8.3	9.8
Men, 20 years and over .....	4.9	4.8	4.8	4.9	5.9	5.8	7.0	7.2	7.3	7.7	8.2	9.1	8.4	6.0	7.7
Women, 20 years and over .....	7.3	6.3	5.9	6.9	7.6	7.6	7.6	8.6	9.4	8.9	9.1	9.6	9.6	7.5	9.0
Both sexes, 14-19 years .....	25.8	26.7	23.8	27.1	23.8	24.5	26.4	24.8	28.4	27.2	22.7	29.7	28.2	25.5	25.7



TABLE A-8. Total employment and unemployment rates, by occupation, seasonally adjusted

Characteristics	Quarterly averages														Annual averages	
	1966			1965				1964				1963				
	3d	2d	1st	4th	3d	2d	1st	4th	3d	2d	1st	4th	3d	1965	1964	
<b>EMPLOYED (in thousands)</b>																
White-collar workers.....	33,730	33,078	32,515	32,378	32,399	32,111	31,591	31,423	31,143	31,035	30,870	30,565	30,246	32,104	31,125	
Professional and technical.....	9,482	9,265	8,949	8,911	9,010	8,828	8,790	8,738	8,509	8,511	8,428	8,388	8,283	8,883	8,550	
Managers, officials, and proprietors.....	7,587	7,413	7,216	7,121	7,398	7,549	7,279	7,398	7,477	7,476	7,457	7,431	7,292	7,340	7,452	
Clerical workers.....	11,949	11,650	11,494	11,529	11,187	11,029	10,906	10,725	10,663	10,665	10,613	10,403	10,325	11,166	10,667	
Sales workers.....	4,713	4,750	4,856	4,816	4,804	4,705	4,617	4,563	4,495	4,382	4,372	4,344	4,347	4,715	4,466	
Blue-collar workers.....	27,165	27,175	27,271	26,835	26,483	26,182	26,407	25,770	25,529	25,535	25,316	25,238	25,111	26,466	25,534	
Craftsmen and foremen.....	9,679	9,547	9,459	9,427	9,303	8,976	9,194	9,074	9,040	8,890	8,934	9,026	8,969	9,221	8,986	
Operatives.....	13,752	13,941	13,993	13,577	13,360	13,368	13,264	13,056	12,962	12,928	12,755	12,604	12,589	13,390	12,924	
Nonfarm laborers.....	3,734	3,688	3,818	3,831	3,820	3,838	3,949	3,640	3,527	3,716	3,628	3,609	3,554	3,855	3,624	
Service workers.....	9,729	9,474	9,619	9,642	9,480	9,116	9,139	9,225	9,277	9,427	9,097	8,957	9,060	9,342	9,256	
Farmers and farm laborers.....	3,777	3,950	4,073	4,110	4,218	4,431	4,318	4,388	4,500	4,430	4,479	4,577	4,579	4,265	4,444	
<b>UNEMPLOYMENT RATE</b>																
White-collar workers.....	2.1	2.0	2.0	2.2	2.1	2.3	2.5	2.4	2.4	2.7	2.8	2.9	2.8	2.3	2.6	
Professional and technical.....	1.5	1.2	1.2	1.4	1.3	1.5	1.7	1.4	1.8	1.8	1.8	1.8	1.8	1.5	1.7	
Managers, officials, and proprietors.....	1.0	1.1	1.2	1.1	1.1	1.1	1.2	1.3	1.4	1.2	1.6	1.5	1.6	1.1	1.4	
Clerical workers.....	3.0	2.7	2.8	2.9	3.1	3.4	3.6	3.5	3.3	3.9	4.1	4.4	4.1	3.2	3.7	
Sales workers.....	2.6	3.1	2.7	3.4	3.1	3.3	3.5	3.4	3.0	3.9	3.3	3.9	4.0	3.3	3.4	
Blue-collar workers.....	4.4	4.2	4.1	4.6	5.2	5.6	5.5	6.0	6.2	6.2	6.7	7.1	6.9	5.3	6.3	
Craftsmen and foremen.....	2.7	2.7	3.0	2.8	3.6	3.9	3.9	4.1	4.1	4.0	4.3	4.7	4.3	3.6	4.3	
Operatives.....	4.6	4.4	4.2	4.9	5.4	5.9	5.5	6.1	6.4	6.5	7.0	7.4	7.2	5.5	6.5	
Nonfarm laborers.....	7.8	7.2	6.7	7.8	8.1	8.0	9.0	9.9	10.7	10.3	11.2	11.7	11.9	8.4	10.6	
Service workers.....	4.4	4.8	4.4	4.6	5.0	5.3	5.7	5.5	5.7	6.0	6.1	5.9	6.1	5.2	5.8	
Farmers and farm managers.....	2.0	2.7	2.0	3.0	2.6	2.4	2.4	3.1	3.1	3.1	3.1	2.6	3.3	2.6	3.1	

TABLE A-9. Employees in nonagricultural establishments, by industry<sup>1</sup>

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Total employees.....	65,266	65,150	64,867	64,484	64,274	64,563	63,465	62,928	62,243	61,622	61,439	63,038	62,392	60,770	58,332
<b>Mining</b> .....	<b>627</b>	<b>631</b>	<b>637</b>	<b>649</b>	<b>645</b>	<b>645</b>	<b>630</b>	<b>590</b>	<b>620</b>	<b>617</b>	<b>621</b>	<b>632</b>	<b>635</b>	<b>632</b>	<b>634</b>
Metal mining.....	86.0	86.0	87.3	88.6	87.7	87.8	85.3	84.4	84.0	84.2	83.7	84.2	84.7	83.6	79.5
Iron ores.....	25.9	26.4	26.4	26.4	25.8	26.4	25.7	24.6	24.0	24.3	24.3	25.0	25.8	25.7	24.6
Copper ores.....	32.1	32.7	32.2	33.2	33.0	32.8	31.9	31.9	32.0	31.8	31.5	31.4	31.2	30.1	27.1
Coal mining.....	143.5	142.7	142.5	139.5	142.2	140.7	140.3	141.3	142.2	142.5	143.3	144.0	141.8	141.8	147.3
Bituminous.....	135.6	134.7	134.3	131.9	134.1	132.2	129.3	129.8	132.2	132.8	133.0	133.4	134.0	132.0	136.1
Crude petroleum and natural gas.....	277.2	281.0	289.7	289.6	288.1	281.0	281.2	281.9	281.6	283.8	287.2	285.2	288.1	291.1	291.1
Crude petroleum and natural gas fields.....	149.8	153.3	156.6	156.9	155.1	151.7	151.9	152.1	151.9	152.6	153.8	153.7	156.0	160.4	160.4
Oil and gas field services.....	127.4	127.7	133.1	132.7	133.0	129.3	129.3	129.8	129.7	131.2	133.4	131.5	131.4	130.7	130.7
Quarrying and nonmetallic mining.....	123.9	126.2	127.8	127.8	126.9	122.5	119.9	112.4	108.8	111.3	117.4	121.2	118.3	116.2	116.2
Crushed and broken stone.....	42.9	43.8	44.4	44.3	43.8	42.3	41.2	37.6	35.7	37.6	40.5	42.1	41.0	40.5	40.5
Sand and gravel.....	41.1	41.9	42.5	42.4	42.2	40.5	39.3	35.8	34.3	35.1	38.2	40.4	39.4	39.3	39.3
<b>Contract construction</b> .....	<b>3,296</b>	<b>3,450</b>	<b>3,525</b>	<b>3,641</b>	<b>3,623</b>	<b>3,521</b>	<b>3,277</b>	<b>3,156</b>	<b>2,981</b>	<b>2,818</b>	<b>2,940</b>	<b>3,167</b>	<b>3,341</b>	<b>3,181</b>	<b>3,050</b>
General building contractors.....	1,107.0	1,125.2	1,165.3	1,153.3	1,121.1	1,037.1	1,014.6	967.7	915.4	961.7	1,028.8	1,051.4	997.6	949.1	949.1
Heavy construction.....	740.6	758.8	781.5	782.2	756.8	680.1	618.0	521.1	474.8	507.6	590.5	691.8	643.2	613.9	613.9
Highway and street construction.....	388.5	401.1	411.9	411.7	397.8	345.3	296.4	224.3	199.8	220.0	275.0	353.4	323.6	313.7	313.7
Other heavy construction.....	352.1	357.7	369.6	370.5	359.0	334.8	321.6	296.8	275.0	287.6	315.5	338.4	319.6	300.3	300.3
Special trade contractors.....	1,602.2	1,641.0	1,694.0	1,687.8	1,643.1	1,559.4	1,523.7	1,492.2	1,428.2	1,470.8	1,547.5	1,547.5	1,547.5	1,487.0	1,487.0
Plumbing, heating, and air conditioning.....	378.1	380.3	383.6	384.6	376.7	366.3	363.8	360.6	353.6	363.0	370.9	374.9	365.5	354.3	354.3
Painting, paperhanging, and decorating.....	147.3	153.0	161.0	157.7	148.5	137.3	130.3	124.0	118.6	119.7	135.1	146.5	142.3	140.4	140.4
Electrical work.....	249.3	255.0	259.7	255.2	248.5	238.6	235.6	231.1	227.6	229.5	236.4	237.4	231.8	218.7	218.7
Masonry, plastering, stone, and tile work.....	230.0	238.2	255.7	253.4	248.9	236.6	231.0	230.6	209.2	210.0	228.7	238.5	237.6	241.1	241.1
Roofing and sheet metal work.....	117.2	117.1	118.7	117.8	115.1	107.6	106.8	104.4	97.2	104.9	114.2	116.6	110.0	107.5	107.5
<b>Manufacturing</b> .....	<b>19,515</b>	<b>19,539</b>	<b>19,533</b>	<b>19,391</b>	<b>19,123</b>	<b>19,258</b>	<b>18,906</b>	<b>18,774</b>	<b>18,651</b>	<b>18,518</b>	<b>18,333</b>	<b>18,473</b>	<b>18,496</b>	<b>18,032</b>	<b>17,274</b>
Durable goods.....	11,479	11,468	11,434	11,249	11,213	11,319	11,130	11,039	10,921	10,822	10,707	10,727	10,693	10,386	9,816
Nondurable goods.....	8,036	8,071	8,099	8,142	7,910	7,939	7,776	7,735	7,730	7,696	7,626	7,746	7,803	7,645	7,458
Durable goods.....															
Ordnance and accessories.....	270.9	266.5	263.0	259.1	256.4	254.9	251.8	247.8	245.3	243.2	239.2	233.7	235.4	226.0	243.9
Ammunition, except for small arms.....	201.3	197.0	195.0	191.7	189.5	189.2	188.3	187.3	185.6	184.5	182.2	180.6	179.6	172.7	185.0
Sighting and fire control equipment.....	55.4	54.7	53.3	52.7	52.3	51.6	49.8	47.0	46.4	45.6	44.2	40.4	43.1	40.9	44.8
Lumber and wood products, except furniture.....	608.0	617.7	630.6	649.9	648.5	653.5	626.4	617.6	609.6	602.9	602.5	613.5	620.2	610.1	604.2
Logging camps and logging contractors.....	98.6	101.9	103.6	106.2	106.2	106.6	94.8	88.5	87.4	86.2	84.5	91.0	94.9	89.0	87.7
Sawmills and planing mills.....	240.4	244.3	250.5	257.4	256.5	259.0	251.3	251.3	248.8	244.6	247.1	250.0	252.5	250.8	253.1
Millwork, plywood, and related products.....	156.2	160.0	164.5	171.4	172.5	173.1	167.6	166.5	163.7	163.0	162.8	163.9	164.8	162.7	158.2
Wooden containers.....	35.7	34.9	35.1	36.5	36.1	36.9	36.3	35.4	34.4	34.2	34.2	34.3	33.9	34.4	34.8
Miscellaneous wood products.....	77.1	76.6	76.9	77.9	77.2	77.9	76.4	75.9	75.3	74.9	73.9	74.3	74.6	73.2	70.3
Furniture and fixtures.....	467.6	466.8	465.6	466.5	459.4	458.4	450.5	447.2	447.6	443.7	442.3	443.4	441.6	429.1	405.9
Household furniture.....	336.3	335.7	335.2	335.1	325.9	330.3	326.2	326.0	325.1	323.4	320.5	321.6	320.1	309.7	292.6
Office furniture.....	34.3	33.8	33.7	33.5	32.2	32.2	29.9	31.5	31.3	31.3	31.1	30.7	30.3	29.6	28.0
Partitions; office and store fixtures.....	49.9	49.8	49.3	49.1	46.0	48.7	47.0	46.5	46.5	46.1	46.1	46.5	46.7	45.1	45.1
Stone, clay, and glass products.....	637.5	644.5	653.4	661.3	661.6	658.4	647.8	641.7	625.9	616.9	619.1	629.9	638.3	627.4	613.8
Flat glass.....	32.4	32.2	32.3	32.4	32.4	32.9	33.1	33.2	32.9	32.9	33.2	33.4	33.7	32.3	30.8
Glass and glassware, pressed or blown.....	123.8	124.3	125.9	126.3	125.2	125.6	123.1	120.3	118.6	117.7	116.1	116.3	117.0	115.4	111.9
Cement, hydraulic.....	37.7	38.3	39.0	39.7	39.6	39.4	37.7	37.1	35.5	35.4	36.0	37.4	38.4	38.0	38.6
Structural clay products.....	66.0	67.8	69.5	71.5	72.7	72.5	71.1	69.8	67.7	67.2	68.3	69.3	70.1	69.2	69.3
Pottery and related products.....	44.1	44.2	43.5	42.2	43.7	43.3	43.8	44.1	43.1	42.5	43.5	44.5	43.4	43.2	43.2
Concrete, gypsum, and plaster products.....	176.2	180.3	184.2	187.7	189.4	188.4	183.1	180.5	172.1	167.1	169.9	176.1	180.9	177.9	173.3
Other stone and mineral products.....	132.6	132.8	134.1	136.3	136.3	132.1	132.7	130.8	129.5	129.5	130.2	130.0	129.2	126.6	126.6
Primary metal industries.....	1,331.1	1,332.8	1,344.9	1,351.8	1,353.4	1,355.7	1,329.6	1,321.7	1,303.4	1,291.4	1,277.0	1,268.3	1,259.3	1,295.6	1,233.2
Blast furnace and basic steel products.....	644.5	649.9	659.7	669.8	676.9	673.4	656.4	649.1	634.9	623.6	615.6	612.0	610.2	656.8	629.2
Iron and steel foundries.....	237.7	236.2	236.6	237.8	236.7	239.1	235.8	235.9	233.6	234.2	232.7	231.6	225.9	226.2	212.3
Nonferrous smelting and refining.....	78.7	77.8	78.5	78.6	79.2	78.6	76.8	76.2	75.7	75.9	75.5	75.4	74.4	73.8	69.7
Nonferrous rolling, drawing, and extruding.....	210.8	211.3	212.0	209.2	206.5	207.0	205.9	205.8	205.2	204.0	201.6	198.6	199.4	194.4	186.0
Nonferrous foundries.....	88.6	88.0	88.5	87.9	85.7	88.0	86.3	86.3	85.6	85.6	84.0	84.3	83.2	80.5	75.2
Miscellaneous primary metal industries.....	70.8	69.6	69.6	68.5	68.4	69.6	68.4	68.4	68.4	68.1	67.6	66.4	66.2	64.0	60.8
Fabricated metal products.....	1,386.2	1,378.4	1,372.5	1,360.9	1,339.2	1,360.8	1,340.7	1,337.0	1,326.8	1,319.5	1,310.5	1,313.5	1,313.3	1,263.3	1,189.2
Metal cans.....	62.2	62.0	64.0	65.9	66.0	65.2	63.5	62.1	61.4	60.7	59.7	59.6	61.2	60.4	62.1
Cutlery, hand tools, and general hardware.....	167.2	165.5	164.4	160.3	155.3	161.2	160.7	163.4	163.3	161.5	161.0	158.9	159.8	155.3	144.0
Heating equipment and plumbing fixtures.....	79.3	79.1	79.9	80.1	78.1	79.9	80.2	79.4	80.1	79.9	79.0	79.6	79.9	78.7	80.2
Fabricated structural metal products.....	403.7	405.3	408.9	411.2	410.7	406.6	394.4	390.4	385.1	384.6	389.0	390.5	395.5	354.1	354.1
Screw machine products, bolts, etc.....	113.0	110.8	109.3	108.1	107.2	108.0	105.9	105.6	105.0	103.5	102.5	102.0	100.8	97.8	90.4
Metal stampings.....	251.9	248.6	241.9	231.1	221.5	234.5	235.9	236.8	237.0	235.8	234.4	235.2	233.9	221.3	198.6
Coating, engraving, and allied services.....	85.4	85.1	83.7	84.0	81.6	84.9	82.2	81.9	82.3	81.6	79.5	80.0	79.6	76.7	71.4
Miscellaneous fabricated wire products.....	69.3	68.7	67.9	68.0	67.9	67.5	66.0	66.0	65.9	65.1	64.8	65.1	64.3		

TABLE A-9. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. 2	Oct. 2	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
<b>Manufacturing—Continued</b>															
<i>Durable goods—Continued</i>															
Machinery.....	1,900.9	1,895.8	1,895.3	1,891.1	1,887.5	1,882.0	1,855.2	1,841.7	1,828.8	1,813.2	1,793.5	1,780.1	1,762.6	1,725.8	1,609.6
Engines and turbines.....	92.0	98.4	99.7	99.1	98.4	94.7	96.3	95.2	94.5	93.7	93.2	93.1	92.5	90.1	87.0
Farm machinery and equipment.....	277.4	277.4	279.2	279.2	281.4	279.2	274.2	270.8	268.7	265.4	261.2	259.4	260.7	255.3	236.3
Construction and related machinery.....	337.7	336.8	338.8	334.5	334.8	335.1	329.2	327.8	324.8	323.1	317.4	315.6	310.2	304.5	282.9
Metalworking machinery and equipment.....	205.0	203.6	204.0	203.3	203.0	202.9	199.5	198.1	199.1	198.1	198.2	196.5	195.3	192.1	181.2
Special industry machinery.....	284.1	282.8	281.0	280.8	280.5	279.6	275.0	273.1	272.7	270.8	268.8	267.7	264.3	259.0	243.4
General industrial machinery.....	222.5	220.5	218.6	217.3	214.8	213.1	210.2	208.4	206.1	203.7	202.6	201.6	200.4	189.5	172.8
Office, computing, and accounting machines.....	116.9	115.3	115.6	118.7	117.0	118.0	116.4	115.0	111.9	112.3	112.3	110.6	109.9	112.7	106.4
Service industry machines.....	219.2	217.4	214.5	214.3	212.4	211.2	206.9	205.4	203.1	200.2	197.7	196.7	194.3	187.5	173.1
Miscellaneous machinery.....	1,989.1	1,981.8	1,958.0	1,939.6	1,887.8	1,898.4	1,858.1	1,842.8	1,810.8	1,800.0	1,778.2	1,768.9	1,745.6	1,658.1	1,544.3
Electrical equipment and supplies.....	190.0	199.1	198.0	198.2	195.0	193.4	187.1	185.6	184.1	181.9	181.1	179.4	177.9	170.5	161.8
Electric distribution equipment.....	219.2	220.6	218.7	219.8	216.6	215.8	206.9	208.8	206.6	204.0	202.1	200.6	196.7	191.9	177.8
Electrical industrial apparatus.....	194.9	192.2	187.5	184.1	173.4	181.6	184.1	181.7	168.6	178.1	173.1	173.4	169.8	166.6	160.9
Household appliances.....	197.3	195.5	194.7	192.8	190.1	193.4	190.6	188.7	186.5	184.5	181.9	181.7	180.1	172.3	158.0
Electric lighting and wiring equipment.....	195.6	192.0	185.1	177.1	163.4	162.9	154.6	153.2	152.3	152.1	152.3	153.6	150.1	135.1	118.8
Radio and TV receiving sets.....	484.5	481.5	478.3	476.6	468.4	465.8	458.3	454.2	449.2	443.6	440.4	436.5	430.9	416.8	408.6
Communication equipment.....	393.2	388.7	384.9	384.4	376.4	379.8	371.1	366.6	360.5	354.3	345.8	339.4	333.5	304.9	264.8
Electronic components and accessories.....	114.4	112.2	110.8	106.6	104.5	105.7	105.4	104.0	103.0	101.5	101.5	104.3	105.1	100.1	93.6
Miscellaneous electrical equipment and supplies.....	1,981.8	1,974.8	1,953.2	1,777.9	1,865.3	1,921.1	1,910.2	1,894.7	1,886.6	1,867.4	1,839.1	1,837.2	1,821.6	1,737.9	1,604.3
Transportation equipment.....	892.4	881.9	881.9	712.1	807.7	881.2	884.3	877.8	881.2	877.2	868.3	885.4	885.3	843.4	752.9
Motor vehicles and equipment.....	804.0	793.9	786.8	776.2	767.2	748.6	735.6	726.6	715.5	702.8	688.8	675.0	659.8	625.2	605.4
Aircraft and parts.....	161.6	170.7	166.7	171.3	173.1	170.9	171.9	173.2	177.1	176.5	173.0	164.7	162.9	158.8	145.1
Ship and boat building and repairing.....	61.3	61.0	60.3	59.1	60.0	59.7	59.2	58.0	57.3	57.3	57.6	57.5	57.4	55.7	50.2
Railroad equipment.....	56.5	56.8	58.0	58.2	60.4	58.7	57.9	54.8	53.6	51.4	54.6	56.2	54.9	50.7	50.7
Other transportation equipment.....	440.9	438.7	434.6	434.0	429.3	428.8	421.4	416.0	413.6	409.5	404.6	402.3	399.2	386.8	369.9
Instruments and related products.....	75.2	73.8	74.1	73.4	73.4	73.0	73.1	71.9	72.4	72.1	71.4	71.2	70.6	69.8	69.8
Engineering and scientific instruments.....	108.9	107.5	107.4	107.3	107.1	106.6	103.9	103.3	102.1	101.3	100.4	100.1	99.5	98.4	96.0
Mechanical measuring and control devices.....	50.6	50.1	49.6	49.1	47.6	48.6	48.8	48.7	48.2	47.9	47.1	47.0	46.6	45.4	43.3
Optical and ophthalmic goods.....	33.7	33.7	33.3	33.3	32.5	33.4	33.4	33.5	33.1	33.0	32.2	32.2	32.0	31.0	29.3
Ophthalmic goods.....	67.1	66.7	66.2	65.4	65.4	65.1	63.8	63.1	62.4	61.5	60.5	59.9	59.4	57.2	54.4
Surgical, medical, and dental equipment.....	100.6	100.1	99.1	100.2	99.0	97.9	95.2	93.8	92.6	91.5	90.1	89.1	88.4	84.1	76.7
Photographic equipment and supplies.....	39.1	38.5	37.9	36.8	37.6	36.6	35.2	35.9	35.2	35.1	35.0	35.0	34.7	31.9	29.6
Watches and clocks.....	464.9	470.0	463.2	456.6	431.9	447.2	438.5	430.9	422.9	414.7	401.3	436.5	455.5	421.2	397.6
Miscellaneous manufacturing industries.....	50.7	50.1	48.9	48.7	45.3	48.6	48.4	48.5	47.9	47.4	45.8	47.3	47.2	45.5	43.7
Jewelry, silverware, and plated ware.....	141.4	138.6	132.2	121.5	125.7	121.3	114.9	109.1	104.4	99.2	124.0	140.2	118.0	105.2	105.2
Toys, amusement, and sporting goods.....	36.1	36.4	36.5	36.1	36.2	35.5	35.4	35.3	34.6	33.1	35.6	35.7	35.7	33.6	31.9
Pens, pencils, office and art materials.....	59.7	58.7	59.6	54.8	58.6	57.5	57.0	56.8	56.1	53.4	57.4	58.6	56.0	55.5	55.5
Costume jewelry, buttons, and notions.....	181.1	182.7	180.6	179.6	174.2	178.1	175.8	175.1	173.8	172.2	169.8	172.2	173.8	168.1	161.4
Other manufacturing industries.....	27.8	27.4	27.2	26.8	26.6	26.6	26.5	26.7	26.3	26.2	26.2	26.1	24.6	21.9	21.9
Musical instruments and parts.....	<i>Nondurable goods</i>														
Food and kindred products.....	1,799.9	1,840.5	1,881.0	1,897.1	1,806.8	1,751.4	1,683.5	1,676.0	1,674.7	1,671.8	1,686.2	1,738.4	1,796.8	1,752.0	1,750.4
Meat products.....	329.3	329.9	327.9	329.7	326.8	319.9	311.3	307.3	307.6	309.3	310.4	322.1	327.0	317.3	316.2
Dairy products.....	271.6	274.7	279.8	289.0	291.1	288.1	278.8	278.1	275.9	275.1	275.7	278.7	279.5	286.3	289.1
Canned and preserved food, except meats.....	326.0	330.5	331.9	304.9	256.1	227.4	230.4	223.6	224.8	226.9	240.0	277.9	260.6	253.7	253.7
Grain mill products.....	121.7	124.4	125.5	127.1	128.0	127.0	122.5	120.9	122.1	122.0	121.6	122.4	123.4	125.6	127.8
Bakery products.....	282.7	282.3	281.9	285.3	275.5	285.2	279.1	278.9	280.1	278.7	279.9	281.9	285.2	286.4	290.8
Sugar.....	81.4	80.3	77.8	30.6	30.4	30.0	30.6	30.9	32.0	33.6	41.5	48.0	51.9	36.3	37.7
Confectionery and related products.....	230.3	230.7	233.6	238.7	241.2	234.8	225.1	221.7	218.0	212.4	213.3	219.0	222.8	220.9	216.4
Beverages.....	142.2	142.1	140.2	139.3	139.4	139.1	137.7	138.2	140.1	140.7	141.6	144.5	146.0	142.1	141.6
Miscellaneous food and kindred products.....	90.5	94.5	94.8	88.2	73.8	74.8	73.8	75.6	78.3	82.1	84.6	91.4	89.8	86.6	90.2
Tobacco manufactures.....	39.4	39.8	40.0	39.7	39.7	39.4	38.7	38.6	38.3	38.1	37.7	38.7	38.7	38.6	37.6
Cigarettes.....	22.3	22.2	22.0	21.0	22.7	22.7	22.6	22.5	22.8	22.5	22.5	24.6	24.8	24.3	25.6
Cigars.....	958.5	958.4	959.7	965.4	947.5	964.9	951.8	947.6	943.4	936.6	929.7	935.9	939.4	921.3	892.0
Textile mill products.....	240.3	238.9	238.3	238.5	238.3	239.3	235.8	235.0	234.7	234.2	233.8	233.6	231.9	229.2	226.7
Cotton broad woven fabrics.....	96.1	95.8	96.2	96.7	95.9	96.2	94.9	94.8	94.8	94.2	93.9	94.1	93.7	91.9	90.5
Silk and synthetic broad woven fabrics.....	42.0	42.5	43.8	45.0	45.4	45.5	45.2	44.8	44.9	44.5	44.1	43.9	43.7	44.2	45.0
Weaving and finishing broad woollens.....	32.3	32.2	32.0	31.8	30.6	31.8	31.4	31.3	31.0	30.8	30.3	30.3	30.0	29.4	27.8
Narrow fabrics and smallwares.....	235.5	237.8	238.8	241.7	234.1	241.8	238.1	235.8	231.8	227.3	222.9	229.0	228.9	228.9	214.8
Knitting.....	76.8	76.1	75.9	76.4	75.9	77.0	76.2	75.9	75.5	75.1	74.9	75.3	74.6	75.9	76.1
Finishing textiles, except wool and knit.....	43.4	43.1	42.6	39.8	41.3	41.4	41.4	41.4	41.5	41.9	42.0	42.5	42.3	40.9	38.6
Floor covering.....	116.5	116.1	116.5	117.9	114.4	116.7	114.6	113.8	113.8	113.4	113.2	113.1	111.9	109.0	104.6
Yarn and thread.....	75.6	75.6	75.1	74.8	73.1	75.3	74.2	74.8	75.4	75.2	74.6	74.1	74.3	71.9	67.9
Miscellaneous textile goods.....	See footnotes at end of table.														

See footnotes at end of table.



TABLE A-9. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

Industry	[In thousands]											Revised series; see box, p. 94.			
	1966										1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
<b>Manufacturing—Continued</b>															
<i>Nondurable goods—Continued</i>															
Apparel and related products.....	1,418.2	1,419.8	1,414.2	1,422.2	1,353.1	1,414.4	1,396.9	1,380.4	1,401.0	1,391.3	1,331.8	1,374.3	1,382.6	1,353.6	1,302.5
Men's and boys' suits and coats.....	120.7	119.8	120.7	120.7	115.3	123.5	122.4	120.4	121.1	120.7	119.6	121.2	119.5	118.6	114.7
Men's and boys' furnishings.....	369.3	369.2	370.4	373.1	360.5	373.2	368.4	365.4	364.4	360.9	357.0	357.8	359.4	350.7	327.4
Women's, misses', and juniors' outerwear.....	431.7	430.8	428.9	434.6	412.9	431.0	428.3	419.8	435.7	435.8	402.9	423.4	421.1	418.8	406.3
Women's and children's undergarments.....	131.4	131.2	130.0	128.8	120.4	126.9	124.9	124.8	124.6	123.1	118.2	123.2	125.9	121.0	120.3
Hats, caps, and millinery.....	28.3	28.3	28.4	29.2	27.0	27.2	24.9	26.1	30.7	30.9	27.7	28.4	27.7	29.0	29.7
Girls' and children's outerwear.....	80.6	80.5	80.3	82.3	81.5	83.6	80.5	78.1	80.9	81.1	76.8	75.5	77.7	78.4	77.6
Fur goods and miscellaneous apparel.....	83.5	83.5	82.0	82.4	76.8	79.8	77.9	77.9	76.8	75.0	69.8	76.3	80.2	76.0	72.4
Miscellaneous fabricated textile products.....	175.0	176.5	173.5	171.1	158.7	169.2	169.6	167.9	166.8	163.8	159.8	168.5	171.1	161.2	154.1
Paper and allied products.....	686.0	680.1	677.1	683.8	678.2	679.0	661.4	659.4	655.6	653.3	651.7	655.0	652.5	640.0	625.5
Paper and pulp.....	220.4	218.9	219.7	223.5	225.1	223.2	216.8	215.7	214.6	213.8	213.6	214.2	213.1	213.0	213.1
Paperboard.....	70.2	69.6	69.7	70.3	69.5	69.4	68.4	68.0	68.5	68.6	68.3	67.8	67.7	67.3	66.6
Converted paper and paperboard products.....	177.0	175.0	173.7	175.3	171.4	172.3	167.0	167.6	165.8	164.8	163.8	164.3	163.5	159.3	152.5
Paperboard containers and boxes.....	218.4	216.6	214.0	214.7	212.2	214.1	209.2	208.1	206.7	206.1	206.0	208.7	208.2	200.4	193.3
Printing, publishing and allied industries.....	1,045.5	1,044.4	1,038.2	1,035.1	1,030.4	1,026.8	1,015.3	1,014.6	1,005.8	1,004.3	997.7	1,003.2	999.4	981.0	951.5
Newspaper publishing and printing.....	358.3	358.5	356.8	353.3	354.1	353.7	350.7	352.3	346.7	350.5	348.9	352.3	350.6	345.6	335.7
Periodical publishing and printing.....	74.0	73.5	73.9	73.3	72.6	72.2	71.9	72.0	71.9	71.3	71.5	71.6	71.6	70.1	68.6
Books.....	89.7	89.1	90.8	89.8	89.9	88.8	87.4	87.1	86.5	85.1	83.7	82.9	81.9	81.1	77.0
Commercial printing.....	333.2	332.8	330.5	327.3	325.5	326.7	323.9	322.5	321.6	317.9	316.9	318.5	317.3	310.5	302.4
Bookbinding and related industries.....	56.4	56.0	56.5	57.9	56.5	55.5	53.5	53.6	53.3	52.3	51.6	52.2	52.0	51.2	49.0
Other publishing and printing industries.....	134.2	133.4	131.8	131.9	131.1	129.5	127.6	127.2	125.7	126.6	125.3	125.8	126.0	122.6	118.7
Chemicals and allied products.....	964.3	965.9	968.2	976.9	970.3	964.5	948.6	944.0	935.5	924.3	918.0	917.5	913.9	906.4	878.6
Industrial chemicals.....	301.7	302.3	304.5	307.2	305.5	302.8	296.7	296.1	294.6	293.1	291.5	293.1	290.9	289.7	288.4
Plastics materials and synthetics.....	210.0	209.9	212.2	215.1	214.1	210.8	205.8	205.2	204.6	202.8	201.7	201.0	200.3	194.5	181.7
Drugs.....	128.8	128.5	128.5	130.8	130.1	127.5	124.6	123.8	123.7	122.9	122.2	122.4	121.4	118.1	112.9
Soap, cleaners, and toilet goods.....	110.8	112.2	111.5	110.2	109.0	109.5	107.1	102.7	101.7	103.5	104.0	104.0	105.3	105.0	101.5
Paints, varnishes, and allied products.....	66.6	66.5	67.2	68.9	68.6	68.2	66.7	66.0	65.7	65.1	64.6	65.0	65.5	66.0	64.2
Agricultural chemicals.....	51.4	52.0	50.7	50.7	50.6	55.1	60.3	64.1	60.0	54.3	52.2	50.9	50.0	53.2	51.4
Other chemical products.....	95.0	94.5	93.6	93.0	92.4	90.6	87.4	86.1	85.2	82.6	81.8	81.1	80.5	80.0	78.5
Petroleum refining and related industries.....	182.2	182.9	185.4	188.2	190.1	186.4	182.9	180.6	178.7	178.0	177.9	179.4	181.2	182.0	183.9
Petroleum refining.....	147.0	146.8	148.1	149.8	151.6	148.5	146.6	145.8	145.5	145.3	145.1	145.9	146.3	147.5	149.6
Other petroleum and coal products.....	35.2	36.1	37.3	38.4	38.5	37.9	36.3	34.8	33.2	32.7	32.8	33.5	34.9	34.5	34.2
Rubber and miscellaneous plastic products.....	534.8	529.7	523.2	520.5	509.6	514.2	505.4	502.0	497.7	493.9	493.4	494.0	491.5	471.5	436.0
Tires and inner tubes.....	110.0	109.1	108.8	109.3	109.1	107.9	106.6	105.1	104.8	104.4	105.6	105.7	105.6	101.8	99.0
Other rubber products.....	185.8	183.5	182.7	180.9	177.9	180.9	179.7	178.9	178.1	177.9	178.4	178.5	177.1	172.4	164.0
Miscellaneous plastic products.....	239.0	237.1	231.7	230.3	222.6	225.4	219.1	219.0	214.8	211.6	209.4	209.8	208.8	197.4	172.9
Leather and leather products.....	355.8	355.0	356.9	364.8	350.3	362.2	356.4	354.9	358.8	360.0	354.7	356.4	355.6	350.9	347.6
Leather tanning and finishing.....	31.1	30.8	31.2	31.9	31.2	31.8	31.5	31.6	31.9	32.1	32.3	32.5	32.2	31.6	31.4
Footwear, except rubber.....	233.9	233.1	235.7	242.0	234.6	240.7	237.0	235.4	238.8	240.4	237.7	236.7	234.1	233.4	230.5
Other leather products.....	90.8	91.1	90.0	90.9	84.5	89.7	87.9	87.9	88.1	87.5	84.7	87.2	89.3	85.9	85.7
Handbags and personal leather goods.....	37.7	36.7	37.0	33.3	36.0	34.6	35.0	36.4	35.9	34.0	35.1	36.9	35.4	37.2	
<b>Transportation and public utilities.....</b>	<b>4,193</b>	<b>4,196</b>	<b>4,218</b>	<b>4,154</b>	<b>4,171</b>	<b>4,180</b>	<b>4,115</b>	<b>4,077</b>	<b>4,056</b>	<b>4,035</b>	<b>4,026</b>	<b>4,087</b>	<b>4,092</b>	<b>4,033</b>	<b>3,951</b>
Railroad transportation.....	715.7	720.6	728.3	730.4	727.6	715.3	711.9	708.3	708.2	715.3	729.7	727.1	734.8	756.1	
Class I railroads <sup>3</sup> .....	623.7	628.4	636.2	638.4	635.2	623.6	619.6	615.3	614.6	623.7	632.4	633.3	640.1	665.0	
Local and interurban passenger transit.....	266.4	264.3	246.3	246.8	255.0	267.5	269.3	272.8	273.3	274.0	273.6	271.0	267.5	266.9	
Local and suburban transportation.....	81.5	81.0	79.6	79.9	79.9	80.4	80.8	81.5	81.4	81.5	81.8	82.1	82.1	83.4	
Taxicabs.....	105.2	104.5	104.0	104.5	105.6	105.4	108.8	110.9	112.0	111.7	111.3	109.1	109.1	109.5	
Intercity and rural bus lines.....	43.0	43.9	44.7	44.1	39.5	42.3	41.7	41.1	41.0	41.8	42.0	41.4	42.0	42.1	
Motor freight transportation and storage.....	1,047.0	1,045.7	1,030.8	1,030.7	1,025.5	989.9	973.8	969.8	960.7	953.0	991.5	999.5	963.2	919.1	
Public warehousing.....	88.8	82.8	81.5	79.5	79.8	77.1	75.8	78.0	77.6	78.7	84.4	89.2	80.5	82.2	
Air transportation.....	264.5	261.6	201.7	216.6	259.9	254.2	250.8	246.6	245.3	241.2	242.2	239.4	229.7	212.6	
Air transportation, common carriers.....	236.4	233.6	174.1	187.7	232.1	227.0	223.8	220.0	219.1	214.9	215.3	213.4	205.8	190.7	
Pipeline transportation.....	18.5	18.9	19.4	19.4	19.3	18.7	18.6	18.7	18.7	18.9	19.0	19.0	19.5	20.0	
Other transportation.....	314.5	326.7	325.5	330.9	320.4	329.9	319.3	315.2	311.5	309.8	313.6	322.9	312.7	313.6	
Communication.....	936.6	938.8	949.0	944.9	928.7	911.4	906.6	899.4	893.7	889.5	891.5	889.7	880.4	847.9	
Telephone communication.....	784.3	786.5	796.3	792.2	777.7	761.6	757.7	751.4	746.3	743.0	743.4	742.0	735.2	706.1	
Telegraph communication.....	33.2	33.1	33.5	33.6	33.2	33.2	32.7	32.6	32.4	31.8	32.2	31.8	31.8	32.6	
Radio and television broadcasting.....	112.8	112.9	112.9	112.8	111.5	110.3	109.9	109.1	108.7	108.4	109.6	109.6	107.1	102.9	
Electric, gas, and sanitary services.....	632.3	641.4	652.7	652.4	643.6	627.7	627.1	624.7	623.2	624.7	626.0	623.4	625.3	614.7	
Electric companies and systems.....	257.4	260.3	264.6	263.9	261.0	254.8	254.6	253.4	252.7	253.0	253.5	250.5	253.4	248.9	
Gas companies and systems.....	156.1	158.6	161.7	162.0	159.6	154.6	154.9	154.8	154.5	154.8	155.4	155.5	155.0	153.3	
Combined utility systems.....	176.4	179.7	182.8	182.8	180.1	176.2	175.8	175.4	175.2	175.8	176.1	176.4	176.5	174.1	
Water, steam, and sanitary systems.....	42.4	42.8	43.6	43.7	42.9	42.1	41.8	41.1	40.8	41.1	41.0	41.0	40.5	38.4	

See footnotes at end of table.

TABLE A-9. Employees in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	<b>Wholesale and retail trade</b>	<b>13,560</b>	<b>13,376</b>	<b>13,253</b>	<b>13,224</b>	<b>13,225</b>	<b>13,239</b>	<b>13,061</b>	<b>13,015</b>	<b>12,826</b>	<b>12,738</b>	<b>12,835</b>	<b>13,762</b>	<b>13,078</b>	<b>12,683</b>
Wholesale trade	3,528	3,521	3,498	3,521	3,511	3,473	3,400	3,386	3,374	3,367	3,371	3,415	3,394	3,317	3,189
Motor vehicles and automotive equipment		263.1	263.9	277.5	266.5	264.6	261.7	260.7	260.1	259.1	260.0	260.7	259.5	256.0	245.9
Drugs, chemicals, and allied products		210.4	208.9	210.6	209.0	207.8	204.2	203.2	202.8	201.9	201.6	204.6	202.3	198.2	192.0
Dry goods and apparel		150.9	150.5	150.1	148.6	148.3	146.2	145.4	145.8	144.8	142.5	144.4	144.4	141.0	134.6
Groceries and related products		529.3	515.1	517.4	532.1	530.2	506.4	499.0	498.4	497.3	509.1	520.6	523.2	509.2	497.7
Electrical goods		279.9		284.0	282.4	276.0	272.0	271.0	268.7	267.0	263.8	266.2	262.6	257.1	242.7
Hardware, plumbing, and heating goods		159.5	158.4	160.1	159.3	158.2	155.8	155.6	155.1	155.0	154.2	154.8	154.5	151.0	146.0
Machinery, equipment, and supplies		632.1	632.7	637.8	635.5	625.5	614.2	611.8	606.0	600.8	596.8	594.6	591.0	573.3	548.4
Miscellaneous wholesalers		1,193.0	1,187.9	1,194.5	1,188.1	1,174.9	1,154.2	1,152.4	1,147.8	1,145.0	1,139.9	1,163.7	1,148.1	1,124.8	1,078.5
<b>Retail trade</b>	<b>10,032</b>	<b>9,855</b>	<b>9,755</b>	<b>9,703</b>	<b>9,714</b>	<b>9,766</b>	<b>9,661</b>	<b>9,629</b>	<b>9,452</b>	<b>9,371</b>	<b>9,464</b>	<b>1,153.7</b>	<b>1,148.1</b>	<b>1,124.8</b>	<b>1,078.5</b>
General merchandise stores		2,005.7	1,938.9	1,892.3	1,885.5	1,907.2	1,890.9	1,888.0	1,846.5	1,825.5	1,916.1	2,493.4	2,068.2	1,875.1	1,763.1
Department stores		1,262.4	1,215.1	1,185.6	1,185.1	1,201.8	1,189.7	1,183.6	1,159.1	1,144.9	1,207.1	1,589.1	1,297.0	1,171.3	1,087.8
Mail order houses		130.2	119.8	116.1	114.5	114.0	112.5	114.2	115.8	118.2	129.9	162.6	148.2	119.3	108.3
Limited price variety stores		328.0	322.1	307.6	304.2	309.7	313.8	317.6	308.1	299.9	312.9	412.5	340.6	314.0	309.2
<b>Food stores</b>	<b>1,575.5</b>	<b>1,555.5</b>	<b>1,542.2</b>	<b>1,548.9</b>	<b>1,549.8</b>	<b>1,543.7</b>	<b>1,534.9</b>	<b>1,535.0</b>	<b>1,528.8</b>	<b>1,519.5</b>	<b>1,539.3</b>	<b>1,510.5</b>	<b>1,473.5</b>	<b>1,419.4</b>	<b>1,419.4</b>
Grocery, meat, and vegetable stores		1,395.7	1,378.5	1,368.4	1,374.9	1,372.6	1,366.6	1,356.6	1,359.6	1,352.1	1,347.8	1,355.0	1,334.2	1,299.6	1,250.1
Apparel and accessories stores		666.3	654.6	632.7	632.6	652.0	644.9	661.7	624.9	615.6	636.8	771.5	656.7	638.1	616.4
Men's and boys' apparel stores		109.8	108.3	106.3	106.7	109.3	106.0	106.5	103.9	107.0	111.9	137.6	108.4	105.0	99.8
Women's ready-to-wear stores		244.2	236.4	234.0	230.8	238.0	238.0	237.5	230.2	225.7	233.3	279.4	243.1	235.6	229.9
Family clothing stores		104.0	102.6	97.9	100.4	102.2	98.3	98.4	96.6	96.4	100.3	129.1	103.7	102.4	102.6
Shoe stores		130.3	131.3	123.3	124.1	127.8	127.9	143.6	121.1	116.4	120.5	142.0	124.8	123.9	117.5
<b>Furniture and appliance stores</b>	<b>431.4</b>	<b>427.1</b>	<b>426.7</b>	<b>426.4</b>	<b>425.3</b>	<b>421.2</b>	<b>420.4</b>	<b>420.4</b>	<b>420.7</b>	<b>420.0</b>	<b>439.3</b>	<b>425.0</b>	<b>411.2</b>	<b>394.5</b>	<b>394.5</b>
Furniture and home furnishings		275.4	273.3	272.8	274.7	274.3	270.4	269.5	268.9	268.5	269.3	283.1	273.4	265.4	255.0
Eating and drinking places		2,048.9	2,055.8	2,067.8	2,069.5	2,074.4	2,084.9	2,001.6	1,949.4	1,919.4	1,904.6	1,944.9	1,945.6	1,938.7	1,848.1
<b>Other retail trade</b>	<b>3,126.9</b>	<b>3,122.7</b>	<b>3,141.0</b>	<b>3,151.5</b>	<b>3,157.5</b>	<b>3,125.1</b>	<b>3,122.0</b>	<b>3,075.1</b>	<b>3,062.6</b>	<b>3,066.9</b>	<b>3,158.2</b>	<b>3,077.9</b>	<b>3,029.5</b>	<b>2,929.4</b>	<b>2,929.4</b>
Building materials and hardware		545.0	549.6	563.0	568.5	568.5	550.4	538.3	529.6	529.6	548.9	549.6	541.8	533.0	533.0
Auto dealers and service stations		1,476.9	1,477.6	1,485.4	1,490.6	1,479.6	1,463.0	1,454.3	1,445.0	1,442.4	1,446.6	1,454.7	1,445.4	1,425.5	1,366.8
Motor vehicle dealers		747.5	745.3	747.5	751.5	749.3	745.1	746.4	744.4	744.4	741.5	741.5	726.1	692.5	692.5
Other vehicle and accessory dealers		190.6	191.7	194.7	193.5	191.1	187.4	183.9	178.2	176.5	179.9	190.7	185.9	178.3	167.2
Gasoline service stations		538.8	540.6	542.5	545.6	539.2	530.5	524.0	520.2	521.5	523.3	522.5	520.8	521.1	507.2
<b>Miscellaneous retail stores</b>	<b>1,105.0</b>	<b>1,095.5</b>	<b>1,092.6</b>	<b>1,092.4</b>	<b>1,109.1</b>	<b>1,108.6</b>	<b>1,117.3</b>	<b>1,091.8</b>	<b>1,091.2</b>	<b>1,086.4</b>	<b>1,154.6</b>	<b>1,082.9</b>	<b>1,062.2</b>	<b>1,029.6</b>	<b>1,029.6</b>
Drug stores		421.1	418.4	415.1	414.3	415.9	413.3	410.0	409.6	411.8	432.4	411.2	401.0	387.8	387.8
Farm and garden supply stores		102.6	100.5	100.7	101.1	106.5	111.3	113.9	106.8	101.0	97.6	96.6	97.2	97.4	94.6
Fuel and ice dealers		109.3	104.3	102.9	102.9	104.0	105.6	109.2	114.2	118.1	119.2	116.1	111.4	108.9	108.5
<b>Finance, insurance, and real estate</b>	<b>3,095</b>	<b>3,099</b>	<b>3,109</b>	<b>3,146</b>	<b>3,148</b>	<b>3,112</b>	<b>3,070</b>	<b>3,056</b>	<b>3,043</b>	<b>3,024</b>	<b>3,018</b>	<b>3,034</b>	<b>3,033</b>	<b>3,019</b>	<b>2,957</b>
Banking		829.9	830.6	839.2	835.4	821.6	807.7	806.5	803.8	800.3	798.1	799.7	796.8	790.9	766.5
Credit agencies other than banks		332.9	333.6	337.5	337.3	334.4	332.5	333.1	331.7	333.0	333.0	333.0	331.5	326.8	314.8
Savings and loan associations		94.2	93.8	95.8	96.9	95.8	96.0	97.2	97.2	97.3	98.2	97.6	97.1	97.1	94.5
Personal credit institutions		181.1	181.9	182.9	181.3	180.0	178.1	177.5	176.0	176.5	176.4	176.4	171.8	171.8	164.3
Security dealers and exchanges		141.2	141.7	144.0	144.7	142.3	139.4	138.1	136.9	134.0	131.2	131.2	130.1	128.9	125.8
<b>Insurance carriers</b>	<b>907.3</b>	<b>908.3</b>	<b>915.1</b>	<b>911.2</b>	<b>899.4</b>	<b>891.4</b>	<b>890.9</b>	<b>890.3</b>	<b>889.1</b>	<b>889.1</b>	<b>888.2</b>	<b>891.3</b>	<b>892.2</b>	<b>890.8</b>	<b>889.5</b>
Life insurance		479.8	480.8	484.0	482.5	476.1	474.1	475.3	474.9	475.8	476.6	477.7	478.9	478.7	474.6
Accident and health insurance		65.0	63.7	64.0	62.7	60.4	58.2	57.2	56.8	55.8	55.3	55.2	54.9	54.5	52.2
Fire, marine, and casualty insurance		323.7	324.7	327.1	325.2	322.0	318.3	317.7	317.5	316.4	315.1	316.5	316.6	315.7	316.2
Insurance agents, brokers, and services		240.6	241.4	242.1	243.7	242.2	239.2	238.6	237.6	235.8	234.2	235.3	234.7	233.1	225.6
<b>Real estate</b>	<b>565.9</b>	<b>571.6</b>	<b>563.4</b>	<b>593.4</b>	<b>590.2</b>	<b>577.9</b>	<b>568.2</b>	<b>560.5</b>	<b>552.1</b>	<b>553.6</b>	<b>563.6</b>	<b>568.1</b>	<b>569.0</b>	<b>556.4</b>	<b>556.4</b>
Operative builders		38.7	40.1	43.2	44.2	45.5	45.8	45.9	45.0	43.2	43.5	45.8	46.5	46.9	46.2
Other finance, insurance, and real estate		81.5	81.9	82.6	82.5	81.7	81.6	81.3	81.1	80.5	80.1	80.3	79.9	79.7	78.9
<b>Services and miscellaneous</b>	<b>9,731</b>	<b>9,745</b>	<b>9,707</b>	<b>9,772</b>	<b>9,782</b>	<b>9,702</b>	<b>9,572</b>	<b>9,465</b>	<b>9,331</b>	<b>9,250</b>	<b>9,176</b>	<b>9,245</b>	<b>9,245</b>	<b>9,098</b>	<b>8,709</b>
Hotels and lodging places		648.1	687.9	789.5	789.5	702.7	661.7	640.4	617.7	613.7	602.1	609.0	613.8	653.8	636.2
Hotels, tourist courts, and motels		586.0	612.2	650.9	653.1	624.4	594.9	579.4	561.5	558.4	546.9	551.7	555.4	578.8	567.8
Personal services		1,014.2	1,008.1	1,013.7	1,016.8	1,014.7	1,001.6	995.3	988.2	982.6	983.5	988.8	991.8	982.2	953.9
Laundries, cleaning and dyeing plants		555.8	552.7	561.1	565.6	565.2	553.5	548.1	542.4	538.0	540.8	544.9	547.9	546.5	532.9
<b>Miscellaneous business services</b>	<b>1,240.9</b>	<b>1,227.5</b>	<b>1,232.0</b>	<b>1,225.6</b>	<b>1,214.1</b>	<b>1,189.7</b>	<b>1,178.3</b>	<b>1,169.9</b>	<b>1,160.0</b>	<b>1,144.1</b>	<b>1,159.5</b>	<b>1,141.3</b>	<b>1,102.2</b>	<b>1,022.1</b>	<b>1,022.1</b>
Advertising		115.6	114.7	116.3	114.8	113.5	111.9	112.4	112.4	112.2	111.5	111.4	111.7	111.6	110.2
Credit reporting and collecting agencies		68.6	67.7	68.2	68.7	68.5	67.9	67.4	67.3	66.9	66.5	67.9	67.4	65.6	63.0
Motion pictures		186.6	190.7	199.8	202.1	192.7	180.9	179.8	173.6	171.5	177.9	183.2	181.1	183.3	177.4
Motion picture filming and distributing		55.0	52.8	55.9	58.5	52.3	46.6	47.8	47.6	49.9	53.2	57.1	51.9	48.2	42.8
Motion picture theaters and services		131.6	137.9	143.9	143.6	140.4	134.3	132.0	126.0	121.6	124.7	126.1	129.2	135.1	134.7
<b>Medical and other health services</b>	<b>2,286.1</b>	<b>2,268.7</b>	<b>2,266.3</b>	<b>2,260.1</b>	<b>2,232.7</b>	<b>2,197.4</b>	<b>2,192.2</b>	<b>2,178.0</b>	<b>2,164.6</b>	<b>2,147.9</b>	<b>2,139.1</b>	<b>2,135.4</b>	<b>2,087.8</b>	<b>1,963.0</b>	<b>1,963.0</b>
Hospitals		1,476.2	1,464.1	1,463.3	1,460.1										

TABLE A-9. Employees in nonagricultural establishments, by industry <sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
<b>Government</b> .....	<b>11,249</b>	<b>11,114</b>	<b>10,885</b>	<b>10,507</b>	<b>10,557</b>	<b>10,906</b>	<b>10,834</b>	<b>10,795</b>	<b>10,735</b>	<b>10,622</b>	<b>10,490</b>	<b>10,638</b>	<b>10,472</b>	<b>10,091</b>	<b>9,596</b>
Federal Government <sup>4</sup> .....	2,631	2,586	2,589	2,641	2,637	2,592	2,513	2,496	2,460	2,431	2,406	2,543	2,402	2,378	2,348
Executive.....			2,556.4	2,608.0	2,604.2	2,559.8	2,481.5	2,461.5	2,428.8	2,399.7	2,375.4	2,511.8	2,370.7	2,346.7	2,317.5
Department of Defense.....			1,042.8	1,055.4	1,050.7	1,034.8	1,001.5	991.9	980.0	964.8	956.2	951.6	956.0	938.5	933.7
Post Office Department.....			682.0	689.4	683.1	673.6	660.2	652.8	639.5	632.4	624.4	771.5	617.8	614.2	599.9
Other agencies.....			831.6	863.2	870.4	851.4	819.8	816.8	809.3	802.5	794.8	788.7	796.9	793.9	783.9
Legislative.....			26.5	27.1	27.0	26.6	25.4	25.4	25.4	25.2	24.9	25.0	25.6	25.4	24.5
Judicial.....			6.1	5.9	5.9	5.9	6.0	6.0	6.9	5.9	5.9	5.9	5.9	5.9	5.8
State and local government <sup>5</sup> .....	8,618	8,528	8,296	7,866	7,920	8,314	8,321	8,302	8,275	8,191	8,084	8,095	8,070	7,713	7,249
State government.....	2,220.8	2,147.6	2,091.4	2,112.4	2,156.7	2,139.1	2,132.2	2,129.9	2,113.3	2,084.9	2,086.4	2,086.1	1,995.9	1,856.0	
State education.....	848.1	736.4	656.2	679.6	756.7	786.7	787.4	786.6	773.0	755.6	757.6	759.5	679.1	608.8	
Other state government.....	1,372.7	1,411.2	1,435.2	1,432.8	1,400.0	1,352.4	1,344.8	1,343.3	1,340.3	1,329.3	1,328.8	1,326.6	1,316.8	1,247.2	
Local government.....	6,306.8	6,148.7	5,774.9	5,807.4	6,156.8	6,182.0	6,170.0	6,144.7	6,077.3	5,999.5	6,008.5	5,983.8	5,717.4	5,392.5	
Local education.....	3,589.2	3,391.2	2,926.1	2,959.6	3,387.2	3,504.1	3,507.6	3,494.9	3,441.6	3,379.5	3,383.6	3,361.0	3,119.9	2,906.3	
Other local government.....	2,717.6	2,757.5	2,848.8	2,847.8	2,769.6	2,677.9	2,662.4	2,649.8	2,635.7	2,620.0	2,624.9	2,622.8	2,597.5	2,486.3	

<sup>1</sup> Beginning with the October 1966 issue, figures differ from those previously published. The industry series have been adjusted to March 1965 benchmarks (comprehensive counts of employment). For comparable back data, see *Employment and Earnings Statistics for the United States, 1909-66* (BLS Bulletin 1312-4). Statistics from April 1965 forward are subject to further revision when new benchmarks become available.

These series are based upon establishment reports which cover all full- and part-time employees in nonagricultural establishments who worked during, or received pay for any part of the pay period which includes the 12th of the month. Therefore, persons who worked in more than 1 establishment during the reporting period are counted more than once. Proprietors, self-employed persons, unpaid family workers, and domestic servants are excluded.

<sup>2</sup> Preliminary.

<sup>3</sup> Beginning January 1965, data relate to railroads with operating revenues of \$5,000,000 or more.

<sup>4</sup> Data relate to civilian employees who worked on, or received pay for the last day of the month.

<sup>5</sup> State and local government data exclude, as nominal employees, elected officials of small local units and paid volunteer firemen.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics for all series except those for the Federal Government, which is prepared by the U.S. Civil Service Commission, and that for Class I railroads, which is prepared by the U.S. Interstate Commerce Commission.



TABLE A-10. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
<b>Mining</b> .....	487	490	496	506	502	504	491	452	482	480	484	494	498	494	497
Metal mining.....	71.2	72.5	73.5	72.8	73.3	70.8	70.1	69.5	69.8	69.6	70.0	70.5	70.5	69.5	65.9
Iron ores.....	21.8	22.3	22.2	21.7	22.4	21.7	20.6	20.0	20.3	20.3	21.0	21.8	21.8	21.8	21.0
Copper ores.....	26.3	26.9	27.3	27.0	27.0	26.2	26.3	26.3	26.2	26.0	25.8	25.6	24.8	24.8	22.1
Coal mining.....	124.3	124.2	124.0	121.0	123.8	122.5	86.8	123.6	124.5	124.5	125.5	126.1	124.1	124.1	129.7
Bituminous.....	117.2	117.0	116.8	114.3	116.5	114.8	79.3	115.5	116.1	116.0	116.6	116.6	115.3	115.3	119.8
Crude petroleum and natural gas.....	191.8	193.9	201.9	202.1	201.7	195.9	195.6	196.5	196.7	199.0	201.9	200.3	202.6	202.6	205.5
Crude petroleum and natural gas fields.....	82.2	84.4	87.0	87.3	86.9	84.2	84.3	84.7	84.8	85.4	86.3	86.2	88.4	88.4	91.9
Oil and gas field services.....	109.6	109.5	114.9	114.8	114.8	111.7	111.3	111.8	111.9	113.6	115.6	114.1	114.2	113.6	
Quarrying and nonmetallic mining.....	103.1	105.2	106.4	106.5	105.4	101.7	99.3	92.0	88.5	91.1	96.9	100.8	98.0	95.8	
Crushed and broken stone.....	36.9	37.5	38.0	37.9	37.5	36.0	35.0	31.5	29.6	31.4	34.4	36.0	34.9	34.3	
<b>Contract construction</b> .....	2,800	2,950	3,026	3,141	3,122	3,026	2,788	2,673	2,499	2,339	2,461	2,687	2,856	2,707	2,597
General building contractors.....	959.3	977.3	1,017.3	1,004.4	975.0	891.6	869.7	823.9	772.9	818.9	886.0	908.6	856.2	817.3	
Heavy construction.....	649.0	667.9	689.9	690.5	665.7	590.7	529.7	433.1	388.3	421.3	503.0	603.5	555.8	529.6	
Highway and street construction.....	350.2	364.3	374.9	374.4	308.6	259.6	189.0	165.1	185.6	239.4	317.8	288.5	279.5		
Other heavy construction.....	298.8	303.6	315.0	316.1	305.5	282.1	270.1	244.1	223.2	235.7	263.6	285.7	261.1		
Special trade contractors.....	1,342.0	1,380.7	1,433.8	1,427.3	1,385.5	1,305.5	1,273.3	1,241.6	1,177.9	1,221.0	1,297.5	1,343.7	1,294.5	1,260.2	
Plumbing, heating, and air conditioning.....	306.3	309.6	312.1	312.9	306.0	296.0	294.4	291.6	284.4	294.1	302.2	306.0	297.3	286.1	
Painting, paperhanging, and decorating.....	131.8	137.5	145.3	141.8	133.3	122.6	116.0	109.1	103.3	104.5	119.6	131.3	127.6	126.5	
Electrical work.....	200.5	206.4	211.1	206.4	200.2	191.1	188.5	184.1	180.7	182.5	189.7	191.2	186.0	174.0	
Masonry, plastering, stone and tile work.....	209.2	217.4	234.3	231.8	227.7	215.4	209.9	209.6	188.4	189.4	208.0	217.0	216.5	220.2	
Roofing and sheet metal work.....	95.6	95.5	97.1	96.2	93.9	86.6	85.9	83.6	76.2	84.1	93.5	95.8	89.5	87.0	
<b>Manufacturing</b> .....	14,555	14,585	14,582	14,417	14,159	14,351	14,074	13,969	13,878	13,775	13,617	13,769	13,811	13,413	12,781
Durable goods.....	8,532	8,530	8,501	8,304	8,277	8,419	8,277	8,207	8,113	8,038	7,942	7,980	7,959	7,702	7,213
Nondurable goods.....	6,023	6,055	6,081	6,113	5,882	5,932	5,797	5,762	5,765	5,737	5,675	5,789	5,852	5,711	5,569
Durable goods.....	133.3	129.2	126.6	122.8	120.2	119.1	117.0	113.4	111.9	110.0	106.8	101.1	102.7	96.0	104.1
Ammunition, except for small arms.....	87.7	83.8	82.6	79.4	77.2	76.7	76.1	75.2	74.2	73.0	71.1	69.3	68.0	63.6	68.1
Sighting and fire control equipment.....	6.3	6.2	6.2	6.2	6.2	6.0	5.8	5.7	5.5	5.4	5.3	5.2	5.2	5.0	5.9
Other ordnance and accessories.....	39.6	39.1	37.8	37.2	36.8	36.4	35.1	32.5	32.2	31.6	30.4	26.6	29.5	27.4	30.0
Lumber and wood products, except furniture.....	529.2	540.1	552.6	570.0	568.5	573.9	548.1	539.1	532.2	526.3	525.4	537.3	544.3	535.4	531.6
Sawmills and planing mills.....	219.2	222.6	228.9	235.2	234.6	237.0	229.5	229.4	227.1	222.7	225.1	228.4	230.8	229.3	230.8
Millwork, plywood, and related products.....	130.3	134.0	138.1	144.3	145.6	146.4	140.9	139.5	137.1	136.8	136.2	137.9	138.9	137.0	134.0
Wooden containers.....	32.0	31.3	31.5	32.8	32.2	33.3	32.6	31.8	30.9	30.6	30.7	30.8	30.5	31.0	31.7
Miscellaneous wood products.....	66.3	65.6	66.0	66.9	66.2	66.9	65.6	65.2	64.6	64.3	63.1	63.5	64.0	62.6	60.5
Furniture and fixtures.....	388.0	387.8	386.9	387.6	374.4	380.5	373.2	370.6	370.6	366.9	366.4	368.4	367.1	356.2	337.0
Household furniture.....	286.6	286.7	286.2	286.6	278.4	282.5	278.5	277.7	276.5	274.2	275.8	274.7	275.0	265.0	250.7
Office furniture.....	26.8	26.5	26.2	26.3	24.9	25.1	23.5	24.6	24.4	24.2	24.0	23.6	23.1	21.9	
Partitions; office and store fixtures.....	35.1	35.3	36.3	34.4	35.3	33.2	33.0	32.8	31.0	32.8	32.9	32.9	32.2	29.7	
Other furniture and fixtures.....	39.2	39.2	38.9	38.5	35.3	37.8	36.0	35.6	35.5	35.0	35.2	35.7	35.9	34.8	
Stone, clay, and glass products.....	510.8	517.8	525.7	533.2	532.7	529.7	521.3	515.6	502.1	493.4	495.1	505.3	513.7	503.9	493.8
Flat glass.....	25.6	25.3	25.2	25.4	25.9	26.4	26.5	26.2	26.2	26.2	26.5	27.0	27.2	26.1	24.8
Glass and glassware, pressed or blown.....	107.4	108.3	110.1	110.2	109.4	109.9	107.7	105.0	103.4	102.4	101.0	101.1	102.0	100.6	97.5
Cement, hydraulic.....	29.1	29.6	29.9	30.9	30.3	29.2	28.6	27.2	27.0	27.7	28.8	29.6	29.4	30.3	
Structural clay products.....	55.1	57.0	58.9	60.6	61.9	61.6	60.2	59.1	57.2	56.6	57.5	58.5	58.7	58.9	
Pottery and related products.....	37.6	37.6	37.0	35.4	37.2	36.9	37.3	37.9	36.9	36.4	37.3	38.2	37.0	36.5	
Concrete, gypsum, and plaster products.....	135.6	139.2	142.8	146.1	146.9	145.6	141.0	138.6	131.7	127.5	129.3	135.4	140.2	137.2	134.3
Other stone and mineral products.....	100.3	100.4	101.2	103.5	103.4	99.8	99.8	100.3	98.4	96.9	97.1	97.6	97.4	97.0	94.9
Primary metal industries.....	1,082.2	1,084.5	1,095.0	1,100.2	1,102.2	1,108.3	1,085.3	1,080.0	1,063.6	1,052.7	1,038.6	1,029.1	1,020.7	1,057.8	1,003.6
Blast furnace and basic steel products.....	522.3	528.0	537.2	545.8	553.6	551.8	537.1	530.9	517.8	506.9	498.5	494.1	491.7	538.0	515.6
Iron and steel foundries.....	202.7	201.6	202.0	202.8	201.4	204.5	201.3	202.1	199.9	200.8	199.6	198.5	193.0	193.9	181.9
Nonferrous smelting and refining.....	60.7	60.0	60.3	60.2	61.3	60.7	59.4	58.9	58.7	59.1	58.7	58.8	57.8	57.3	53.7
Nonferrous rolling, drawing, and extruding.....	163.7	163.9	164.4	162.0	158.7	160.4	159.5	159.6	159.1	158.3	156.1	153.1	154.4	149.4	141.6
Nonferrous foundries.....	75.5	74.8	75.1	74.4	72.0	74.4	72.7	73.1	72.6	72.4	70.9	70.9	70.2	67.5	62.5
Miscellaneous primary metal industries.....	57.8	56.2	56.0	55.0	55.2	56.5	55.3	55.4	55.5	55.2	54.8	53.7	53.6	51.6	48.3
Fabricated metal products.....	1,082.6	1,076.9	1,071.1	1,057.9	1,035.2	1,060.9	1,045.7	1,041.6	1,031.5	1,026.0	1,018.9	1,023.6	1,023.9	982.4	914.0
Metal cans.....	52.8	52.7	54.6	56.2	56.2	55.4	54.1	52.7	51.9	51.1	50.3	50.1	51.6	50.7	52.3
Cutlery, hand tools, and general hardware.....	133.0	132.1	131.1	126.8	121.1	127.7	127.2	130.1	129.5	128.3	127.9	125.8	126.9	122.8	113.2
Heating equipment and plumbing fixtures.....	59.4	59.7	60.2	60.3	58.6	60.2	66.9	60.1	60.7	60.5	59.6	60.1	60.4	59.1	60.5
Fabricated structural metal products.....	293.0	295.2	299.0	301.1	300.5	297.7	287.7	283.6	278.6	278.5	279.4	283.5	285.3	271.3	252.2
Screw machine products, bolts, etc.....	90.3	88.2	86.8	85.5	84.7	86.0	84.2	83.9	83.3	82.3	81.5	81.2	80.1	77.4	70.8
Metal stampings.....	207.0	204.3	197.9	186.8	176.8	190.7	192.7	193.2	193.8	192.8	191.9	193.5	192.1	180.8	161.1
Coating, engraving, and allied services.....	73.1	72.3	70.8	71.0	68.5	71.9	69.4	9.1	69.4	68.6	66.5	67.5	67.1	64.4	60.2
Miscellaneous fabricated wire products.....	56.7	56.0	55.3	55.3	55.1	53.6	53.6	53.5	52.8	52.7	53.0	52.4	50.4	46.3	
Miscellaneous fabricated metal products.....	117.3	116.4	115.4	114.9	113.7	116.3	115.9	115.3	110.8	111.1	109.1	108.9	108.0	105.5	97.4

See footnotes at end of table.

TABLE A-10. Production of nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964	
<b>Manufacturing—Continued</b>																
<i>Durable goods—Continued</i>																
Machinery.....	1,339.9	1,334.9	1,332.3	1,325.3	1,323.7	1,325.7	1,308.9	1,298.9	1,289.3	1,279.1	1,261.7	1,253.0	1,236.4	1,208.3	1,120.4	
Engines and turbines.....	64.1	67.8	69.0	68.5	67.5	65.3	66.9	66.0	65.4	64.9	64.4	64.2	63.6	61.4	58.4	
Farm machinery and equipment.....	189.5	189.5	191.4	190.7	192.9	192.5	189.2	186.9	184.4	182.6	178.9	177.7	179.3	175.1	160.5	
Construction and related machinery.....	256.1	255.5	255.6	253.0	252.7	253.8	250.2	249.0	247.0	245.8	241.2	239.2	234.4	229.6	212.6	
Metalworking machinery and equipment.....	141.8	141.2	141.2	140.7	139.9	140.5	138.1	136.9	137.8	137.7	137.7	136.5	135.3	132.9	124.4	
Special industry machinery.....	191.2	190.5	188.3	186.8	187.2	188.2	185.5	184.3	185.0	183.2	181.3	181.0	177.9	174.5	163.3	
Office, computing, and accounting machines.....	132.3	131.1	130.2	129.1	127.1	125.6	124.6	123.0	121.8	120.8	120.3	120.8	119.7	111.7	101.9	
Service industry machines.....	82.6	81.3	81.1	83.7	82.1	83.2	81.9	80.6	77.7	78.1	77.2	76.8	75.2	78.5	73.2	
Miscellaneous machinery.....	173.5	172.1	169.5	168.3	167.6	166.5	162.9	162.1	159.9	157.7	155.6	154.8	152.2	146.0	134.1	
Electrical equipment and supplies.....	1,391.4	1,386.2	1,365.6	1,345.4	1,302.2	1,322.4	1,291.1	1,281.0	1,256.3	1,252.5	1,236.6	1,232.9	1,213.7	1,139.8	1,036.8	
Electric distribution equipment.....	131.0	138.1	137.2	136.8	134.2	133.7	128.6	127.5	126.1	124.6	124.0	123.4	122.2	116.0	108.5	
Electrical industrial apparatus.....	156.3	158.1	156.0	157.8	155.0	154.8	147.5	149.3	147.7	145.6	143.9	142.5	139.1	134.7	122.7	
Household appliances.....	155.6	153.0	148.6	144.4	134.1	143.0	145.6	143.9	131.1	140.8	136.8	137.0	133.6	130.6	124.6	
Electric lighting and wiring equipment.....	155.0	153.5	152.6	150.7	148.3	152.1	149.7	148.1	145.9	144.2	142.0	141.9	140.9	134.0	123.2	
Radio and TV receiving sets.....	157.3	154.7	148.8	141.2	128.6	128.8	121.6	120.5	120.8	121.4	122.4	124.2	122.7	107.1	91.8	
Communication equipment.....	244.1	242.5	240.3	236.8	233.0	234.9	232.3	229.7	227.5	224.9	223.0	221.7	217.8	209.0	201.4	
Electronic components and accessories.....	302.3	298.3	295.8	295.9	289.3	293.5	284.2	281.5	277.5	272.7	266.0	261.1	255.4	231.1	194.0	
Miscellaneous electrical equipment and supplies.....	89.8	88.0	86.3	81.8	79.7	81.6	81.6	80.5	79.7	78.3	78.5	81.1	82.0	77.3	70.7	
Transportation equipment.....	1,418.4	1,413.0	1,392.9	1,215.4	1,299.2	1,362.9	1,364.9	1,354.9	1,352.0	1,337.6	1,315.7	1,320.5	1,310.5	1,238.1	1,119.6	
Motor vehicles and equipment.....	481.2	473.5	468.0	458.2	451.7	438.1	434.7	429.8	422.2	413.3	405.0	396.4	385.6	350.7	338.6	
Aircraft and parts.....	133.4	141.7	137.8	142.5	144.1	141.5	142.8	143.8	148.9	147.8	144.7	137.0	135.6	133.0	121.1	
Ship and boat building and repairing.....	48.4	48.3	47.4	46.1	47.2	47.1	46.7	45.5	44.9	44.9	44.9	45.2	45.0	43.6	38.8	
Railroad equipment.....	46.5	46.8	48.2	48.4	50.5	48.8	48.1	45.0	44.0	41.9	44.8	46.6	45.0	41.8		
Other transportation equipment.....	282.4	281.7	279.8	279.4	274.9	277.4	271.2	267.9	267.0	264.2	260.6	259.4	257.5	247.3	234.0	
Instruments and related products.....	39.9	39.9	39.9	38.9	38.1	38.3	37.6	37.3	37.7	37.7	37.2	37.1	37.0	35.9	36.0	
Engineering and scientific instruments.....	71.5	70.7	70.6	70.4	70.0	70.3	68.1	67.8	67.1	66.4	65.9	65.6	65.2	64.5	62.9	
Mechanical measuring and control devices.....	36.1	35.7	35.6	35.1	34.0	35.0	35.4	35.3	35.0	34.7	33.9	33.9	33.7	32.6	30.8	
Optical and ophthalmic goods.....	25.6	25.4	25.4	25.5	24.8	25.6	25.7	25.5	25.5	25.3	24.6	24.6	24.5	23.6	22.2	
Ophthalmic goods.....	46.6	46.6	46.2	46.4	45.6	45.4	44.6	43.9	43.8	43.0	42.2	41.8	41.2	39.7	37.5	
Surgical, medical, and dental equipment.....	57.3	56.8	56.8	57.6	57.3	57.7	55.7	55.0	54.2	53.7	52.8	52.5	52.0	49.0	43.3	
Photographic equipment and supplies.....	32.0	31.6	31.0	29.9	30.7	29.8	28.6	29.2	28.7	28.6	28.5	28.4	25.8	23.5		
Watches and clocks.....	373.4	378.1	372.0	366.7	343.6	358.3	350.6	343.6	336.4	328.8	316.3	349.7	368.9	336.9	317.9	
Miscellaneous manufacturing industries.....	39.3	38.8	37.9	38.0	34.9	38.1	38.0	37.6	37.6	37.2	36.0	37.3	37.3	35.8	34.3	
Jewelry, silverware, and plated ware.....	119.9	117.3	111.5	101.2	105.3	101.5	95.3	89.7	85.4	80.2	103.6	119.7	98.4	87.1		
Toys, amusement, and sporting goods.....	26.4	26.9	26.9	26.7	26.8	26.1	26.2	26.1	25.5	24.0	26.5	26.6	24.9	23.6		
Pens, pencils, office and art materials.....	49.6	48.5	49.6	45.4	48.5	47.7	47.2	47.0	46.2	43.8	47.5	48.6	46.1	45.7		
Costume jewelry, buttons, and notions.....	142.2	143.4	140.7	135.4	139.6	137.2	136.9	136.0	134.5	132.3	134.8	136.7	131.6	127.1		
Other manufacturing industries.....	22.9	22.6	22.6	22.2	22.0	22.1	22.0	22.2	21.9	21.8	21.9	21.8	20.5	18.1		
Musical instruments and parts.....	<i>Nondurable goods</i>															
Food and kindred products.....	1,211.4	1,245.6	1,283.8	1,291.0	1,200.4	1,151.8	1,093.2	1,086.4	1,087.1	1,084.5	1,098.0	1,145.9	1,204.5	1,155.1	1,157.3	
Meat products.....	264.5	265.4	262.9	263.5	261.1	254.9	246.7	243.0	243.5	245.0	246.0	257.5	262.3	251.8	252.5	
Dairy products.....	122.0	123.6	127.2	133.4	135.6	133.7	128.3	126.6	125.0	123.6	123.2	125.3	126.1	131.0	134.8	
Canned and preserved food, except meats.....	85.5	87.7	88.8	90.3	90.5	89.7	85.3	83.5	84.9	84.8	84.5	85.4	86.4	88.2	90.6	
Grain mill products.....	164.8	163.8	164.6	167.3	157.1	166.6	161.2	160.7	161.7	160.6	161.4	163.5	166.7	165.8	167.0	
Bakery products.....	42.3	42.3	26.6	23.5	23.3	22.9	23.8	24.1	25.2	26.9	34.8	41.2	44.8	29.4	30.7	
Sugar.....	68.4	67.0	64.5	62.1	56.1	57.7	56.7	56.2	62.0	61.9	62.1	67.0	68.2	61.9	62.1	
Confectionery and related products.....	120.6	120.7	121.7	124.2	126.0	122.7	116.2	113.7	111.4	106.2	107.3	111.5	116.3	113.3	111.8	
Beverages.....	93.9	93.4	91.7	90.5	89.8	89.9	89.0	89.5	91.5	92.1	92.9	95.5	97.5	93.4	93.2	
Miscellaneous food and kindred products.....	78.0	81.9	82.1	75.5	61.7	62.6	61.7	63.6	66.2	69.6	72.3	79.0	77.6	74.6	78.4	
Tobacco manufactures.....	32.3	32.7	32.8	32.5	32.2	31.6	31.5	31.3	31.3	31.2	31.0	32.0	32.1	32.1	31.4	
Cigarettes.....	20.8	20.6	20.4	19.5	21.0	21.0	21.0	21.0	20.8	21.1	20.8	22.8	23.1	22.6	24.0	
Cigars.....	854.8	854.2	855.5	862.5	843.7	861.6	849.7	845.6	841.7	835.8	829.9	835.9	839.4	823.1	798.2	
Textile mill products.....	221.3	219.6	218.7	219.4	219.3	220.0	216.8	215.8	215.7	214.9	214.8	214.7	212.7	210.5	208.8	
Cotton broad woven fabrics.....	87.0	86.5	86.9	87.4	86.3	86.8	85.5	85.5	85.6	85.1	84.9	85.0	84.8	82.9	81.7	
Silk and synthetic broad woven fabrics.....	36.3	36.9	38.2	39.3	39.1	39.9	39.6	39.3	39.4	39.1	38.6	38.5	38.3	38.8	39.5	
Weaving and finishing broad woolsens.....	28.8	28.6	28.5	28.3	27.1	28.3	28.0	27.9	27.6	27.4	27.0	27.1	26.8	26.2	24.6	
Narrow fabrics and smallwares.....	210.3	212.8	214.0	217.2	209.5	217.3	213.7	211.4	207.3	203.4	199.2	204.9	213.0	205.8	193.1	
Knitting.....	64.7	64.1	63.9	64.4	63.9	65.0	64.4	64.3	63.9	63.7	63.7	63.9	63.4	64.5	65.3	
Finishing textiles, except wool and knit.....	35.6	35.3	34.9	34.2	33.6	33.7	33.8	34.0	34.0	34.5	34.7	35.1	35.0	33.7	32.0	
Floor covering.....	108.2	107.7	108.0	109.6	106.1	108.5	106.5	105.7	105.7	105.4	105.1	105.0	103.7	101.0	96.8	
Yarn and thread.....	62.5	62.4	62.0	62.0	60.0	62.2	61.5	61.9	62.5	62.3	61.9	61.7	59.7	56.6		
Miscellaneous textile goods.....	See footnotes at end of table.															

See footnotes at end of table.

TABLE A-10. Production of nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued

[In thousands]

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
<b>Manufacturing—Continued</b>															
<i>Nondurable goods—Continued</i>															
Apparel and related products.....	1,259.9	1,263.5	1,257.3	1,264.7	1,198.5	1,257.9	1,241.6	1,225.6	1,246.1	1,238.6	1,181.1	1,222.4	1,230.5	1,205.1	1,158.3
Men's and boys' suits and coats.....	107.3	107.0	107.9	107.7	107.7	110.7	109.3	107.5	108.3	108.1	107.0	108.7	107.1	106.4	102.6
Men's and boys' furnishings.....	333.2	333.3	334.9	337.3	325.0	337.7	333.4	330.4	329.5	326.4	323.0	323.8	325.3	318.2	297.1
Women's, misses', and juniors' outerwear.....	385.8	385.6	383.3	389.0	368.6	385.3	383.1	374.2	390.0	390.6	359.2	379.1	377.2	375.1	363.3
Women's and children's undergarments.....	116.2	116.2	115.1	114.5	106.1	112.4	110.6	110.5	110.2	108.8	104.1	108.8	111.4	106.8	106.5
Hats, caps, and millinery.....	25.3	25.3	25.3	26.0	24.0	24.1	21.9	23.0	27.5	27.8	24.7	25.4	24.6	25.9	26.4
Girls' and children's outerwear.....	71.6	71.8	71.5	73.5	72.7	74.9	72.2	70.0	72.7	73.1	68.8	67.4	69.4	70.2	69.4
Fur goods and miscellaneous apparel.....	55.4	54.7	54.9	55.2	66.5	69.4	67.5	67.7	66.7	64.8	59.5	65.8	69.7	65.9	63.0
Miscellaneous fabricated textile products.....	150.0	151.4	147.9	145.0	132.9	143.4	143.6	142.3	141.2	139.0	134.8	143.4	145.8	136.7	130.0
Paper and allied products.....	535.5	529.1	526.5	533.5	527.8	529.8	515.0	514.0	509.6	506.8	506.9	510.7	509.0	498.5	488.8
Paper and pulp.....	173.4	171.9	173.2	176.5	178.0	177.0	171.5	170.8	169.7	169.1	169.3	169.9	168.7	169.1	169.9
Paperboard.....	55.4	54.7	54.9	55.2	54.9	54.9	53.7	53.7	53.3	53.3	53.6	53.7	53.8	53.4	53.0
Converted paper and paperboard products.....	131.0	128.8	127.3	128.8	125.7	126.5	122.8	123.5	121.9	120.3	119.7	120.7	120.2	116.6	112.4
Paperboard containers and boxes.....	175.7	173.7	171.1	172.0	169.2	171.4	167.0	166.0	164.7	164.1	164.3	166.4	166.3	159.3	153.5
Printing, publishing, and allied industries.....	664.0	665.1	661.4	657.8	653.2	653.0	645.6	645.2	640.5	638.1	632.9	637.8	636.4	621.8	602.1
Newspaper publishing and printing.....	179.8	181.5	181.2	177.7	178.0	178.2	177.8	178.7	175.3	177.3	176.6	179.5	179.1	175.6	169.7
Periodical publishing and printing.....	26.0	25.8	25.8	25.7	25.2	25.4	25.5	25.7	26.2	26.2	25.7	25.9	26.1	25.4	26.1
Books.....	55.0	54.7	56.5	55.9	55.3	54.6	54.4	54.5	53.4	52.0	51.1	50.3	49.9	47.3	47.3
Commercial printing.....	261.7	261.6	259.6	256.5	254.8	256.2	254.1	253.0	252.8	249.2	248.5	249.9	249.1	242.8	236.3
Bookbinding and related industries.....	46.8	46.4	47.0	48.3	46.9	46.3	44.0	44.2	43.8	42.8	42.0	42.7	42.6	41.8	39.5
Other publishing and printing industries.....	94.7	94.6	93.1	93.1	92.4	91.6	89.6	89.2	87.9	89.2	88.1	88.7	89.2	86.3	83.2
Chemicals and allied products.....	574.8	576.2	576.6	583.5	577.8	579.8	570.4	567.7	560.6	552.9	548.1	547.3	546.2	545.3	529.4
Industrial chemicals.....	169.9	170.1	171.4	172.9	171.8	171.7	168.2	168.1	167.7	167.1	165.8	166.8	165.7	166.4	165.5
Plastics materials and synthetics.....	138.9	138.9	139.9	142.1	141.2	140.5	137.2	137.0	136.1	135.3	135.1	134.4	134.2	131.3	122.2
Drugs.....	67.1	67.1	67.3	69.2	68.7	68.0	65.6	65.1	65.1	64.7	64.1	64.3	63.8	61.7	59.8
Soap, cleaners, and toilet goods.....	68.9	69.7	68.7	68.6	66.3	67.5	65.6	61.4	60.9	62.6	62.6	62.8	64.3	64.4	62.4
Paints, varnishes, and allied products.....	36.9	36.9	37.4	39.0	38.7	38.5	37.2	36.7	36.5	36.2	35.9	36.2	36.6	36.9	36.3
Agricultural chemicals.....	32.3	33.3	31.8	31.6	31.5	35.7	40.7	44.5	40.2	35.1	33.3	32.1	31.2	34.6	34.0
Other chemical products.....	60.8	60.2	60.1	60.1	59.6	57.9	55.9	54.9	54.1	51.9	51.3	50.7	50.4	50.0	49.3
Petroleum refining and related industries.....	114.3	114.7	116.2	118.2	118.2	117.0	113.7	111.9	110.3	109.8	109.5	110.9	112.0	112.4	114.2
Petroleum refining.....	89.4	88.9	89.3	90.4	90.3	89.6	87.9	87.6	87.4	87.4	87.1	87.7	87.9	88.3	90.4
Other petroleum and coal products.....	24.9	25.8	26.9	27.8	27.9	27.4	25.8	24.3	22.9	22.4	22.4	23.2	24.1	24.1	23.8
Rubber and miscellaneous plastic products.....	419.3	414.9	409.2	406.1	395.1	400.5	393.4	390.8	387.6	384.2	385.0	386.6	384.2	366.6	336.3
Tires and inner tubes.....	77.9	77.3	77.2	77.4	77.3	76.6	75.5	74.2	74.0	73.8	74.9	75.5	75.3	72.7	70.9
Other rubber products.....	147.8	145.9	145.0	143.0	140.0	143.2	142.4	141.0	141.5	141.1	142.2	142.2	141.1	136.4	128.6
Miscellaneous plastic products.....	193.6	191.7	187.0	185.7	177.8	180.7	175.5	175.6	172.1	169.3	167.9	168.9	167.8	157.5	136.8
Leather and leather products.....	311.1	309.9	312.4	319.9	306.0	317.9	312.4	310.7	315.1	316.5	311.1	312.9	312.5	308.3	305.5
Leather tanning and finishing.....	27.2	26.8	27.2	27.9	27.2	27.8	27.5	27.5	27.8	28.1	28.3	28.4	28.1	27.5	27.5
Footwear, except rubber.....	206.8	206.1	208.8	214.9	207.8	213.7	210.3	208.9	212.6	214.1	211.2	210.7	208.2	207.8	204.8
Other leather products.....	77.1	77.0	76.4	77.1	71.0	76.4	74.6	74.3	74.7	74.3	71.6	73.8	76.2	73.0	73.3
Handbags and personal leather goods.....	33.0	32.2	32.5	32.9	29.0	31.5	29.9	30.3	31.6	31.2	29.4	30.3	32.1	30.7	32.3
<b>Transportation and public utilities:</b>															
Local and interurban passenger transit:															
Local and suburban transportation.....	76.9	76.7	75.2	75.5	75.7	76.0	76.5	77.2	77.1	77.2	77.5	77.7	77.8	77.8	79.3
Intercity and rural bus lines.....	39.4	40.4	41.2	40.6	36.3	38.7	38.0	37.5	37.2	38.1	38.4	38.1	38.1	38.7	38.7
Motor freight transportation and storage.....	956.4	956.0	942.0	942.4	935.7	901.5	886.3	882.5	874.1	865.5	904.9	912.2	878.2	836.7	836.7
Public warehousing.....	78.2	72.8	71.6	69.7	69.9	67.2	66.1	68.1	67.7	68.9	74.6	79.1	70.7	72.4	72.4
Pipeline transportation.....	15.4	15.8	16.3	16.3	16.3	15.6	15.6	15.6	15.7	15.8	15.9	15.9	16.3	16.9	16.9
Communication.....	740.5	742.9	754.7	750.4	735.0	720.2	716.4	710.6	705.6	702.5	705.8	705.8	703.8	698.1	674.5
Telephone communication.....	624.3	626.9	638.2	634.0	619.9	606.7	603.0	598.4	593.8	591.2	593.0	591.6	587.2	565.9	565.9
Telegraph communication.....	23.0	23.0	23.1	23.1	22.8	22.7	22.5	22.4	22.3	22.2	22.3	22.2	22.2	22.2	22.9
Radio and television broadcasting.....	91.1	90.9	91.3	91.2	90.2	88.7	88.8	87.7	87.4	87.1	88.4	88.1	86.8	84.0	84.0
Electric, gas, and sanitary services.....	546.4	556.7	567.5	567.1	559.7	545.1	544.7	542.4	540.8	541.9	543.6	540.8	544.0	535.1	535.1
Electric companies and systems.....	218.9	222.0	226.1	225.3	222.5	216.6	216.3	215.1	214.2	214.3	214.7	211.7	214.8	211.7	211.7
Gas companies and systems.....	134.2	137.1	140.2	140.4	138.5	133.7	134.0	134.0	134.1	134.6	135.4	135.5	135.7	134.5	134.5
Combined utility systems.....	156.3	160.0	162.9	163.1	161.0	157.9	157.9	157.3	156.9	157.1	157.7	157.8	158.1	155.5	155.5
Water, steam, and sanitary systems.....	37.0	37.6	38.3	38.3	37.7	36.9	36.5	36.0	35.6	35.9	35.8	35.8	35.3	33.4	33.4
<b>Wholesale and retail trade:</b>															
Wholesale trade.....	12,095	11,923	11,802	11,787	11,798	11,815	11,643	11,595	11,419	11,339	11,433	12,363	11,686	11,326	10,869
Motor vehicles and automotive equipment.....	2,984	2,980	2,960	2,984	2,977	2,945	2,875	2,864	2,855	2,850	2,856	2,902	2,833	2,818	2,719
Drugs, chemicals, and allied products.....	220.2	221.1	223.7	223.0	221.8	219.7	218.6	218.0	217.4	218.3	219.1	218.2	214.9	206.8	206.8
Dry goods and apparel.....	174.6	172.6	174.1	172.7	171.5	168.3	167.8	167.8	167.8	167.7	167.0	170.4	168.0	164.2	159.0
Groceries and related products.....	123.0	122.6	122.1	120.7	120.9	118.9	117.7	118.6	117.6	115.0	117.0	117.1	114.2	110.4	110.4
Electrical goods.....	465.1	452.4	454.6	468.6	467.1	443.8	436.8	436.5	436.0	447.0	460.3	462.5	449.0	439.9	439.9
Hardware, plumbing, and heating goods.....	228.1	227.3	233.1	232.3	226.9	223.8	224.2	222.6	221.4	219.2	220.0	216.8	214.0	203.5	203.5
Machinery, equipment, and supplies.....	135.6	134.7	136.4	135.6	134.7	132.2	131.9	131.3	131.4	130.9	131.7	131.7	128.5	125.1	125.1
Miscellaneous wholesalers.....	535.3	537.2	542.9	541.1	531.4	519.6	517.7	512.3	507.5	503.6	502.1	500.0	490.6	465.4	465.4
See footnotes at end of table.	1,009.8	1,005.1	1,011.9	1,011.9	1,009.2	996.9	977.7	976.4	972.1	970.3	966.3	980.6	975.6	956.2	920.0



TABLE A-10. Production or nonsupervisory workers in nonagricultural establishments, by industry<sup>1</sup>—Continued

Industry	[In thousands]												Revised series; see box below.			
	1966												1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>3</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964	
<b>Wholesale and retail trade—Continued</b>																
Retail trade.....	9, 111	8, 943	8, 842	8, 803	8, 821	8, 870	8, 768	8, 731	8, 564	8, 489	8, 577	9, 461	8, 803	8, 508	8, 151	
General merchandise stores.....	1, 845.4	1, 779.6	1, 734.8	1, 731.7	1, 731.7	1, 750.1	1, 732.7	1, 729.2	1, 690.3	1, 669.9	1, 758.1	2, 331.1	1, 908.2	1, 721.2	1, 613.0	
Department stores.....	1, 159.5	1, 113.2	1, 084.6	1, 087.5	1, 100.8	1, 089.4	1, 083.6	1, 061.3	1, 048.0	1, 108.7	1, 108.7	1, 487.9	1, 196.2	1, 076.0	998.0	
Mail order houses.....	122.5	112.2	108.7	107.0	106.6	105.1	106.7	108.5	110.7	122.5	155.2	140.7	140.7	112.1	101.3	
Limited price variety stores.....	307.7	301.3	287.1	283.7	289.3	292.9	296.8	287.2	279.0	291.1	390.3	319.8	319.8	293.4	285.4	
Food stores.....	1, 464.3	1, 443.8	1, 431.4	1, 438.9	1, 440.0	1, 433.0	1, 425.6	1, 425.6	1, 419.4	1, 410.5	1, 432.3	1, 401.4	1, 401.4	1, 368.7	1, 320.9	
Grocery, meat, and vegetable stores.....	1, 296.0	1, 278.6	1, 289.1	1, 276.8	1, 274.5	1, 267.8	1, 259.2	1, 262.1	1, 253.4	1, 249.2	1, 258.6	1, 235.8	1, 235.8	1, 204.8	1, 160.6	
Apparel and accessories stores.....	598.2	586.6	567.0	567.7	585.7	579.6	596.0	559.1	551.1	572.2	706.1	592.3	592.3	575.0	557.0	
Men's and boys' apparel stores.....	99.5	97.7	96.2	96.7	98.9	95.5	95.7	93.7	96.8	101.3	126.7	97.9	97.9	94.6	90.2	
Women's ready-to-wear stores.....	221.4	213.6	211.7	209.2	215.9	216.0	215.3	208.1	203.8	212.5	256.7	220.4	213.7	213.7	209.1	
Family clothing stores.....	96.2	94.6	90.6	93.2	94.8	90.6	91.1	88.8	88.9	93.3	122.3	96.7	96.7	95.4	95.6	
Shoe stores.....	113.1	114.1	106.1	107.0	110.4	111.9	127.5	104.7	100.4	104.4	125.5	109.0	108.1	102.7	102.7	
Furniture and appliance stores.....	379.3	375.5	375.3	375.1	373.6	370.3	369.4	369.8	369.0	370.3	388.7	375.0	363.6	349.8	349.8	
Furniture and home furnishings.....	241.9	240.3	239.5	241.5	240.5	237.4	236.1	235.9	235.6	236.9	250.7	241.1	234.4	225.8	225.8	
Eating and drinking places.....	1, 913.7	1, 918.0	1, 932.4	1, 934.8	1, 940.2	1, 903.9	1, 869.4	1, 819.2	1, 819.2	1, 789.3	1, 771.6	1, 809.2	1, 810.5	1, 806.0	1, 722.0	
Other retail trade.....	2, 742.2	2, 738.8	2, 762.0	2, 772.0	2, 780.0	2, 748.7	2, 741.2	2, 700.3	2, 690.5	2, 694.7	2, 793.4	2, 715.9	2, 672.8	2, 587.8	2, 587.8	
Building materials and hardware.....	468.7	473.0	486.7	492.3	490.9	476.6	473.7	461.6	452.8	458.1	473.1	473.9	467.1	460.5	460.5	
Motor vehicle dealers.....	636.8	634.5	638.9	642.0	640.8	636.9	639.0	639.7	638.4	638.2	637.9	635.5	626.0	596.8	596.8	
Other vehicle and accessory dealers.....	164.6	165.8	169.0	168.1	166.3	162.9	159.6	154.1	152.5	155.8	166.5	162.0	154.9	144.4	144.4	
Drug stores.....	383.6	381.2	377.9	376.5	379.1	375.7	375.8	372.7	371.9	374.7	395.4	375.1	366.2	354.8	354.8	
Fuel and ice dealers.....	94.9	90.1	88.9	88.8	89.7	91.6	95.2	100.0	104.3	104.0	102.4	98.2	95.9	95.6	95.6	
<b>Finance, insurance, real estate<sup>4</sup></b>	2, 466	2, 473	2, 485	2, 522	2, 526	2, 493	2, 454	2, 441	2, 431	2, 413	2, 410	2, 432	2, 430	2, 425	2, 386	
Banking.....	691.5	692.8	701.9	698.3	685.1	671.9	671.3	660.1	660.1	663.2	665.3	668.9	666.8	662.6	645.9	
Credit agencies other than banks.....	264.4	265.3	269.5	269.7	266.9	265.2	265.5	266.3	265.3	265.3	266.9	267.4	265.9	263.3	254.1	
Savings and loan associations.....	75.6	75.4	77.4	78.4	77.5	77.6	78.8	78.8	78.8	80.0	79.7	79.7	79.7	78.2	78.2	
Security dealers and exchanges.....	124.1	124.5	128.5	127.7	125.5	123.2	121.7	120.6	117.9	115.2	115.8	114.8	113.8	111.6	111.6	
Insurance carriers.....	639.4	641.2	647.5	645.4	635.5	628.2	628.5	629.0	626.9	626.6	631.0	631.0	632.7	638.9	638.9	
Life insurance.....	278.7	279.8	282.6	282.2	277.8	276.0	277.4	277.4	277.5	277.7	279.9	279.9	281.7	283.7	283.7	
Accident and health insurance.....	56.5	55.4	55.5	54.4	52.1	49.9	49.0	48.3	47.5	47.1	47.0	46.7	46.5	47.0	47.0	
Fire, marine, and casualty insurance.....	271.9	273.3	275.9	274.5	271.4	268.2	268.0	269.2	267.7	267.4	268.9	269.3	269.3	271.3	271.3	
<b>Services and miscellaneous:</b>																
Hotels and lodging places:																
Hotels, tourist courts, and motels.....	548.5	573.0	610.5	612.9	585.7	556.5	541.9	524.4	522.0	510.8	515.0	518.9	541.8	532.4	532.4	
Personal services:																
Laundries, cleaning and dyeing plants.....	502.7	499.7	508.2	512.0	511.5	499.7	494.3	489.0	484.7	486.8	490.3	492.9	490.3	474.4	474.4	
Motion pictures:																
Motion picture filming and distribu- tion.....	34.8	33.8	35.9	36.6	32.9	28.8	28.6	29.5	29.7	32.1	34.8	32.1	30.3	27.2	27.2	

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, and coverage of these series, see footnote 1, table A-9. 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.

*Production and related workers* include working foremen and all nonsupervisory workers (including leadmen and trainees) engaged in fabricating, processing, assembling, inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, janitorial, and 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.

*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 preerecting and preassembling) ordinarily performed by members of the construction trades.

*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>2</sup> Preliminary.

<sup>3</sup> Data relate to nonsupervisory employees except messengers.

<sup>4</sup> Nonoffice salesmen excluded from nonsupervisory count for all series in this division.

### 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 1966. (See footnote 1, table A-9, and "BLS Establishment Employment Estimates Revised to March 1965 Benchmark Levels" appearing in the September 1966 issue of *Employment and Earnings* and *Monthly Report on the Labor Force*.) 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, 1909-66* (BLS Bulletin 1312-4), which is available at depository libraries or which may be purchased from the Superintendent of Documents for \$4.50 a copy. For an individual industry, earlier data may be obtained upon request to the Bureau.

TABLE A-11. Employees in nonagricultural establishments, by industry division and selected groups, seasonally adjusted<sup>1</sup>

[In thousands]

Revised series; see box, p. 94.

Industry division and group	1966											1965	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.
Total	64,699	64,428	64,168	64,199	64,072	63,983	63,517	63,350	63,247	62,811	62,469	62,241	61,864
Mining	623	625	628	636	636	632	628	595	637	634	635	633	631
Contract construction	3,191	3,203	3,228	3,251	3,297	3,300	3,238	3,333	3,419	3,323	3,318	3,334	3,234
Manufacturing	19,408	19,315	19,204	19,262	19,128	19,167	19,002	18,923	18,840	18,722	18,566	18,492	18,392
Durable goods	11,423	11,386	11,322	11,324	11,210	11,220	11,122	11,065	11,007	10,911	10,805	10,725	10,641
Ordnance and accessories	269	266	262	260	257	257	253	249	245	243	238	232	234
Lumber and wood products, except furniture	606	606	609	621	622	628	623	633	642	633	638	626	618
Furniture and fixtures	463	460	459	462	456	458	456	451	451	448	446	442	437
Stone, clay, and glass products	635	634	633	637	643	641	643	647	649	646	648	642	635
Primary metal industries	1,353	1,352	1,341	1,351	1,338	1,333	1,315	1,307	1,300	1,295	1,290	1,284	1,280
Fabricated metal products	1,376	1,363	1,357	1,360	1,346	1,348	1,341	1,345	1,344	1,332	1,322	1,310	1,304
Machinery	1,918	1,911	1,903	1,901	1,888	1,865	1,846	1,827	1,818	1,810	1,797	1,786	1,779
Electrical equipment and supplies	1,967	1,962	1,941	1,948	1,903	1,904	1,877	1,860	1,824	1,805	1,773	1,751	1,727
Transportation equipment	1,953	1,952	1,945	1,910	1,888	1,915	1,901	1,887	1,881	1,853	1,819	1,807	1,795
Instruments and related products	439	438	432	431	430	428	424	418	415	412	406	401	397
Miscellaneous manufacturing industries	444	442	440	443	439	443	443	441	438	434	428	444	435
Nondurable goods	7,985	7,929	7,882	7,938	7,918	7,947	7,880	7,858	7,833	7,811	7,761	7,767	7,751
Food and kindred products	1,779	1,753	1,737	1,765	1,763	1,760	1,748	1,767	1,762	1,762	1,758	1,758	1,776
Tobacco manufactures	86	78	79	80	85	86	85	86	86	85	85	86	85
Textile mill products	954	950	952	957	955	957	952	950	948	945	942	939	935
Apparel and related products	1,405	1,402	1,390	1,395	1,388	1,424	1,412	1,396	1,386	1,384	1,356	1,381	1,370
Paper and allied products	683	676	670	677	679	674	665	664	662	661	657	654	650
Printing, publishing, and allied industries	1,042	1,039	1,035	1,035	1,031	1,026	1,018	1,017	1,009	1,007	1,003	997	995
Chemicals and allied products	970	970	965	968	963	961	945	937	936	932	927	924	919
Petroleum refining and related industries	183	182	182	184	186	183	183	182	181	181	182	182	182
Rubber and miscellaneous plastic products	529	524	517	520	518	515	508	506	500	496	494	492	486
Leather and leather products	354	355	355	357	350	361	364	363	358	358	357	354	353
Transportation and public utilities	4,180	4,163	4,168	4,105	4,122	4,143	4,132	4,114	4,109	4,105	4,091	4,083	4,080
Wholesale and retail trade	13,355	13,331	13,268	13,264	13,256	13,217	13,164	13,128	13,085	13,045	13,009	12,941	12,880
Wholesale trade	3,500	3,486	3,474	3,483	3,483	3,470	3,445	3,434	3,422	3,404	3,391	3,378	3,367
Retail trade	9,855	9,845	9,794	9,781	9,773	9,747	9,719	9,694	9,663	9,641	9,618	9,563	9,513
Finance, insurance, and real estate	3,107	3,102	3,100	3,100	3,095	3,090	3,076	3,068	3,064	3,051	3,052	3,049	3,045
Service and miscellaneous	9,770	9,706	9,649	9,647	9,609	9,549	9,515	9,484	9,463	9,410	9,363	9,329	9,282
Government	11,065	10,983	10,923	10,934	10,929	10,885	10,762	10,705	10,630	10,521	10,435	10,380	10,320
Federal	2,608	2,589	2,594	2,610	2,601	2,571	2,523	2,501	2,477	2,451	2,423	2,397	2,400
State and local	8,457	8,394	8,329	8,324	8,328	8,314	8,239	8,204	8,153	8,070	8,012	7,983	7,920

<sup>1</sup> For coverage of the series, see footnote 1, table A-9.<sup>2</sup> Preliminary.NOTE: The seasonal adjustment method used is described in *The BLS Seasonal Factor Method* (1966) which may be obtained from the Bureau on request.TABLE A-12. Production workers in manufacturing industries, by major industry group, seasonally adjusted<sup>1</sup>

[In thousands]

Revised series; see box, p. 94.

Major industry group	1966											1965	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.
Manufacturing	14,441	14,358	14,268	14,330	14,201	14,281	14,154	14,100	14,048	13,967	13,833	13,779	13,706
Durable goods	8,470	8,445	8,395	8,395	8,293	8,328	8,261	8,226	8,190	8,123	8,033	7,973	7,905
Ordnance and accessories	131	128	126	124	122	120	118	114	112	110	106	100	101
Lumber and wood products, except furniture	527	528	531	542	543	550	546	554	563	556	557	549	542
Furniture and fixtures	383	381	380	382	378	381	379	374	375	372	370	367	362
Stone, clay, and glass products	506	508	507	512	515	515	516	521	525	520	525	516	509
Primary metal industries	1,105	1,104	1,092	1,100	1,090	1,086	1,070	1,066	1,058	1,055	1,051	1,044	1,043
Fabricated metal products	1,073	1,062	1,055	1,060	1,043	1,048	1,046	1,049	1,047	1,039	1,029	1,020	1,015
Machinery	1,355	1,348	1,339	1,338	1,331	1,312	1,299	1,284	1,278	1,274	1,262	1,256	1,250
Electrical equipment and supplies	1,369	1,364	1,350	1,353	1,320	1,327	1,308	1,297	1,268	1,260	1,233	1,216	1,195
Transportation equipment	1,389	1,391	1,389	1,353	1,324	1,358	1,351	1,344	1,344	1,323	1,296	1,290	1,284
Instruments and related products	279	280	277	278	277	276	273	270	269	266	261	258	255
Miscellaneous manufacturing industries	353	351	349	353	350	355	355	353	351	348	343	357	349
Nondurable goods	5,971	5,913	5,873	5,935	5,908	5,953	5,893	5,874	5,858	5,844	5,800	5,806	5,801
Food and kindred products	1,188	1,158	1,145	1,170	1,165	1,166	1,154	1,163	1,174	1,169	1,163	1,163	1,182
Tobacco manufactures	73	66	67	68	73	74	73	74	74	73	73	73	72
Textile mill products	851	847	848	856	850	854	850	847	846	843	842	838	835
Apparel and related products	1,249	1,247	1,234	1,239	1,232	1,268	1,257	1,239	1,230	1,231	1,204	2,229	1,220
Paper and allied products	533	525	520	528	530	525	519	518	515	514	512	509	506
Printing, publishing, and allied industries	660	660	657	659	656	654	648	647	642	641	639	633	633
Chemicals and allied products	580	577	575	582	577	578	564	559	560	558	555	553	551
Petroleum refining and related industries	115	114	114	115	115	115	113	113	112	113	113	113	113
Rubber and miscellaneous plastic products	413	409	403	406	403	403	396	395	390	387	386	384	379
Leather and leather products	309	310	310	312	307	316	319	319	315	315	313	311	310

<sup>1</sup> For definition of production workers, see footnote 1, table A-10.<sup>2</sup> Preliminary.NOTE: The seasonal adjustment method used is described in *The BLS Seasonal Factor Method* (1966) which may be obtained from the Bureau on request.

TABLE A-13. Unemployment insurance and employment service program operations <sup>1</sup>

[All items except average benefit amounts are in thousands]

Item	1966										1965		
	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.
Employment service: <sup>2</sup>													
New applications for work-----	819	801	869	896	1,314	906	806	850	852	905	707	795	806
Nonfarm placements-----	592	619	619	549	622	568	533	547	460	452	462	531	611
State unemployment insurance programs:													
Initial claims <sup>3,4</sup> -----	709	626	826	1,019	690	665	693	769	985	1,399	1,285	1,004	791
Insured unemployment <sup>5</sup> (average weekly volume) <sup>6</sup> -----	753	755	928	947	793	862	1,044	1,301	1,590	1,644	1,307	1,033	916
Rate of insured unemployment <sup>7</sup> -----	1.6	1.6	2.0	2.1	1.8	1.9	2.3	2.9	3.6	3.7	3.0	2.3	2.0
Weeks of unemployment compensated-----	2,476	2,817	3,639	3,022	3,087	3,385	4,098	5,852	5,653	5,587	4,555	3,495	3,129
Average weekly benefit amount for total unemployment-----	\$39.84	\$39.68	\$40.65	\$39.05	\$38.72	\$38.86	\$39.38	\$39.83	\$39.66	\$39.36	\$38.81	\$38.08	\$37.32
Total benefits paid-----	\$93,697	\$106,548	\$143,058	\$113,812	\$114,358	\$126,149	\$155,494	\$225,472	\$217,171	\$212,659	\$172,110	\$132,158	\$117,784
Unemployment compensation for ex-service-men: <sup>8,9</sup>													
Initial claims <sup>3,6</sup> -----	13	12	16	17	14	12	13	17	18	20	20	18	16
Insured unemployment <sup>6</sup> (average weekly volume)-----	14	15	19	19	17	18	22	27	31	32	29	25	24
Weeks of unemployment compensated-----	51	63	81	63	72	76	92	121	120	126	111	94	95
Total benefits paid-----	\$2,117	\$2,561	\$3,204	\$2,443	\$2,872	\$2,936	\$3,558	\$4,620	\$4,572	\$4,816	\$4,278	\$3,654	\$3,712
Unemployment compensation for Federal civilian employees: <sup>9,10</sup>													
Initial claims <sup>3</sup> -----	9	7	8	11	9	7	7	8	11	19	12	10	10
Insured unemployment <sup>5</sup> (average weekly volume)-----	16	16	18	19	18	18	21	26	29	29	23	21	20
Weeks of unemployment compensated-----	60	67	79	65	79	78	92	118	109	100	94	82	74
Total benefits paid-----	\$2,466	\$2,731	\$3,239	\$2,645	\$3,255	\$3,217	\$3,718	\$4,717	\$4,319	\$3,973	\$3,740	\$3,336	\$3,141
Railroad unemployment insurance:													
Applications <sup>11</sup> -----	6	7	8	18	25	42	6	5	4	11	14	9	7
Insured unemployment (average weekly volume)-----	16	16	15	16	15	18	23	26	28	30	28	25	22
Number of payments <sup>12</sup> -----	34	36	35	31	54	77	53	69	54	68	66	52	50
Average amount of benefit payment <sup>13</sup> -----	\$71.99	\$72.07	\$74.96	\$72.16	\$60.07	\$50.55	\$69.79	\$77.68	\$79.10	\$77.32	\$71.04	\$75.89	\$74.20
Total benefits paid <sup>14</sup> -----	\$2,126	\$2,422	\$2,499	\$2,138	\$2,913	\$3,750	\$3,606	\$5,154	\$4,148	\$5,092	\$4,587	\$3,840	\$3,550
All programs: <sup>15</sup>													
Insured unemployment <sup>6</sup> -----	799	802	980	1,001	841	916	1,112	1,381	1,679	1,739	1,394	1,123	1,013

<sup>1</sup> Includes data for Puerto Rico beginning January 1961 when the Commonwealth'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 transitions claims under State programs.

<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 sugarcane 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-servicemen 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>

[Per 100 employees]

Revised series; see box, p. 94.

Major industry group	1966										1965			Annual average	
	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	1965	1964
Accessions: Total															
Manufacturing:															
Actual.....	5.0	6.1	6.4	5.1	6.7	5.1	4.6	4.9	4.2	4.6	3.1	3.9	4.5	4.3	4.0
Seasonally adjusted.....	5.0	5.0	5.1	4.6	5.3	5.1	4.8	5.2	4.9	4.9	4.8	4.9	4.5	-----	-----
Durable goods.....	4.7	5.9	6.2	4.5	6.5	4.9	4.6	4.9	4.2	4.7	3.1	3.9	4.2	4.1	3.7
Ordnance and accessories.....	3.7	4.3	4.2	3.8	4.8	3.6	3.6	3.7	3.4	3.5	2.0	2.8	3.4	2.9	2.0
Lumber and wood products, except furniture.....	5.6	6.9	7.0	6.4	10.2	8.6	8.8	7.3	5.9	6.1	3.7	4.9	5.4	6.0	5.3
Furniture and fixtures.....	7.0	8.5	8.9	6.8	7.8	6.8	6.3	6.5	5.6	5.6	3.8	5.3	6.2	5.5	4.8
Stone, clay, and glass products.....	3.7	4.5	5.0	4.6	6.7	5.3	5.5	5.7	3.8	4.0	2.4	2.8	3.4	4.0	3.8
Primary metal industries.....	3.1	3.8	4.4	3.0	5.6	3.8	3.4	3.9	3.5	4.0	2.7	3.0	2.5	2.9	3.0
Fabricated metal products.....	5.5	6.2	7.1	5.2	6.9	5.5	5.0	5.2	4.6	5.0	3.2	4.3	4.9	4.6	4.2
Machinery.....	3.9	4.2	4.4	3.8	5.7	3.9	3.6	3.8	3.5	3.9	2.7	3.4	3.3	3.3	3.0
Electrical equipment and supplies.....	5.0	5.5	5.9	4.3	6.2	4.6	4.3	4.7	4.2	4.7	3.4	4.2	4.6	3.9	3.3
Transportation equipment.....	5.1	8.4	9.0	4.5	6.2	4.8	4.2	5.4	4.3	5.2	3.5	4.1	4.8	4.7	4.1
Instruments and related products.....	4.4	4.2	4.3	4.1	5.9	3.9	3.4	3.8	3.5	3.6	2.5	2.9	3.2	3.2	2.8
Miscellaneous manufacturing industries.....	6.8	9.2	8.3	7.7	7.8	7.0	6.8	6.9	6.5	6.7	3.3	4.7	6.3	6.3	5.7
Nondurable goods.....	5.3	6.3	6.7	6.0	7.1	5.3	4.7	4.8	4.2	4.4	3.1	4.0	4.8	4.6	4.3
Food and kindred products.....	7.6	9.2	10.3	9.2	10.2	6.7	5.7	5.5	4.6	4.4	3.4	5.1	6.8	6.1	6.1
Tobacco manufactures.....	5.2	7.1	15.9	9.0	4.8	3.7	3.0	4.2	4.5	4.9	7.7	4.2	4.8	6.0	6.8
Textile mill products.....	5.2	5.9	6.3	5.3	6.3	5.5	5.5	5.3	4.4	4.6	3.1	4.0	4.6	4.3	3.8
Apparel and related products.....	5.6	6.7	7.5	7.4	7.0	6.8	5.6	5.8	5.8	6.4	3.7	4.9	5.7	5.8	5.5
Paper and allied products.....	4.3	4.8	4.4	3.9	6.8	4.3	3.7	3.8	3.2	3.3	2.3	2.9	3.4	3.2	2.8
Printing, publishing, and allied industries.....	4.0	4.9	4.4	3.7	5.5	3.8	3.4	3.5	3.2	3.2	2.5	3.0	3.4	3.2	3.1
Chemicals and allied products.....	2.6	3.0	2.8	2.6	5.1	3.1	2.8	3.4	2.6	2.5	1.7	2.0	2.1	2.4	2.1
Petroleum refining and related industries.....	1.6	2.0	2.0	2.2	4.5	2.3	2.3	1.9	1.5	1.9	1.3	1.3	1.6	1.8	1.6
Rubber and miscellaneous plastic products.....	5.7	6.9	7.1	5.9	7.3	5.4	4.9	5.3	4.4	4.7	3.1	4.4	4.9	4.4	3.9
Leather and leather products.....	6.6	6.6	7.3	7.5	7.4	6.5	5.5	6.0	6.1	7.1	4.4	5.5	5.5	5.4	5.1
Nonmanufacturing:															
Metal mining.....	2.6	3.0	3.6	3.2	6.4	3.9	3.4	2.9	2.9	3.3	2.5	2.8	2.6	3.2	3.2
Coal mining.....	1.9	1.8	2.2	1.6	1.8	1.7	1.7	1.7	1.4	1.8	1.1	1.5	1.8	1.7	1.7
Accessions: New hires															
Manufacturing:															
Actual.....	4.1	4.7	4.8	3.9	5.6	4.1	3.6	3.7	3.1	3.2	2.2	2.9	3.5	3.1	2.6
Seasonally adjusted.....	3.9	3.6	3.7	3.5	4.0	4.0	3.9	4.3	3.9	3.8	3.8	3.6	3.3	-----	-----
Durable goods.....	4.0	4.5	4.5	3.5	5.5	4.0	3.7	3.8	3.2	3.3	2.3	2.9	3.4	3.0	2.4
Ordnance and accessories.....	3.4	3.7	3.4	3.1	4.1	3.0	2.8	2.9	2.7	2.7	1.3	1.7	2.1	1.8	1.1
Lumber and wood products, except furniture.....	4.9	6.1	6.3	5.8	9.2	7.4	7.0	6.0	4.5	4.4	3.1	4.3	4.8	4.8	4.1
Furniture and fixtures.....	6.5	7.6	7.9	6.0	7.1	6.2	5.6	5.9	4.9	4.9	3.3	4.6	5.4	4.7	3.9
Stone, clay, and glass products.....	3.1	3.8	4.1	3.7	5.7	4.3	4.1	3.8	2.6	2.5	1.5	2.1	2.8	2.7	2.4
Primary metal industries.....	2.6	3.2	3.1	2.3	4.7	3.1	2.7	2.7	2.1	2.0	1.3	1.6	1.7	2.0	1.8
Fabricated metal products.....	4.9	5.4	5.4	4.0	5.9	4.6	4.1	4.2	3.6	3.7	2.5	3.4	4.0	3.5	2.9
Machinery.....	3.4	3.7	3.5	2.9	4.9	3.3	3.1	3.2	3.0	3.2	2.1	2.6	2.7	2.6	2.2
Electrical equipment and supplies.....	4.3	4.7	4.6	3.4	5.3	3.9	3.6	3.9	3.4	3.7	2.7	3.3	3.7	2.9	2.1
Transportation equipment.....	3.7	4.1	4.0	3.1	4.7	3.4	3.0	3.3	3.0	3.2	2.3	2.8	3.5	2.8	2.2
Instruments and related products.....	4.0	3.8	3.8	3.3	5.4	3.4	3.1	3.3	3.0	3.1	2.1	2.5	2.8	2.6	1.9
Miscellaneous manufacturing industries.....	5.9	8.2	7.2	5.4	6.3	5.4	5.2	5.0	4.3	4.0	2.5	3.9	5.3	4.5	3.8
Nondurable goods.....	4.2	5.0	5.2	4.4	5.7	4.1	3.6	3.6	3.0	3.0	2.1	2.9	3.6	3.2	2.8
Food and kindred products.....	5.6	7.0	7.9	7.0	7.6	4.8	3.8	3.4	2.8	2.7	2.1	3.3	4.8	4.1	3.8
Tobacco manufactures.....	3.4	4.8	10.0	4.0	3.2	2.3	1.8	2.0	1.8	2.0	4.5	1.2	3.2	3.3	3.7
Textile mill products.....	4.2	4.9	5.2	4.0	5.3	4.6	4.5	4.2	3.4	3.4	2.4	3.2	3.8	3.3	2.7
Apparel and related products.....	4.1	5.0	5.4	4.5	5.2	4.6	4.1	4.4	3.7	3.9	2.2	3.3	4.0	3.7	3.3
Paper and allied products.....	3.9	4.4	3.9	3.4	6.0	3.8	3.2	3.2	2.6	2.6	1.8	2.4	3.0	2.5	2.0
Printing, publishing, and allied industries.....	3.5	4.1	3.7	3.1	4.6	3.2	2.9	2.8	2.6	2.6	1.9	2.4	2.9	2.6	2.4
Chemicals and allied products.....	2.2	2.6	2.4	2.1	4.5	2.6	2.4	2.8	2.0	1.9	1.2	1.5	1.7	1.9	1.6
Petroleum refining and related industries.....	1.3	1.8	1.7	2.0	3.8	1.9	1.7	1.5	1.2	1.2	.8	1.0	1.4	1.4	1.1
Rubber and miscellaneous plastic products.....	5.1	6.1	5.7	4.4	6.4	4.6	4.1	4.3	3.5	3.5	2.5	3.6	4.0	3.4	2.6
Leather and leather products.....	5.0	5.3	5.6	5.3	6.4	5.1	4.3	4.7	4.3	5.1	3.3	4.2	4.3	3.9	3.4
Nonmanufacturing:															
Metal mining.....	2.3	2.5	2.7	2.7	5.2	2.6	2.1	2.0	2.0	1.9	1.8	1.9	2.0	2.2	2.1
Coal mining.....	1.2	1.2	1.4	1.1	1.1	1.1	1.0	1.1	.9	1.0	.7	.9	1.1	.9	.9

See footnotes at end of table.

TABLE B-1. Labor turnover rates, by major industry group<sup>1</sup>—Continued

Major industry group	[Per 100 employees]											Revised series; see box, p. 94.				
	1966											1965			Annual average	
	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	1965	1964	
Separations: Total																
Manufacturing:																
Actual.....	4.8	6.6	5.8	5.3	4.4	4.3	4.3	4.1	3.6	4.0	4.1	3.9	4.4	4.1		
Seasonally adjusted.....	4.5	5.1	4.8	5.0	4.9	4.7	4.7	4.6	4.4	4.1	4.3	4.0	4.1	3.9		
Durable goods.....	4.4	6.1	5.5	5.4	4.2	4.1	3.9	3.8	3.5	3.7	3.7	3.6	4.1	3.8		
Ordinance and accessories.....	2.4	4.0	3.1	3.0	2.5	2.7	2.7	2.4	2.1	2.1	1.6	2.1	2.4	2.5		
Lumber and wood products, except furniture.....	7.3	9.4	8.6	6.6	6.7	7.0	7.1	7.3	5.4	6.3	6.7	6.2	6.1	6.1		
Furniture and fixtures.....	6.3	8.3	8.4	6.4	6.0	6.1	6.2	6.1	5.2	5.0	4.3	4.7	5.6	5.1		
Stone, clay, and glass products.....	4.5	6.8	5.9	4.5	4.2	4.2	4.1	3.7	3.7	4.5	4.3	4.0	4.1	3.9		
Primary metal industries.....	3.5	5.6	4.3	3.6	2.8	2.9	2.6	2.6	2.3	2.6	2.9	3.5	4.8	3.0		
Fabricated metal products.....	5.4	7.0	6.3	5.4	5.0	5.1	4.7	4.5	4.1	4.2	3.9	3.9	4.8	4.2		
Machinery.....	3.4	5.1	4.5	3.8	3.3	3.2	3.3	3.1	2.6	3.0	2.3	2.5	3.0	2.8		
Electrical equipment and supplies.....	4.1	5.8	4.5	4.0	3.8	3.6	3.4	3.5	3.0	3.2	2.9	2.8	3.2	3.1		
Transportation equipment.....	4.4	5.3	6.4	9.8	4.8	4.1	3.9	3.8	4.2	3.8	3.9	3.4	4.0	4.3		
Instruments and related products.....	3.6	4.9	3.7	3.3	3.0	2.8	2.9	2.8	2.5	2.7	2.2	2.2	3.1	2.7		
Miscellaneous manufacturing industries.....	5.8	8.6	7.2	6.6	5.4	5.7	5.4	5.0	4.6	6.3	10.9	6.8	5.7	5.9		
Nondurable goods.....	5.3	7.3	6.1	5.3	4.6	4.5	4.7	4.4	3.8	4.5	4.6	4.4	4.9	4.4		
Food and kindred products.....	8.0	11.0	7.9	6.2	5.6	5.5	5.6	5.6	5.1	5.8	6.8	6.8	7.9	6.1		
Tobacco manufactures.....	4.4	5.6	8.3	5.5	3.4	4.0	6.7	6.1	5.6	9.2	7.2	10.8	8.3	6.4		
Textile mill products.....	5.3	6.7	6.5	5.5	4.7	5.0	5.0	4.7	3.9	4.3	4.0	3.8	4.2	4.1		
Apparel and related products.....	5.7	7.2	7.2	7.9	6.0	5.9	6.6	5.6	4.5	5.8	5.9	5.2	5.5	5.8		
Paper and allied products.....	4.1	6.6	5.1	3.5	3.6	3.4	3.5	3.3	2.9	3.3	3.0	2.9	3.2	3.1		
Printing, publishing, and allied industries.....	3.5	5.1	4.6	3.3	3.5	3.1	3.2	2.9	2.8	3.3	3.1	2.8	3.2	3.1		
Chemicals and allied products.....	2.5	4.6	3.0	2.2	2.6	2.6	2.4	2.3	1.8	2.1	1.9	1.9	2.2	2.2		
Petroleum refining and related industries.....	1.9	3.9	2.6	2.1	2.0	1.8	1.9	1.6	1.5	1.8	1.9	1.9	2.1	1.9		
Rubber and miscellaneous plastic products.....	5.5	7.2	6.2	5.7	4.8	4.8	4.7	4.6	4.0	4.1	3.9	4.1	4.5	4.2		
Leather and leather products.....	6.1	8.4	7.8	8.1	5.7	5.6	6.3	6.2	5.1	6.0	5.6	4.6	5.2	5.3		
Nonmanufacturing:																
Metal mining.....	3.6	6.0	3.8	3.7	2.9	3.1	3.2	3.2	2.4	2.7	3.3	3.2	3.1	3.1		
Coal mining.....	1.8	1.9	1.5	2.5	1.3	1.8	2.2	1.8	1.5	1.7	1.7	1.9	1.7	1.9		
Separations: Quits																
Manufacturing:																
Actual.....	2.8	4.5	3.6	2.5	2.5	2.5	2.5	2.3	1.8	1.9	1.4	1.7	2.2	1.9		
Seasonally adjusted.....	2.6	2.6	2.5	2.5	2.5	2.5	2.7	2.7	2.4	2.3	2.3	2.2	2.0	1.5		
Durable goods.....	2.6	4.2	3.4	2.3	2.3	2.3	2.3	2.2	1.7	1.7	1.3	1.5	2.0	1.7		
Ordinance and accessories.....	1.2	2.6	1.9	1.5	1.5	1.4	1.4	1.3	1.2	1.2	.8	1.0	1.2	1.1		
Lumber and wood products, except furniture.....	4.5	6.9	6.1	4.6	5.0	5.3	5.2	4.3	3.2	2.8	2.5	3.1	4.0	3.4		
Furniture and fixtures.....	4.5	6.5	6.2	4.2	4.0	4.4	4.4	4.3	3.3	3.1	2.4	3.0	3.6	3.1		
Stone, clay, and glass products.....	2.4	4.4	3.6	2.5	2.5	2.4	2.4	2.0	1.6	1.6	1.2	1.5	1.9	1.6		
Primary metal industries.....	1.8	3.8	2.7	1.5	1.5	1.5	1.5	1.4	1.1	1.1	.8	.9	1.2	1.2		
Fabricated metal products.....	3.2	4.8	4.0	2.6	2.7	2.7	2.8	2.5	2.0	2.0	1.5	1.8	2.3	1.9		
Machinery.....	2.0	3.5	2.7	1.9	1.9	1.9	2.0	1.8	1.4	1.5	1.1	1.2	1.5	1.4		
Electrical equipment and supplies.....	2.5	4.2	3.1	2.0	2.3	2.1	2.1	2.1	1.7	1.8	1.4	1.5	1.9	1.6		
Transportation equipment.....	2.2	3.1	2.5	1.8	1.8	1.8	1.7	1.7	1.4	1.4	1.0	1.1	1.5	1.3		
Instruments and related products.....	2.4	3.7	2.6	1.8	1.9	1.7	1.9	1.8	1.5	1.5	1.2	1.3	2.0	1.4		
Miscellaneous manufacturing industries.....	3.8	6.5	4.9	3.3	3.2	3.4	3.2	3.1	2.5	2.5	2.0	2.5	3.3	2.6		
Nondurable goods.....	3.0	5.0	4.0	2.8	2.7	2.7	2.7	2.4	2.0	2.1	1.6	1.9	2.5	2.1		
Food and kindred products.....	3.9	6.7	4.7	3.1	3.0	2.8	2.7	2.4	2.0	2.0	1.7	2.2	3.2	2.4		
Tobacco manufactures.....	2.0	3.4	2.8	1.7	1.4	1.7	1.7	1.7	1.4	1.5	1.1	1.3	1.6	1.5		
Textile mill products.....	3.6	5.1	4.9	3.5	3.4	3.6	3.7	3.3	2.6	2.7	2.0	2.4	2.9	2.5		
Apparel and related products.....	3.3	4.7	4.6	3.7	3.2	3.3	3.2	2.9	2.5	2.8	2.0	2.4	2.9	2.6		
Paper and allied products.....	2.6	5.1	3.5	2.2	2.3	2.2	2.2	2.1	1.6	1.7	1.3	1.5	1.9	1.7		
Printing, publishing, and allied industries.....	2.2	3.7	3.1	2.1	2.3	2.0	2.0	1.8	1.7	1.8	1.3	1.5	1.8	1.7		
Chemicals and allied products.....	1.4	3.3	2.1	1.1	1.3	1.3	1.3	1.2	.9	1.0	.7	.8	1.0	1.0		
Petroleum refining and related industries.....	.9	2.3	1.4	.9	1.0	.9	.9	.7	.5	.5	.5	.5	.8	.7		
Rubber and miscellaneous plastic products.....	3.4	5.3	4.3	2.8	2.9	2.9	3.0	2.8	2.2	2.2	1.7	2.2	2.5	2.1		
Leather and leather products.....	4.4	6.3	5.9	4.4	4.2	3.9	4.0	3.9	3.2	3.3	2.7	2.9	3.5	3.0		
Nonmanufacturing:																
Metal mining.....	1.6	4.8	2.7	2.0	1.8	2.0	2.0	1.6	1.3	1.2	1.2	1.3	1.5	1.7		
Coal mining.....	.8	1.1	.9	.9	.6	.7	.8	.8	.6	.5	.4	.6	.8	.6		

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. 94.

Major industry group	1966										1965			Annual average	
	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	1965	1964
	Separations: Layoffs														
Manufacturing:															
Actual.....	1.1	1.0	1.1	2.0	1.0	0.9	1.0	.7	1.0	1.3	1.9	1.5	1.4	1.4	1.7
Seasonally adjusted.....	1.0	1.1	1.0	1.7	1.3	1.1	1.2	.4	1.2	1.2	1.4	1.3	1.3	1.4	1.7
Durable goods.....	.8	.8	1.1	2.2	.9	.8	.7	1.9	.9	1.1	1.6	1.2	1.2	1.2	1.5
Ordnance and accessories.....	.6	.4	.4	.6	.3	.5	.6	.6	.3	.4	.3	.5	.6	.8	1.8
Lumber and wood products, except furniture.....	1.8	1.3	1.4	.9	.7	.6	.8	.4	1.3	2.6	3.4	2.1	1.2	1.7	1.9
Furniture and fixtures.....	.6	.5	.7	1.1	.9	.5	.6	1.0	.8	.9	1.0	.7	.9	1.0	1.3
Stone, clay, and glass products.....	1.2	1.1	1.0	1.1	.8	.9	.8	1.2	1.4	2.1	2.4	1.8	1.4	1.5	1.7
Primary metal industries.....	.6	.6	.5	1.1	.4	.4	.3	.4	.4	.8	1.3	1.8	2.6	1.0	.8
Fabricated metal products.....	1.0	1.0	1.0	1.7	1.3	1.3	1.0	1.1	1.1	1.2	1.5	1.2	1.4	1.4	1.8
Machinery.....	.4	.6	.8	1.0	.4	.4	.4	.4	.3	.5	.5	.5	.7	.6	.8
Electrical equipment and supplies.....	.5	.4	.3	1.0	.5	.4	.4	.4	.4	.5	.6	.5	.4	.8	1.2
Transportation equipment.....	1.3	1.2	2.8	7.1	2.0	1.3	1.3	1.2	1.9	1.5	2.1	1.4	1.4	2.1	2.3
Instruments and related products.....	.5	.4	.3	.8	.3	.3	.4	.3	.3	.4	.3	.3	.4	.6	.9
Miscellaneous manufacturing industries.....	1.0	.8	1.1	2.3	1.1	1.3	1.1	.9	1.3	2.8	8.1	3.1	1.2	2.3	2.8
Nondurable goods.....	1.4	1.4	1.3	1.7	1.1	1.1	1.3	1.3	1.1	1.7	2.3	1.8	1.7	1.6	1.9
Food and kindred products.....	3.2	3.3	2.3	2.3	1.9	2.1	2.2	2.5	2.4	3.0	4.4	3.9	3.9	2.9	3.3
Tobacco manufactures.....	1.8	1.5	4.8	3.2	1.4	1.7	4.5	3.8	3.8	7.1	5.7	9.1	6.1	4.4	4.9
Textile mill products.....	.7	.6	.6	1.1	.5	.4	.4	.5	.6	.9	1.3	.8	.5	.8	1.1
Apparel and related products.....	1.7	1.6	1.8	3.2	2.0	1.9	2.6	2.0	1.3	2.2	3.3	2.1	1.9	2.4	2.6
Paper and allied products.....	.5	.5	.5	.5	.4	.4	.5	.5	.5	.8	1.0	.7	.6	.8	.9
Printing, publishing, and allied industries.....	.7	.7	.8	.6	.6	.6	.6	.6	.6	.9	1.2	.9	.8	.9	1.0
Chemicals and allied products.....	.5	.6	.3	.5	.7	.7	.5	.6	.4	.6	.7	.6	.6	.7	.8
Petroleum refining and related industries.....	.4	.9	.6	.6	.3	.4	.4	.5	.5	.8	1.0	.9	.7	.6	.7
Rubber and miscellaneous plastic products.....	.9	.6	.6	1.8	.7	.8	.7	.7	.8	.9	1.3	1.0	1.0	1.2	1.5
Leather and leather products.....	.8	1.1	.9	2.7	.7	.9	1.4	1.2	.9	1.8	2.1	.9	1.0	1.5	1.8
Nonmanufacturing:															
Metal mining.....	1.1	.2	.2	.8	.3	.3	.3	.9	.4	.7	1.3	1.2	.8	.7	.7
Coal mining.....	.4	.2	.2	1.2	.4	.7	1.1	.6	.6	.4	.8	1.0	.5	.9	.9

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9.

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. 94.

Industry	1966										1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Average weekly earnings															
Mining.....	\$130.93	\$135.41	\$133.73	\$131.58	\$131.46	\$132.80	\$130.85	\$121.72	\$127.37	\$126.30	\$126.48	\$127.41	\$123.73	\$123.52	\$117.74
Metal mining.....		136.75	136.64	134.62	135.79	134.93	132.51	133.88	129.79	130.62	132.19	131.67	128.96	127.30	122.54
Iron ores.....		140.95	142.23	138.32	143.99	142.35	136.27	139.63	133.74	133.74	136.36	133.50	129.52	129.24	125.83
Copper ores.....		143.33	140.62	140.51	139.64	138.13	137.26	138.97	135.99	137.49	139.64	140.60	139.64	136.71	130.42
Coal mining.....		156.98	151.00	149.33	145.70	153.41	152.31	111.52	143.44	142.45	142.04	143.31	129.78	137.45	126.88
Bituminous.....		159.80	154.09	152.44	148.03	156.98	155.12	112.85	146.08	144.79	144.73	146.37	131.98	140.23	128.91
Crude petroleum and natural gas.....		123.97	123.68	121.84	123.70	121.70	121.84	122.41	121.69	120.42	121.27	119.97	118.15	116.18	112.63
Crude petroleum and natural gas fields.....		130.15	129.34	125.96	129.68	126.98	127.30	129.15	126.36	127.39	128.84	126.79	127.10	123.62	120.95
Oil and gas field services.....		118.97	118.86	118.46	119.26	118.28	117.75	117.13	118.09	115.37	115.54	114.37	111.18	110.31	106.43
Quarrying and nonmetallic mining.....		129.44	129.44	128.46	127.64	126.90	122.29	120.31	116.48	113.70	112.05	117.78	123.49	117.45	111.85
Crushed and broken stone.....		131.22	131.49	131.14	130.9	128.87	121.47	119.20	114.29	109.03	107.65	117.00	121.64	116.58	110.62
Contract construction.....	143.39	152.46	151.67	149.38	150.15	146.69	141.71	140.59	143.26	139.05	138.34	139.87	136.50	138.01	132.06
General building contractors.....		141.71	140.56	138.00	137.27	135.05	132.09	131.74	134.32	130.30	129.23	132.13	126.71	128.16	122.79
Heavy construction.....		156.09	156.09	152.34	154.07	150.45	137.07	137.94	139.47	131.41	133.23	132.65	136.22	137.90	131.78
Highway and street construction.....		155.73	157.04	153.47	195.46	151.64	134.06	135.05	133.95	123.00	126.64	124.74	134.27	136.45	130.00
Other heavy construction.....		156.62	155.04	151.44	152.21	148.42	140.76	141.05	143.42	137.16	138.06	139.91	138.84	139.60	133.93
Special trade contractors.....		157.96	157.88	155.70	156.59	153.38	150.88	148.15	150.26	147.38	146.21	148.34	143.24	144.99	138.35
Plumbing, heating, and air conditioning.....		165.85	166.21	163.90	163.12	161.09	160.27	156.21	157.12	155.54	155.94	156.78	150.42	152.08	144.40
Painting, paperhanging, and decorating.....		144.32	145.16	143.08	145.04	141.21	140.30	137.28	136.26	134.64	133.13	136.54	133.28	134.97	128.52
Electrical work.....		184.71	183.46	180.45	180.12	177.45	177.00	173.57	174.60	172.60	173.94	175.72	168.52	169.89	165.17
Masonry, plastering, stone, and tile work.....		144.73	142.90	143.72	144.63	140.65	139.15	138.98	142.00	134.92	125.58	135.76	130.26	133.56	127.31
Roofing and sheet metal work.....		133.20	129.17	128.16	129.23	123.90	118.61	117.57	123.20	119.39	118.74	118.52	113.85	117.65	112.49
Average weekly hours															
Mining.....	42.1	43.4	43.0	43.0	43.1	43.4	42.9	41.4	42.6	42.1	42.3	42.9	41.8	42.3	41.9
Metal mining.....		42.6	42.7	42.2	42.7	42.7	42.2	42.5	41.6	41.6	42.1	41.8	41.2	41.6	41.4
Iron ores.....		42.2	43.1	42.3	43.5	43.4	41.8	42.7	40.9	40.9	41.7	40.7	40.1	41.9	40.2
Copper ores.....		44.1	43.4	43.1	43.5	43.3	43.3	43.7	42.9	43.1	43.5	43.8	43.5	43.4	42.9
Coal mining.....		42.2	40.7	40.8	41.8	41.5	32.8	41.1	40.7	40.7	41.3	41.3	37.4	39.9	39.0
Bituminous.....		42.5	41.2	41.2	42.2	41.7	32.9	41.5	40.9	41.0	41.7	41.7	37.6	40.2	39.2
Crude petroleum and natural gas.....		42.6	42.5	42.6	43.1	42.7	42.6	42.8	43.0	42.4	42.7	43.0	42.5	42.4	42.5
Crude petroleum and natural gas fields.....		40.8	40.8	40.5	41.3	40.7	40.8	41.0	40.5	40.7	40.9	40.9	41.0	40.8	41.0
Oil and gas field services.....		43.9	43.7	44.2	44.5	44.3	44.1	44.2	44.9	43.7	44.1	44.5	43.6	43.6	43.8
Quarrying and nonmetallic mining.....		46.9	46.9	47.2	47.1	47.0	45.8	45.4	44.8	43.9	43.6	45.3	46.6	45.7	45.1
Crushed and broken stone.....		48.6	48.7	49.3	49.4	49.0	46.9	46.2	45.9	44.5	44.3	46.8	47.7	47.2	45.9
Contract construction.....	36.3	38.5	38.3	38.4	39.0	38.3	37.0	36.9	37.7	36.4	36.5	37.1	36.4	37.4	37.2
General building contractors.....		37.0	36.7	36.8	37.1	36.6	35.7	35.8	36.8	35.6	35.6	36.4	35.1	36.1	35.8
Heavy construction.....		42.3	42.3	42.2	43.4	42.5	39.5	40.1	40.9	38.2	39.3	39.9	39.6	40.8	40.8
Highway and street construction.....		43.5	43.5	43.6	44.8	43.7	39.9	40.8	41.6	38.2	39.7	38.5	40.2	41.6	41.4
Other heavy construction.....		41.0	40.8	40.6	41.7	41.0	39.1	39.4	40.4	38.1	39.0	39.3	39.0	40.0	40.1
Special trade contractors.....		37.7	37.5	37.7	38.1	37.5	36.8	36.4	37.1	36.3	36.1	36.9	35.9	36.8	36.6
Plumbing, heating, and air conditioning.....		39.3	39.2	39.4	39.4	39.1	38.9	38.1	38.7	38.5	38.6	39.0	37.7	38.6	38.1
Painting, paperhanging and decorating.....		35.9	36.2	36.5	37.0	36.3	35.7	35.2	35.3	34.7	34.4	35.1	34.8	35.8	35.7
Electrical work.....		39.3	39.2	39.4	39.5	39.0	38.9	38.4	38.8	38.7	39.0	39.4	37.7	38.7	38.5
Masonry, plastering, stone, and tile work.....		35.3	34.6	35.4	35.8	34.9	34.7	34.4	35.5	33.9	32.2	34.9	33.4	34.6	34.5
Roofing and sheet metal work.....		36.0	35.1	35.6	36.2	35.2	33.6	33.4	35.0	32.8	32.8	33.2	33.0	34.5	34.4
Average hourly earnings															
Mining.....	\$3.11	\$3.12	\$3.11	\$3.06	\$3.05	\$3.06	\$3.05	\$2.94	\$2.99	\$3.00	\$2.99	\$2.97	\$2.96	\$2.92	\$2.81
Metal mining.....		3.21	3.20	3.19	3.18	3.16	3.14	3.15	3.12	3.14	3.14	3.15	3.13	3.06	2.96
Iron ores.....		3.34	3.30	3.27	3.31	3.28	3.26	3.27	3.27	3.27	3.28	3.28	3.23	3.16	3.13
Copper ores.....		3.25	3.24	3.26	3.21	3.19	3.17	3.18	3.17	3.19	3.21	3.21	3.21	3.15	3.04
Coal mining.....		3.72	3.71	3.66	3.67	3.67	3.40	3.49	3.50	3.49	3.47	3.47	3.47	3.45	3.26
Bituminous.....		3.76	3.74	3.70	3.72	3.72	3.43	3.52	3.54	3.53	3.51	3.51	3.49	3.30	
Crude petroleum and natural gas.....		2.91	2.91	2.86	2.87	2.85	2.86	2.83	2.84	2.84	2.79	2.78	2.78	2.74	2.65
Crude petroleum and natural gas fields.....		3.19	3.17	3.11	3.14	3.12	3.12	3.15	3.12	3.13	3.15	3.10	3.10	3.03	2.95
Oil and gas field services.....		2.71	2.72	2.68	2.68	2.67	2.67	2.65	2.63	2.64	2.62	2.57	2.55	2.53	2.43
Quarrying and nonmetallic mining.....		2.76	2.76	2.73	2.71	2.70	2.67	2.65	2.60	2.59	2.57	2.60	2.65	2.57	2.48
Crushed and broken stone.....		2.70	2.70	2.66	2.65	2.63	2.59	2.58	2.49	2.45	2.43	2.50	2.55	2.47	2.41
Contract construction.....	3.95	3.96	3.96	3.89	3.85	3.83	3.83	3.81	3.80	3.82	3.79	3.77	3.75	3.69	3.55
General building contractors.....		3.83	3.83	3.75	3.70	3.69	3.70	3.68	3.65	3.66	3.63	3.63	3.61	3.55	3.43
Heavy construction.....		3.69	3.69	3.61	3.55	3.54	3.47	3.44	3.41	3.44	3.39	3.41	3.44	3.38	3.23
Highway and street construction.....		3.58	3.61	3.52	3.47	3.47	3.36	3.31	3.22	3.22	3.19	3.24	3.34	3.28	3.14
Other heavy construction.....		3.82	3.80	3.73	3.65	3.62	3.60	3.58	3.55	3.60	3.54	3.56	3.56	3.49	3.34
Special trade contractors.....		4.19	4.21	4.13	4.11	4.09	4.10	4.07	4.05	4.06	4.05	4.02	3.99	3.94	3.78
Plumbing, heating, and air conditioning.....		4.22	4.24	4.16	4.14	4.12	4.12	4.10	4.06	4.04	4.04	4.02	3.99	3.94	3.79
Painting, paperhanging and decorating.....		4.02	4.01	3.92	3.92	3.89	3.93	3.86	3.88	3.87	3.89	3.83	3.77	3.74	3.60
Electrical work.....		4.70	4.68	4.58	4.56	4.55	4.55	4.52	4.50	4.46	4.46	4.46	4.47	4.39	4.29
Masonry, plastering, stone, and tile work.....		4.10	4.13	4.06	4.04	4.03	4.01	4.04	4.00	3.98	3.90	3.89	3.90	3.86	3.69
Roofing and sheet metal work.....		3.70	3.68	3.60	3.57	3.52	3.53	3.52	3.52	3.64	3.62	3.57	3.45	3.41	3.27

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Manufacturing.....	\$113.99	\$113.85	\$113.71	\$111.78	\$111.11	\$112.74	\$112.05	\$111.24	\$110.95	\$110.27	\$110.00	\$110.92	\$109.71	\$107.53	\$102.97
Durable goods.....	123.77	123.65	123.94	120.54	119.81	121.82	121.82	121.54	120.69	120.69	119.99	120.98	119.43	117.18	112.19
Nondurable goods.....	99.85	99.70	99.54	99.23	99.14	99.23	98.33	96.96	96.88	96.88	95.52	96.96	96.32	94.64	90.91
Ordnance and accessories.....	135.98	137.05	136.95	134.82	133.88	134.20	134.51	133.46	132.82	134.09	136.21	138.03	134.41	131.57	122.72
Ammunition, except for small arms.....	135.88	136.29	135.88	135.88	134.23	134.31	136.03	134.55	134.64	136.69	140.15	141.01	139.83	136.08	124.84
Sighting and fire control equipment.....	-----	121.29	128.96	125.66	127.62	133.65	131.55	130.42	134.51	136.20	135.79	137.78	127.39	127.08	129.34
Other ordnance and accessories.....	138.53	140.54	139.02	133.72	133.90	134.98	132.44	132.00	129.03	127.58	126.98	130.82	123.97	121.93	116.40
Lumber and wood products, except furniture.....	92.92	94.42	94.83	94.07	93.66	93.94	94.66	92.48	88.91	88.88	88.75	89.82	90.17	88.54	85.24
Sawmills and planing mills.....	86.24	86.46	87.26	87.72	86.90	86.92	86.94	85.48	82.62	81.99	82.22	82.82	82.42	82.01	79.60
Millwork, plywood, and related products.....	99.47	100.12	100.61	100.12	99.63	100.91	102.61	100.08	97.88	97.47	98.18	98.70	98.65	96.93	93.11
Wooden containers.....	74.96	75.85	76.78	76.91	75.95	76.91	77.71	76.31	73.80	73.62	72.98	75.18	74.88	72.75	68.63
Miscellaneous wood products.....	88.56	88.58	88.38	87.77	87.12	87.56	88.19	87.35	87.14	85.90	85.90	86.11	86.32	84.67	81.79
Furniture and fixtures.....	91.88	93.63	93.21	93.26	89.13	91.96	90.67	88.75	90.06	88.58	88.15	92.23	90.72	87.98	84.46
Household furniture.....	87.13	87.57	87.14	87.15	82.61	85.70	84.87	83.84	84.87	84.05	83.23	87.96	86.10	83.21	79.93
Office furniture.....	-----	114.05	114.58	115.02	110.50	112.41	111.02	107.78	108.54	109.37	108.11	108.11	106.42	104.06	97.88
Partitions; office and store fixtures.....	-----	117.32	118.83	119.63	115.93	119.54	116.60	113.58	113.02	110.83	110.43	114.36	113.42	112.86	105.85
Other furniture and fixtures.....	98.65	99.12	101.48	99.36	97.75	98.41	97.02	94.58	94.43	92.70	91.65	95.85	94.30	92.18	87.33
Average weekly hours															
Manufacturing.....	41.3	41.4	41.5	41.4	41.0	41.6	41.5	41.2	41.4	41.3	41.2	41.7	41.4	41.2	40.7
Durable goods.....	42.1	42.2	42.3	42.0	41.6	42.3	42.3	42.2	42.2	42.2	42.1	42.6	42.2	42.0	41.4
Nondurable goods.....	40.1	40.2	40.3	40.5	40.3	40.5	40.3	39.9	40.2	40.2	39.8	40.4	40.3	40.1	39.7
Ordnance and accessories.....	42.1	42.3	42.4	42.0	42.1	42.2	42.3	42.1	41.9	42.3	42.7	43.0	42.4	41.9	40.5
Ammunition, except for small arms.....	41.3	41.3	41.3	41.3	41.3	41.2	41.6	41.4	41.3	41.8	42.6	42.6	42.5	42.0	40.4
Sighting and fire control equipment.....	-----	39.0	41.6	40.8	41.3	42.7	42.3	41.8	42.7	43.1	42.7	43.6	40.7	40.6	40.8
Other ordnance and accessories.....	44.4	44.9	44.7	43.7	43.9	44.4	44.0	44.0	43.3	43.1	42.9	43.9	42.6	41.9	40.7
Lumber and wood products, except furniture.....	40.4	40.7	40.7	40.9	40.9	41.2	41.7	41.1	40.6	40.4	40.9	41.2	40.8	40.8	40.4
Sawmills and planing mills.....	40.3	40.4	40.4	40.8	40.8	41.0	41.4	40.9	40.5	39.8	40.5	40.8	40.4	40.6	40.2
Millwork, plywood, and related products.....	40.6	40.7	40.9	41.2	41.0	41.7	42.4	41.7	41.3	41.3	41.6	42.0	41.8	41.6	41.2
Wooden containers.....	40.3	41.0	41.5	41.8	41.5	41.8	42.7	41.7	41.0	40.9	41.0	42.0	41.6	41.1	39.9
Miscellaneous wood products.....	41.0	41.2	41.3	41.4	40.9	41.3	41.6	41.4	41.3	41.1	41.1	41.6	41.5	41.3	41.1
Furniture and fixtures.....	41.2	41.8	41.8	42.2	40.7	41.8	41.4	40.9	41.5	41.2	41.0	42.7	42.0	41.5	41.2
Household furniture.....	41.1	41.5	41.3	41.7	40.1	41.4	41.0	40.7	41.4	41.0	40.8	42.7	42.0	41.4	41.2
Office furniture.....	-----	43.2	43.4	43.9	42.5	43.4	43.2	42.6	42.9	43.4	42.9	42.9	42.4	42.3	41.3
Partitions; office and store fixtures.....	-----	42.2	42.9	43.5	41.7	43.0	42.4	41.3	41.4	41.2	40.9	42.2	41.7	41.8	40.4
Other furniture and fixtures.....	41.8	42.0	43.0	43.2	42.5	42.6	42.0	41.3	41.6	41.2	41.1	42.6	42.1	41.9	41.0
Average hourly earnings															
Manufacturing.....	\$2.76	\$2.75	\$2.74	\$2.70	\$2.71	\$2.71	\$2.70	\$2.70	\$2.68	\$2.67	\$2.67	\$2.66	\$2.65	\$2.61	\$2.53
Durable goods.....	2.94	2.93	2.93	2.87	2.88	2.88	2.88	2.88	2.86	2.86	2.85	2.84	2.83	2.79	2.71
Nondurable goods.....	2.49	2.48	2.47	2.45	2.46	2.45	2.44	2.43	2.41	2.41	2.40	2.40	2.39	2.36	2.29
Ordnance and accessories.....	3.23	3.24	3.23	3.21	3.18	3.18	3.18	3.17	3.17	3.17	3.19	3.21	3.17	3.14	3.03
Ammunition, except for small arms.....	3.29	3.30	3.29	3.29	3.25	3.26	3.27	3.25	3.26	3.27	3.29	3.31	3.29	3.24	3.09
Sighting and fire control equipment.....	-----	3.11	3.10	3.08	3.09	3.13	3.11	3.12	3.15	3.16	3.18	3.16	3.13	3.13	3.17
Other ordnance and accessories.....	3.12	3.13	3.11	3.06	3.05	3.04	3.01	3.00	2.98	2.96	2.96	2.98	2.91	2.91	2.86
Lumber and wood products, except furniture.....	2.30	2.32	2.33	2.30	2.29	2.28	2.27	2.25	2.19	2.20	2.17	2.18	2.21	2.17	2.11
Sawmills and planing mills.....	2.14	2.14	2.16	2.15	2.13	2.12	2.10	2.09	2.04	2.06	2.03	2.03	2.04	2.02	1.98
Millwork, plywood, and related products.....	2.45	2.46	2.46	2.43	2.43	2.42	2.42	2.40	2.37	2.36	2.36	2.35	2.36	2.33	2.26
Wooden containers.....	1.86	1.85	1.85	1.84	1.83	1.84	1.82	1.83	1.80	1.80	1.78	1.79	1.80	1.77	1.72
Miscellaneous wood products.....	2.16	2.15	2.14	2.12	2.13	2.12	2.12	2.11	2.11	2.09	2.09	2.07	2.08	2.05	1.99
Furniture and fixtures.....	2.23	2.24	2.23	2.21	2.19	2.20	2.19	2.17	2.17	2.15	2.15	2.16	2.16	2.12	2.05
Household furniture.....	2.12	2.11	2.11	2.09	2.06	2.07	2.07	2.06	2.05	2.05	2.04	2.06	2.05	2.01	1.94
Office furniture.....	-----	2.64	2.64	2.62	2.60	2.59	2.57	2.53	2.53	2.52	2.52	2.52	2.51	2.46	2.37
Partitions; office and store fixtures.....	-----	2.78	2.77	2.75	2.78	2.78	2.75	2.73	2.73	2.69	2.70	2.71	2.72	2.70	2.62
Other furniture and fixtures.....	2.36	2.36	2.36	2.30	2.30	2.31	2.31	2.29	2.27	2.25	2.23	2.25	2.24	2.20	2.13

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Manufacturing—Continued															
Durable goods—Continued															
Stone, clay, and glass products.....	\$116.20	\$116.47	\$116.05	\$115.75	\$113.82	\$115.60	\$114.63	\$114.09	\$112.83	\$110.54	\$110.66	\$112.25	\$112.94	\$110.04	\$105.50
Flat glass.....	160.24	153.99	152.44	141.60	151.01	152.34	155.86	154.51	152.08	151.30	146.91	155.88	149.60	144.14	
Glass and glassware, pressed or blown.....	112.48	111.66	111.38	110.30	109.76	111.79	111.79	109.34	111.92	110.70	111.37	111.78	109.61	106.25	102.21
Cement, hydraulic.....	136.95	132.70	133.76	132.61	134.82	131.87	132.19	132.51	130.94	126.98	129.79	127.82	131.67	124.42	121.30
Structural clay products.....	96.32	98.16	97.99	98.12	97.94	97.94	97.29	98.00	96.28	93.38	93.66	95.04	95.08	94.02	89.82
Pottery and related products.....	99.65	100.44	98.50	95.94	99.00	98.95	98.80	97.91	97.66	97.91	98.09	97.28	95.12	93.53	
Concrete, gypsum, and plaster products.....	117.82	121.38	121.76	122.94	120.87	120.87	118.10	116.95	113.62	108.62	110.33	113.62	115.28	113.08	108.32
Other stone and mineral products.....	116.90	118.30	117.32	115.79	114.68	116.47	116.60	115.63	114.24	113.55	111.22	114.06	113.25	110.62	107.01
Primary metal industries.....	138.36	139.35	140.77	138.09	136.86	139.50	139.07	138.74	136.83	136.08	135.34	132.48	129.43	133.88	130.00
Blast furnace and basic steel products.....	142.31	144.43	147.80	145.85	147.03	147.68	146.97	146.56	143.56	141.69	140.24	134.21	130.64	140.90	138.43
Iron and steel foundries.....	130.42	130.90	129.73	126.69	121.13	128.01	127.58	128.90	128.60	128.46	127.01	129.07	125.85	125.72	119.84
Nonferrous smelting and refining.....	132.29	132.60	132.71	130.62	130.09	128.83	129.32	129.32	126.96	125.93	125.82	126.30	125.70	124.44	120.22
Nonferrous rolling, drawing, and extruding.....	137.41	137.28	138.22	135.83	133.55	137.20	136.14	134.90	134.20	134.81	135.86	135.42	131.67	130.07	122.26
Nonferrous foundries.....	124.55	122.54	123.26	118.02	114.80	119.29	118.86	118.16	117.59	117.17	118.43	118.83	115.50	113.55	110.54
Miscellaneous primary metal industries.....	152.85	153.56	153.91	146.89	141.86	147.74	149.64	146.03	149.80	150.82	148.14	150.14	149.16	143.09	133.77
Average weekly hours															
Stone, clay, and glass products.....	41.8	42.2	42.2	42.4	42.0	42.5	42.3	42.1	42.1	41.4	41.6	42.2	42.3	42.0	41.7
Flat glass.....	43.9	43.5	42.7	40.0	42.3	42.2	42.7	42.8	42.6	42.5	41.5	43.3	42.5	41.9	
Glass and glassware, pressed or blown.....	41.2	40.9	40.8	40.7	40.5	41.1	41.1	40.2	41.3	41.0	41.4	41.4	40.9	40.4	40.4
Cement, hydraulic.....	42.4	41.6	41.8	41.7	42.0	41.6	41.7	41.8	41.7	40.7	41.6	41.1	41.8	41.2	41.4
Structural clay products.....	40.3	40.9	41.0	41.4	41.5	41.5	41.4	41.7	41.5	40.6	40.9	41.5	41.7	41.6	41.2
Pottery and related products.....	39.7	39.7	39.4	39.0	39.6	39.9	39.9	40.0	39.8	39.7	39.8	40.2	40.2	39.8	39.8
Concrete, gypsum, and plaster products.....	43.0	44.3	44.6	45.2	45.1	45.1	44.4	44.3	43.7	42.1	42.6	43.7	44.0	44.0	43.5
Other stone and mineral products.....	41.6	42.1	41.9	41.8	41.7	42.2	42.4	42.2	42.0	41.9	41.5	42.4	42.1	41.9	41.8
Primary metal industries.....	41.8	42.1	42.4	42.1	41.6	42.4	42.4	42.3	42.1	42.0	41.9	41.4	40.7	42.1	41.8
Blast furnace and basic steel products.....	40.2	40.8	41.4	41.2	41.3	41.6	41.4	41.4	40.9	40.6	40.3	38.9	38.2	41.2	41.2
Iron and steel foundries.....	42.9	43.2	43.1	42.8	41.2	43.1	43.1	43.4	43.3	43.4	43.2	43.9	43.1	43.5	42.8
Nonferrous smelting and refining.....	42.4	42.5	42.4	42.0	42.1	42.1	42.1	42.4	41.9	41.7	41.8	42.1	41.9	41.9	41.6
Nonferrous rolling, drawing, and extruding.....	43.9	44.0	44.3	44.1	43.5	44.4	44.2	43.8	44.0	44.2	44.4	44.4	43.6	43.5	42.6
Nonferrous foundries.....	42.8	42.4	42.8	42.0	41.0	42.3	42.3	42.2	42.3	42.3	42.6	42.9	42.0	41.9	41.4
Miscellaneous primary metal industries.....	43.3	43.5	43.6	42.7	41.6	43.2	43.5	42.7	43.8	44.1	43.7	43.9	44.0	43.1	42.2
Average hourly earnings															
Stone, clay, and glass products.....	\$2.78	\$2.76	\$2.75	\$2.73	\$2.71	\$2.72	\$2.71	\$2.71	\$2.68	\$2.67	\$2.66	\$2.66	\$2.67	\$2.62	\$2.53
Flat glass.....	3.65	3.54	3.57	3.54	3.57	3.61	3.65	3.61	3.57	3.56	3.54	3.60	3.62	3.44	
Glass and glassware, pressed or blown.....	2.73	2.73	2.73	2.71	2.71	2.72	2.72	2.71	2.70	2.69	2.70	2.68	2.68	2.63	2.53
Cement, hydraulic.....	3.23	3.19	3.20	3.18	3.21	3.17	3.17	3.14	3.12	3.12	3.11	3.15	3.02	2.93	
Structural clay products.....	2.39	2.40	2.39	2.37	2.36	2.36	2.35	2.35	2.32	2.30	2.29	2.28	2.28	2.26	2.18
Pottery and related products.....	2.51	2.53	2.50	2.46	2.50	2.48	2.47	2.46	2.46	2.46	2.44	2.42	2.39	2.35	
Concrete, gypsum, and plaster products.....	2.74	2.74	2.73	2.72	2.68	2.68	2.66	2.64	2.60	2.58	2.59	2.60	2.62	2.57	2.49
Other stone and mineral products.....	2.81	2.81	2.80	2.77	2.75	2.76	2.75	2.74	2.72	2.71	2.68	2.69	2.69	2.64	2.56
Primary metal industries.....	3.31	3.31	3.32	3.28	3.29	3.29	3.28	3.28	3.25	3.24	3.23	3.20	3.18	3.18	3.11
Blast furnace and basic steel products.....	3.54	3.54	3.57	3.54	3.56	3.55	3.55	3.54	3.51	3.49	3.48	3.45	3.42	3.42	3.36
Iron and steel foundries.....	3.04	3.03	3.01	2.96	2.94	2.97	2.96	2.97	2.96	2.94	2.94	2.92	2.89	2.80	
Nonferrous smelting and refining.....	3.12	3.12	3.13	3.11	3.09	3.06	3.06	3.05	3.03	3.02	3.01	3.00	3.00	2.97	2.89
Nonferrous rolling, drawing, and extruding.....	3.13	3.12	3.12	3.08	3.07	3.09	3.08	3.08	3.05	3.05	3.06	3.05	3.02	2.99	2.87
Nonferrous foundries.....	2.91	2.89	2.88	2.81	2.80	2.82	2.81	2.80	2.78	2.77	2.78	2.77	2.75	2.71	2.67
Miscellaneous primary metal industries.....	3.53	3.53	3.53	3.44	3.41	3.42	3.44	3.42	3.42	3.42	3.39	3.42	3.39	3.32	3.17

See footnotes at end of table.



TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Industry	Revised series; see box, p. 94.														Annual average	
	1966												1965		1965	1964
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.			
Average weekly earnings																
Manufacturing—Continued																
<i>Durable goods—Continued</i>																
Fabricated metal products.....	\$122.80	\$123.97	\$124.84	\$121.26	\$119.42	\$121.70	\$121.84	\$119.99	\$119.85	\$119.00	\$118.02	\$119.71	\$118.72	\$116.20	\$111.76	
Metal cans.....	137.01	137.05	143.66	148.40	151.52	142.68	142.03	138.14	135.36	135.14	133.66	135.68	136.32	137.49	131.82	
Cutlery, hand tools, and general hardware.....	116.48	116.34	116.34	113.15	109.76	113.15	114.81	113.85	113.98	113.57	112.88	114.93	115.35	111.22	107.64	
Heating equipment and plumbing fixtures.....	109.75	113.99	114.40	112.06	106.13	110.70	110.70	108.40	108.00	108.27	105.60	109.08	108.40	105.06	102.91	
Fabricated structural metal products.....	123.68	123.25	123.83	121.11	118.56	121.13	120.27	117.73	117.03	116.76	116.48	118.72	117.04	114.26	110.27	
Screw machine products, bolts, etc.....	129.63	130.79	130.92	125.24	121.67	128.25	128.25	126.66	128.37	127.18	126.17	125.89	123.88	120.73	113.85	
Metal stampings.....	133.67	137.46	138.85	131.70	129.74	131.58	133.36	132.75	131.89	130.29	130.11	132.41	132.41	128.60	123.41	
Coating, engraving, and allied services.....	107.94	109.30	110.59	108.29	105.73	107.19	106.85	105.00	105.84	104.92	102.18	103.74	103.42	100.43	95.58	
Miscellaneous fabricated wire products.....	112.56	112.02	113.10	110.20	110.04	111.25	111.51	108.58	108.26	109.56	107.01	108.38	108.54	104.92	99.46	
Miscellaneous fabricated metal products.....	119.85	120.56	121.13	118.58	117.03	120.56	120.56	117.88	117.87	116.34	115.37	114.95	114.26	113.42	108.65	
Machinery.....	136.47	136.34	136.53	133.55	131.89	135.83	135.83	134.03	134.95	133.76	132.41	133.48	130.20	127.58	121.69	
Engines and turbines.....	138.02	143.81	143.72	141.53	142.76	146.06	144.86	141.57	137.99	135.85	140.71	135.34	133.44	133.44	127.30	
Farm machinery and equipment.....	129.97	131.57	127.31	124.85	130.82	131.63	131.94	133.06	130.54	129.02	127.56	125.63	121.72	118.82	118.82	
Construction and related machinery.....	134.82	135.14	135.33	132.99	132.25	134.85	133.67	132.50	133.42	132.37	130.16	131.24	128.40	126.39	120.25	
Metalworking machinery and equipment.....	153.77	153.31	153.05	148.46	149.70	155.04	156.37	153.45	153.64	152.52	150.75	151.92	146.19	144.37	137.06	
Special industry machinery.....	128.92	129.21	129.80	126.14	122.41	127.74	126.28	124.55	125.24	124.36	124.24	126.05	122.64	120.22	114.86	
General industrial machinery.....	138.22	137.90	138.40	135.39	131.46	135.69	134.64	132.24	132.54	132.41	131.67	132.88	129.60	126.56	120.83	
Office, computing and accounting machines.....	131.86	132.06	131.02	127.80	129.36	131.44	130.59	128.94	132.13	133.06	133.80	133.24	130.11	127.20	120.60	
Service industry machines.....	116.03	117.86	115.64	115.37	114.12	117.74	115.23	115.79	115.92	113.51	113.44	115.35	113.30	112.19	107.16	
Miscellaneous machinery.....	133.50	131.72	130.83	127.16	124.85	128.32	128.32	127.30	127.87	127.43	125.97	126.22	124.36	120.93	115.83	
Average weekly hours																
Fabricated metal products.....	42.6	42.6	42.9	42.4	41.9	42.7	42.6	42.1	42.2	42.2	42.0	42.6	42.4	42.1	41.7	
Metal cans.....	41.9	42.3	43.8	44.7	45.5	43.9	43.7	42.9	42.3	42.1	41.9	42.8	42.6	43.1	42.8	
Cutlery, hand tools, and general hardware.....	41.6	41.7	41.7	41.6	40.5	41.6	41.9	41.4	41.6	41.6	41.5	42.1	42.1	41.5	41.4	
Heating equipment and plumbing fixtures.....	40.2	41.3	41.3	41.2	39.9	41.0	40.7	40.0	40.0	40.1	39.7	40.7	40.6	40.1	40.2	
Fabricated structural metal products.....	42.5	42.5	42.7	42.2	41.6	42.5	42.2	41.6	41.5	41.7	41.6	42.4	42.1	41.7	41.3	
Screw machine products, bolts, etc.....	44.7	45.1	45.3	44.1	43.3	45.0	45.0	44.6	45.2	45.1	44.9	44.8	44.4	43.9	42.8	
Metal stampings.....	42.3	43.5	43.8	42.9	42.4	43.0	43.3	43.1	43.0	43.0	42.8	43.7	43.7	43.3	43.0	
Coating, engraving, and allied services.....	41.2	42.2	42.7	42.3	41.3	42.2	41.9	41.5	42.1	41.8	41.2	42.0	41.7	41.5	41.2	
Miscellaneous fabricated wire products.....	42.0	41.8	42.2	41.9	42.0	42.3	42.4	41.6	41.8	42.3	41.8	42.5	42.4	41.8	41.1	
Miscellaneous fabricated metal products.....	42.2	42.3	42.5	42.2	41.5	42.6	42.6	42.1	42.4	42.0	41.8	41.8	41.7	41.7	41.0	
Machinery.....	43.6	43.7	43.9	43.5	43.1	44.1	44.1	43.8	44.1	44.0	43.7	44.2	43.4	43.1	42.4	
Engines and turbines.....	41.2	42.8	42.9	42.5	43.0	43.6	43.5	42.9	42.2	41.8	42.9	41.9	41.7	40.8	40.8	
Farm machinery and equipment.....	41.0	41.9	41.2	40.8	42.2	42.6	42.7	43.2	42.8	42.3	42.1	41.6	41.4	41.4	41.4	
Construction and related machinery.....	42.8	42.9	43.1	42.9	42.8	43.5	43.4	43.3	43.6	43.4	43.1	43.6	42.8	42.7	41.9	
Metalworking machinery and equipment.....	45.9	45.9	46.1	45.4	45.5	46.7	47.1	46.5	46.7	46.5	46.1	46.6	45.4	45.4	44.5	
Special industry machinery.....	44.0	44.1	44.3	43.8	42.8	44.2	44.0	43.7	44.1	44.1	43.9	44.7	43.8	43.4	42.7	
General industrial machinery.....	44.3	44.2	44.5	44.1	43.1	44.2	44.0	43.5	43.6	43.7	43.6	44.0	43.2	42.9	42.1	
Office, computing and accounting machines.....	42.4	42.6	42.4	41.9	42.0	42.4	42.4	42.0	42.9	43.2	43.3	43.4	42.8	42.4	41.3	
Service industry machines.....	41.0	41.5	41.3	41.5	41.2	42.2	41.6	41.8	42.0	41.7	41.4	42.1	41.5	41.4	40.9	
Miscellaneous machinery.....	44.8	44.5	44.5	44.0	43.5	44.4	44.4	44.2	44.4	44.4	44.2	44.6	44.1	43.5	42.9	
Average hourly earnings																
Fabricated metal products.....	\$2.91	\$2.91	\$2.91	\$2.86	\$2.85	\$2.85	\$2.86	\$2.85	\$2.84	\$2.82	\$2.81	\$2.81	\$2.80	\$2.76	\$2.68	
Metal cans.....	3.27	3.24	3.28	3.32	3.33	3.25	3.25	3.22	3.20	3.21	3.19	3.17	3.20	3.19	3.08	
Cutlery, hand tools, and general hardware.....	2.80	2.79	2.79	2.72	2.71	2.72	2.74	2.75	2.74	2.73	2.72	2.73	2.74	2.68	2.60	
Heating equipment and plumbing fixtures.....	2.73	2.76	2.77	2.72	2.66	2.70	2.72	2.71	2.70	2.70	2.66	2.68	2.67	2.62	2.56	
Fabricated structural metal products.....	2.91	2.90	2.90	2.87	2.85	2.85	2.85	2.83	2.82	2.80	2.80	2.80	2.78	2.74	2.67	
Screw machine products, bolts, etc.....	2.90	2.90	2.89	2.84	2.81	2.85	2.85	2.84	2.84	2.82	2.81	2.81	2.79	2.75	2.66	
Metal stampings.....	3.16	3.16	3.17	3.07	3.06	3.06	3.08	3.08	3.06	3.03	3.04	3.03	3.03	2.97	2.87	
Coating, engraving, and allied services.....	2.62	2.59	2.59	2.56	2.56	2.54	2.55	2.53	2.52	2.51	2.48	2.47	2.48	2.42	2.32	
Miscellaneous fabricated wire products.....	2.68	2.68	2.68	2.63	2.62	2.63	2.63	2.61	2.59	2.59	2.56	2.55	2.56	2.51	2.42	
Miscellaneous fabricated metal products.....	2.84	2.85	2.85	2.81	2.82	2.83	2.83	2.80	2.78	2.77	2.76	2.75	2.74	2.72	2.65	
Machinery.....	3.13	3.12	3.11	3.07	3.06	3.08	3.08	3.06	3.06	3.04	3.03	3.02	3.00	2.96	2.87	
Engines and turbines.....	3.35	3.36	3.35	3.33	3.32	3.35	3.33	3.30	3.27	3.25	3.25	3.28	3.23	3.20	3.12	
Farm machinery and equipment.....	3.17	3.14	3.09	3.06	3.10	3.09	3.09	3.08	3.05	3.03	3.05	3.03	3.02	2.94	2.87	
Construction and related machinery.....	3.15	3.15	3.14	3.10	3.09	3.10	3.08	3.06	3.06	3.05	3.02	3.01	3.00	2.96	2.87	
Metalworking machinery and equipment.....	3.35	3.34	3.32	3.27	3.29	3.32	3.32	3.30	3.29	3.28	3.27	3.26	3.22	3.18	3.08	
Special industry machinery.....	2.93	2.93	2.93	2.88	2.86	2.89	2.87	2.85	2.84	2.82	2.83	2.82	2.80	2.77	2.69	
General industrial machinery.....	3.12	3.12	3.11	3.07	3.05	3.07	3.06	3.04	3.04	3.03	3.02	3.02	3.00	2.95	2.87	
Office, computing and accounting machines.....	3.11	3.10	3.09	3.05	3.08	3.10	3.08	3.07	3.08	3.08	3.09	3.07	3.04	3.00	2.92	
Service industry machines.....	2.83	2.84	2.80	2.78	2.77	2.79	2.77	2.77	2.76	2.77	2.74	2.74	2.73	2.71	2.62	
Miscellaneous machinery.....	2.98	2.96	2.94	2.89	2.87	2.89	2.89	2.88	2.88	2.87	2.85	2.83	2.82	2.78	2.70	

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Average weekly earnings															
Manufacturing—Continued															
<i>Durable goods—Continued</i>															
Electrical equipment and supplies.....	\$109.86	\$109.86	\$110.12	\$107.68	\$106.11	\$108.62	\$108.62	\$107.68	\$107.53	\$108.05	\$107.79	\$110.04	\$107.64	\$105.78	\$101.66
Electric distribution equipment.....	116.34	116.90	119.99	115.64	117.46	117.73	116.05	113.98	115.50	113.57	113.98	116.75	115.23	113.02	110.83
Electrical industrial apparatus.....	116.76	117.32	119.57	117.74	118.15	117.17	118.13	117.73	118.28	117.58	115.35	117.15	114.39	113.28	109.56
Household appliances.....	119.77	120.22	122.51	119.42	116.28	118.28	119.97	118.69	114.24	117.86	119.00	122.41	118.86	114.54	107.33
Electric lighting and wiring equipment.....	103.63	103.63	103.82	101.93	99.20	101.59	101.84	101.09	101.43	100.78	100.69	102.67	101.93	99.14	95.04
Radio and TV receiving sets.....	100.91	99.30	94.07	93.96	91.57	91.87	89.17	91.80	92.50	93.43	93.30	95.88	93.90	91.31	87.25
Communication equipment.....	123.19	122.18	122.22	118.37	117.33	119.81	120.51	118.82	120.25	121.25	121.11	122.55	119.42	116.47	112.07
Electronic components and accessories.....	92.46	91.60	91.66	91.03	89.27	93.02	92.21	91.35	91.80	92.25	91.39	92.29	90.98	88.88	86.18
Miscellaneous electrical equipment and supplies.....	120.58	125.04	122.43	115.14	114.34	117.79	117.79	118.03	117.50	120.35	118.66	121.82	119.70	115.36	108.67
Transportation equipment.....	148.18	146.29	144.84	139.35	137.94	140.25	139.07	141.47	140.06	140.71	142.46	145.53	144.54	137.71	130.09
Motor vehicles and equipment.....	153.72	151.87	142.27	140.42	143.40	141.54	149.02	144.57	146.02	148.14	155.38	156.18	147.63	138.03	138.03
Aircraft and parts.....	144.19	143.86	143.52	144.09	142.23	143.22	143.44	139.43	141.48	142.14	143.00	141.59	138.35	131.88	125.03
Ship and boat building and repairing.....	127.84	132.34	129.60	129.34	130.29	132.40	128.75	128.65	130.10	129.58	128.86	125.66	123.22	121.50	121.10
Railroad equipment.....	141.80	136.15	135.74	136.68	133.32	137.94	138.20	132.44	133.82	135.71	135.96	133.32	129.44	127.08	127.08
Other transportation equipment.....	96.32	99.14	97.27	93.30	96.87	96.96	95.20	95.20	91.42	89.47	94.24	93.50	92.69	93.89	93.89
Average weekly hours															
Electrical equipment and supplies.....	41.3	41.3	41.4	41.1	40.5	41.3	41.3	41.1	41.2	41.4	41.3	42.0	41.4	41.0	40.5
Electric distribution equipment.....	41.7	41.9	42.7	41.9	42.1	42.5	42.2	41.6	42.0	41.6	41.6	42.3	41.9	41.4	41.2
Electrical industrial apparatus.....	41.7	41.9	42.4	42.2	42.5	42.3	42.8	42.5	42.7	42.6	42.1	42.6	41.9	41.8	41.5
Household appliances.....	41.3	41.6	42.1	41.9	40.8	41.5	41.8	41.5	40.8	41.5	41.9	42.8	42.0	41.2	40.5
Electric lighting and wiring equipment.....	40.8	40.8	41.2	41.1	40.0	40.8	40.9	40.6	40.9	40.8	40.6	41.4	41.1	40.8	40.1
Radio and TV receiving sets.....	42.4	41.9	40.2	40.5	39.3	39.6	38.6	39.4	39.7	40.1	39.7	40.8	40.3	39.7	39.3
Communication equipment.....	41.9	41.7	42.0	41.1	40.6	41.6	41.7	41.4	41.9	42.1	42.2	42.7	41.9	41.3	40.9
Electronic components and accessories.....	40.2	40.0	40.2	40.1	39.5	40.8	40.8	40.6	40.8	41.0	40.8	41.2	40.8	40.4	39.9
Miscellaneous electrical equipment and supplies.....	40.6	42.1	41.5	40.4	39.7	40.9	40.9	40.7	40.8	41.5	41.2	42.3	42.0	41.2	40.7
Transportation equipment.....	43.2	42.9	42.6	42.1	41.8	42.5	42.4	43.0	42.7	42.9	43.3	44.1	43.8	42.9	42.1
Motor vehicles and equipment.....	43.3	43.3	42.9	41.6	41.3	42.3	42.0	43.7	42.9	43.2	43.7	45.3	45.4	44.2	43.0
Aircraft and parts.....	43.3	43.2	43.1	43.4	43.1	43.4	43.6	42.9	43.4	43.6	44.0	43.7	43.1	42.0	41.4
Ship and boat building and repairing.....	40.2	41.1	40.5	40.8	41.1	41.9	41.4	41.5	41.7	41.4	41.3	40.8	40.4	40.5	40.5
Railroad equipment.....	41.1	40.4	40.4	40.4	40.8	40.4	41.3	41.5	40.5	40.8	41.0	41.2	40.4	40.2	40.6
Other transportation equipment.....	39.8	40.8	40.7	39.2	40.7	40.4	40.0	40.0	40.0	38.9	38.9	40.1	40.3	40.3	41.0
Average hourly earnings															
Electrical equipment and supplies.....	\$2.66	\$2.66	\$2.66	\$2.62	\$2.63	\$2.63	\$2.62	\$2.61	\$2.61	\$2.61	\$2.62	\$2.60	\$2.60	\$2.58	\$2.51
Electric distribution equipment.....	2.79	2.79	2.81	2.79	2.77	2.75	2.74	2.75	2.73	2.74	2.76	2.75	2.75	2.73	2.69
Electrical industrial apparatus.....	2.80	2.80	2.82	2.78	2.77	2.76	2.77	2.77	2.76	2.74	2.75	2.73	2.74	2.71	2.64
Household appliances.....	2.90	2.89	2.91	2.85	2.85	2.87	2.86	2.80	2.84	2.84	2.86	2.83	2.82	2.78	2.65
Electric lighting and wiring equipment.....	2.54	2.54	2.52	2.48	2.49	2.49	2.49	2.48	2.47	2.48	2.48	2.48	2.48	2.47	2.37
Radio and TV receiving sets.....	2.38	2.37	2.34	2.33	2.32	2.31	2.33	2.33	2.33	2.35	2.35	2.33	2.33	2.30	2.22
Communication equipment.....	2.94	2.93	2.91	2.89	2.88	2.89	2.87	2.87	2.88	2.87	2.87	2.85	2.85	2.82	2.74
Electronic components and accessories.....	2.30	2.29	2.28	2.26	2.28	2.26	2.25	2.25	2.25	2.24	2.24	2.23	2.22	2.20	2.16
Miscellaneous electrical equipment and supplies.....	2.97	2.97	2.95	2.88	2.88	2.88	2.90	2.88	2.90	2.88	2.88	2.85	2.81	2.80	2.67
Transportation equipment.....	3.43	3.41	3.40	3.30	3.30	3.28	3.29	3.28	3.28	3.29	3.30	3.30	3.26	3.21	3.09
Motor vehicles and equipment.....	3.55	3.55	3.54	3.40	3.39	3.37	3.41	3.37	3.38	3.39	3.43	3.44	3.39	3.34	3.21
Aircraft and parts.....	3.33	3.33	3.33	3.30	3.30	3.29	3.25	3.26	3.26	3.25	3.24	3.21	3.18	3.14	3.02
Ship and boat building and repairing.....	3.18	3.22	3.20	3.17	3.16	3.11	3.10	3.12	3.13	3.12	3.08	3.05	3.04	3.00	2.99
Railroad equipment.....	3.45	3.45	3.37	3.35	3.30	3.34	3.33	3.27	3.28	3.31	3.30	3.30	3.25	3.22	3.13
Other transportation equipment.....	2.42	2.43	2.38	2.38	2.40	2.38	2.38	2.35	2.30	2.35	2.32	2.33	2.30	2.29	2.29

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Manufacturing—Continued															
Durable goods—Continued															
Instruments and related products.....	\$114.66	\$114.93	\$114.78	\$112.17	\$111.90	\$113.94	\$113.79	\$112.71	\$113.10	\$112.67	\$111.72	\$111.72	\$110.88	\$108.47	\$103.63
Engineering and scientific instruments.....	-----	133.18	133.06	128.59	131.89	131.82	131.40	130.28	133.18	131.70	132.25	134.23	129.13	125.33	119.66
Mechanical measuring and control devices.....	114.68	116.20	115.08	112.74	112.19	115.60	115.75	114.63	114.48	114.06	114.06	109.06	111.34	108.62	103.79
Optical and ophthalmic goods.....	102.26	102.26	103.83	101.26	101.92	102.66	102.48	97.68	101.88	101.22	99.84	100.86	100.25	98.65	94.81
Ophthalmic goods.....	-----	92.16	94.07	91.58	93.25	93.30	92.48	88.44	92.06	91.24	90.17	90.64	90.67	89.40	86.07
Surgical, medical, and dental equipment.....	97.00	95.47	95.71	93.50	91.94	95.30	94.89	93.38	93.89	92.57	93.20	93.89	93.02	90.23	88.22
Photographic equipment and supplies.....	-----	136.47	136.03	132.25	131.58	133.67	133.90	134.29	131.63	132.85	129.86	131.54	129.20	127.84	120.88
Watches and clocks.....	-----	92.03	92.48	92.70	91.35	91.17	89.91	90.50	91.62	91.02	89.35	91.27	89.76	87.85	84.50
Miscellaneous manufacturing industries.....	90.00	90.50	89.20	88.22	86.24	88.62	88.62	87.74	89.28	88.84	87.52	87.48	86.46	85.39	82.37
Jewelry, silverware, and plated ware.....	107.26	108.89	105.42	102.51	95.35	100.94	100.28	100.04	100.19	97.27	96.63	103.39	102.67	95.53	91.58
Toys, amusement, and sporting goods.....	-----	79.40	78.41	79.00	77.60	78.80	78.40	78.40	79.59	78.59	77.20	76.64	76.62	78.44	74.30
Pens, pencils, office and art materials.....	-----	90.03	88.07	86.43	84.02	87.48	86.05	84.42	85.44	84.80	82.29	85.70	85.49	82.82	78.80
Costume jewelry, buttons, and notions.....	-----	80.77	81.18	80.00	78.56	82.42	81.20	79.37	81.81	81.81	80.17	80.40	77.42	77.02	73.90
Other manufacturing industries.....	97.04	97.53	96.40	95.04	93.62	95.04	95.75	94.56	95.47	95.88	94.24	94.60	94.19	92.46	89.60
Musical instruments and parts.....	-----	103.42	99.39	99.63	97.28	100.45	99.39	98.42	99.53	102.18	97.20	99.77	101.64	97.75	94.66
Average weekly hours															
Instruments and related products.....	42.0	42.1	42.2	41.7	41.6	42.2	42.3	41.9	42.2	42.2	42.0	42.0	42.0	41.4	40.8
Engineering and scientific instruments.....	-----	43.1	43.2	42.3	43.1	42.8	42.8	42.3	43.1	42.9	42.8	43.3	42.2	41.5	40.7
Mechanical measuring and control devices.....	41.7	42.1	42.0	41.6	41.4	42.5	42.4	42.3	42.4	42.4	42.4	41.0	41.7	41.3	40.7
Optical and ophthalmic goods.....	41.4	41.4	41.7	41.5	41.6	41.9	42.0	40.7	42.1	42.0	41.6	42.2	42.3	41.8	41.4
Ophthalmic goods.....	-----	40.6	40.9	40.7	40.9	41.1	41.1	40.2	41.1	41.1	40.8	41.2	41.4	41.2	40.6
Surgical, medical, and dental equipment.....	41.1	40.8	40.9	40.3	39.8	40.9	40.9	40.6	41.0	40.6	40.7	41.0	40.8	40.1	40.1
Photographic equipment and supplies.....	-----	43.6	43.6	42.8	43.0	43.4	43.9	43.6	43.3	43.7	43.0	43.7	43.5	42.9	41.8
Watches and clocks.....	-----	40.9	41.1	41.2	40.6	40.7	40.5	40.4	40.9	41.0	40.8	41.3	40.8	40.3	39.3
Miscellaneous manufacturing industries.....	40.0	40.4	40.0	40.1	39.2	40.1	40.1	39.7	40.4	40.2	39.6	40.5	40.4	39.9	39.6
Jewelry, silverware, and plated ware.....	41.9	42.7	42.0	41.5	39.4	41.2	41.1	41.0	41.4	40.7	40.6	42.9	42.6	41.0	40.7
Toys, amusement, and sporting goods.....	-----	39.9	39.4	39.7	38.8	39.4	39.2	39.2	39.4	39.1	38.6	39.3	39.7	39.2	38.9
Pens, pencils, office and art materials.....	-----	41.3	40.4	40.2	38.9	40.5	40.4	40.2	40.3	40.0	39.0	41.6	41.3	40.4	39.4
Costume jewelry, buttons, and notions.....	-----	39.4	39.6	39.8	38.7	40.4	40.2	39.1	40.3	40.3	39.3	40.4	39.5	39.6	39.1
Other manufacturing industries.....	40.1	40.3	40.0	40.1	39.5	40.1	40.4	39.9	40.8	40.8	40.1	40.6	40.6	40.2	40.0
Musical instruments and parts.....	-----	41.7	40.9	41.0	40.2	41.0	40.9	40.5	41.3	42.4	40.5	41.4	42.0	40.9	40.8
Average hourly earnings															
Instruments and related products.....	\$2.73	\$2.73	\$2.72	\$2.69	\$2.69	\$2.70	\$2.69	\$2.69	\$2.68	\$2.67	\$2.66	\$2.66	\$2.64	\$2.62	\$2.54
Engineering and scientific instruments.....	-----	3.09	3.08	3.04	3.06	3.08	3.07	3.08	3.09	3.07	3.09	3.10	3.06	3.02	2.94
Mechanical measuring and control devices.....	2.75	2.76	2.74	2.71	2.71	2.72	2.73	2.71	2.70	2.69	2.69	2.66	2.67	2.63	2.55
Optical and ophthalmic goods.....	2.47	2.47	2.49	2.44	2.45	2.45	2.44	2.40	2.42	2.41	2.40	2.39	2.37	2.36	2.29
Ophthalmic goods.....	-----	2.27	2.30	2.25	2.28	2.27	2.25	2.20	2.24	2.22	2.21	2.20	2.19	2.17	2.12
Surgical, medical, and dental equipment.....	2.36	2.34	2.34	2.32	2.31	2.33	2.32	2.30	2.29	2.28	2.29	2.29	2.28	2.25	2.20
Photographic equipment and supplies.....	-----	3.13	3.12	3.09	3.06	3.08	3.05	3.08	3.04	3.04	3.02	3.01	2.97	2.98	2.88
Watches and clocks.....	-----	2.25	2.25	2.25	2.25	2.24	2.22	2.24	2.24	2.22	2.19	2.21	2.20	2.18	2.15
Miscellaneous manufacturing industries.....	2.25	2.24	2.23	2.20	2.20	2.21	2.21	2.21	2.21	2.21	2.21	2.16	2.14	2.14	2.08
Jewelry, silverware, and plated ware.....	2.56	2.55	2.51	2.47	2.42	2.45	2.44	2.44	2.42	2.39	2.38	2.41	2.41	2.33	2.25
Toys, amusement, and sporting goods.....	-----	1.99	1.99	1.99	2.00	2.00	2.00	2.00	2.02	2.01	2.00	1.95	1.93	1.95	1.91
Pens, pencils, office and art materials.....	-----	2.18	2.18	2.15	2.16	2.16	2.13	2.10	2.12	2.12	2.11	2.06	2.07	2.05	2.00
Costume jewelry, buttons, and notions.....	-----	2.05	2.05	2.01	2.03	2.04	2.02	2.03	2.03	2.03	2.04	1.99	1.96	1.96	1.89
Other manufacturing industries.....	2.42	2.42	2.41	2.37	2.37	2.37	2.37	2.34	2.34	2.35	2.35	2.33	2.32	2.30	2.24
Musical instruments and parts.....	-----	2.48	2.43	2.43	2.42	2.45	2.43	2.43	2.41	2.41	2.40	2.41	2.42	2.39	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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Manufacturing—Continued															
Nondurable goods															
Food and kindred products.....	\$104.65	\$103.82	\$104.92	\$103.34	\$105.59	\$104.24	\$103.89	\$102.21	\$101.66	\$101.59	\$101.34	\$102.26	\$100.77	\$99.87	\$97.17
Meat products.....	115.37	113.28	114.78	108.79	109.74	109.86	108.53	106.27	105.73	106.00	108.53	108.62	109.82	107.27	105.98
Dairy products.....	111.14	110.04	110.93	109.23	112.92	110.68	108.20	107.52	107.26	106.59	107.01	107.10	106.01	105.08	102.12
Canned and preserved food, except meats.....		82.76	86.93	86.71	82.58	80.89	84.50	83.11	81.09	82.18	79.54	79.56	77.62	78.60	75.66
Grain mill products.....	121.14	123.28	124.55	118.42	120.38	118.22	114.04	113.36	114.40	115.00	114.66	118.49	115.70	113.40	109.07
Bakery products.....	105.46	105.59	106.11	106.08	106.71	106.34	104.23	102.66	101.75	101.85	101.35	102.77	102.77	101.40	97.12
Sugar.....		97.28	119.23	121.54	127.75	121.84	120.41	117.42	119.39	116.48	105.57	108.58	106.02	110.33	106.57
Confectionery and related products.....	87.16	88.66	89.06	89.06	87.36	87.91	87.02	84.75	85.97	84.50	84.10	84.40	83.13	83.53	79.98
Beverages.....	119.88	119.25	118.73	119.97	130.23	121.67	117.33	117.74	115.37	114.00	113.43	117.10	116.93	114.09	109.89
Miscellaneous food and kindred products.....	103.82	104.25	104.55	102.41	101.50	102.24	101.64	99.84	99.30	101.44	99.17	100.85	101.32	98.79	96.25
Tobacco manufactures.....	80.51	81.72	83.41	82.68	87.23	88.55	86.94	86.49	84.64	87.91	82.30	82.68	79.97	79.21	75.66
Cigarettes.....		104.79	106.23	106.11	104.72	106.92	103.45	105.57	102.80	111.25	101.38	103.09	100.73	97.27	93.45
Cigars.....		66.41	64.61	64.25	63.71	65.12	66.33	65.28	66.15	66.15	64.05	64.90	67.30	63.95	64.08
Textile mill products.....	82.80	83.20	83.38	83.36	81.76	84.35	81.45	79.90	81.22	81.22	79.84	80.79	80.79	78.17	73.39
Cotton broad woven fabrics.....	87.09	86.25	87.06	86.23	85.63	89.85	83.38	82.64	84.15	84.97	84.39	83.57	83.96	80.28	74.34
Silk and synthetic broad woven fabrics.....	86.50	86.90	87.31	89.35	89.35	87.87	87.71	85.14	86.65	86.24	84.83	86.63	86.24	83.90	79.24
Weaving and finishing broad woolsens.....	84.63	86.74	87.78	88.60	88.39	90.90	89.76	87.03	87.23	87.44	85.80	85.80	83.38	83.69	76.86
Narrow fabrics and small wares.....	81.73	82.12	81.90	81.25	80.48	81.64	79.27	78.47	79.52	79.10	77.38	79.48	77.56	75.99	73.03
Knitting.....	72.76	73.52	72.93	74.24	70.27	72.31	72.31	68.63	70.59	69.87	68.02	68.71	70.13	68.29	65.45
Finishing textiles, except wool and knit.....	92.02	92.66	91.59	90.74	89.03	94.17	91.54	91.94	91.94	90.87	87.96	90.25	89.63	85.85	81.90
Floor covering.....		86.86	86.05	85.43	80.39	83.18	80.93	80.15	81.41	82.41	81.25	86.39	85.11	81.51	76.26
Yarn and thread.....	77.00	78.49	79.05	79.00	78.07	78.94	76.68	76.50	76.79	76.72	76.72	76.46	76.46	73.70	66.99
Miscellaneous textile goods.....	94.37	95.46	95.90	93.95	92.65	95.25	94.61	91.59	92.02	92.23	90.95	93.96	92.23	88.20	83.63
Average weekly hours															
Food and kindred products.....	41.2	41.2	41.8	41.5	41.9	41.2	40.9	40.4	40.5	40.8	40.7	41.4	41.3	41.1	41.0
Meat products.....	41.8	41.8	42.2	40.9	41.1	41.3	40.8	40.1	39.6	40.0	40.8	41.3	41.6	41.1	41.4
Dairy products.....	42.1	42.0	42.5	42.5	43.6	42.9	42.1	42.0	41.9	41.8	41.8	42.0	41.9	42.2	42.2
Canned and preserved food, except meats.....		39.6	41.2	40.9	39.7	37.8	39.3	38.3	38.8	39.7	38.8	39.0	39.6	39.3	38.8
Grain mill products.....	44.7	46.0	46.3	45.2	46.3	46.0	44.2	43.6	44.0	44.4	44.1	45.4	44.5	45.0	44.7
Bakery products.....	40.1	40.3	40.5	40.8	41.2	40.9	40.4	40.1	39.9	40.1	39.9	40.3	40.3	40.4	40.3
Sugar.....		38.0	41.4	42.2	43.6	42.9	42.1	41.2	43.1	43.3	41.4	46.6	45.5	42.6	42.8
Confectionery and related products.....	39.8	40.3	40.3	40.3	39.0	39.6	39.2	38.7	39.8	39.3	39.3	40.0	39.4	39.4	39.4
Beverages.....	40.5	40.7	40.8	41.8	44.6	42.1	40.6	40.6	40.2	40.0	39.8	40.0	40.6	40.6	40.4
Miscellaneous food and kindred products.....	42.9	42.9	42.5	41.8	41.6	41.9	42.0	41.6	41.9	42.8	42.2	43.1	43.3	42.4	42.4
Tobacco manufactures.....	37.8	39.1	40.1	38.1	37.6	38.5	38.3	38.1	38.3	39.6	38.1	39.0	37.9	37.9	38.8
Cigarettes.....		39.1	39.2	39.3	38.5	39.6	38.6	39.1	38.5	40.9	38.4	38.9	38.3	37.7	39.1
Cigars.....		37.1	36.5	36.3	36.2	37.0	37.9	37.3	37.8	37.8	36.6	37.3	38.9	37.4	38.6
Textile mill products.....	41.4	41.6	41.9	42.1	41.5	42.6	42.2	41.4	42.3	42.3	41.8	42.3	42.3	41.8	41.0
Cotton broad woven fabrics.....	42.9	42.7	43.1	42.9	42.6	44.7	43.2	42.6	43.6	43.8	43.5	43.3	43.5	42.7	42.0
Silk and synthetic broad woven fabrics.....	42.4	42.6	42.8	43.8	43.8	43.5	44.8	43.0	44.0	44.0	43.5	44.2	44.0	43.7	43.3
Weaving and finishing broad woolsens.....	40.3	41.5	42.0	42.8	42.7	43.7	44.0	43.3	43.4	43.5	42.9	42.9	41.9	42.7	41.1
Narrow fabrics and small wares.....	41.7	41.9	42.0	42.1	41.7	42.3	41.5	41.3	42.3	42.3	41.6	42.5	41.7	41.3	40.8
Knitting.....	38.7	38.9	39.0	39.7	38.4	39.3	39.3	37.5	39.0	38.6	38.0	38.6	39.4	38.8	38.5
Finishing textiles, except wool and knit.....	42.6	42.9	42.8	42.6	41.8	43.8	43.8	43.8	44.2	43.9	42.7	43.6	43.3	42.5	42.0
Floor covering.....		43.0	42.6	42.5	40.6	41.8	41.5	41.1	42.4	42.7	42.1	44.3	44.1	42.9	41.9
Yarn and thread.....	41.4	42.2	42.5	42.7	42.2	42.9	42.6	42.5	42.9	43.1	43.1	43.2	43.2	42.6	41.1
Miscellaneous textile goods.....	42.7	43.0	43.2	42.9	42.5	43.1	43.5	42.6	43.0	43.1	42.7	43.7	43.1	42.2	41.4
Average hourly earnings															
Food and kindred products.....	\$2.54	\$2.52	\$2.51	\$2.49	\$2.52	\$2.53	\$2.54	\$2.53	\$2.51	\$2.49	\$2.49	\$2.47	\$2.44	\$2.43	\$2.37
Meat products.....	2.76	2.71	2.72	2.66	2.67	2.66	2.66	2.65	2.67	2.65	2.66	2.63	2.64	2.61	2.56
Dairy products.....	2.64	2.62	2.61	2.57	2.59	2.58	2.57	2.56	2.56	2.55	2.56	2.55	2.53	2.49	2.42
Canned and preserved food, except meats.....		2.09	2.11	2.12	2.08	2.14	2.15	2.17	2.09	2.07	2.05	2.04	1.96	2.00	1.95
Grain mill products.....	2.71	2.68	2.69	2.62	2.60	2.57	2.58	2.60	2.60	2.59	2.60	2.61	2.60	2.52	2.44
Bakery products.....	2.63	2.62	2.62	2.60	2.59	2.60	2.58	2.56	2.55	2.54	2.54	2.55	2.55	2.51	2.41
Sugar.....		2.56	2.88	2.88	2.93	2.84	2.86	2.85	2.77	2.69	2.55	2.33	2.33	2.59	2.49
Confectionery and related products.....	2.19	2.20	2.21	2.21	2.24	2.22	2.22	2.19	2.16	2.15	2.14	2.11	2.11	2.12	2.03
Beverages.....	2.96	2.93	2.91	2.87	2.92	2.89	2.89	2.87	2.85	2.85	2.85	2.87	2.88	2.81	2.72
Miscellaneous food and kindred products.....	2.42	2.43	2.46	2.45	2.44	2.44	2.42	2.40	2.37	2.37	2.35	2.34	2.34	2.33	2.27
Tobacco manufactures.....	2.13	2.09	2.08	2.17	2.32	2.30	2.27	2.27	2.21	2.22	2.16	2.12	2.11	2.09	1.95
Cigarettes.....		2.68	2.71	2.70	2.72	2.70	2.68	2.70	2.67	2.72	2.64	2.65	2.63	2.68	2.39
Cigars.....		1.79	1.77	1.77	1.76	1.76	1.75	1.75	1.75	1.75	1.75	1.74	1.73	1.71	1.66
Textile mill products.....	2.00	2.00	1.99	1.98	1.97	1.98	1.93	1.92	1.92	1.91	1.91	1.91	1.91	1.87	1.79
Cotton broad woven fabrics.....	2.03	2.02	2.02	2.01	2.01	2.01	1.93	1.94	1.93	1.94	1.94	1.93	1.93	1.88	1.77
Silk and synthetic broad woven fabrics.....	2.04	2.04	2.04	2.04	2.04	2.02	1.98	1.98	1.97	1.96	1.95	1.96	1.96	1.92	1.83
Weaving and finishing broad woolsens.....	2.10	2.09	2.09	2.07	2.07	2.08	2.04	2.01	2.01	2.01	2.00	2.00	1.99	1.96	1.87
Narrow fabrics and small wares.....	1.96	1.96	1.95	1.93	1.93	1.93	1.91	1.90	1.88	1.87	1.86	1.87	1.86	1.84	1.79
Knitting.....	1.88	1.89	1.87	1.87	1.83	1.84	1.84	1.83	1.81	1.81	1.79	1.78	1.78	1.76	1.70
Finishing textiles, except wool and knit.....	2.16	2.16	2.14	2.13	2.13	2.15	2.09	2.09	2.08	2.07	2.06	2.07	2.07	2.02	1.95
Floor covering.....		2.02	2.02	2.01	1.98	1.99	1.95	1.95	1.92	1.93	1.93	1.93	1.93	1.93	1.82
Yarn and thread.....	1.86	1.86	1.86	1.85	1.85	1.84	1.80	1.80	1.79	1.78	1.78	1.77	1.77	1.73	1.63
Miscellaneous textile goods.....	2.21	2.22	2.22	2.19	2.18										

TABLE C-1. Gross hours and earnings of production workers,<sup>1</sup> by industry—Continued

Revised series; see box, p. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Manufacturing—Continued															
Nondurable goods—Continued															
Apparel and related products.....	\$69.87	\$70.64	\$67.83	\$70.11	\$67.88	\$68.63	\$68.26	\$67.51	\$69.37	\$68.81	\$66.05	\$67.15	\$67.70	\$66.61	\$64.26
Men's and boys' suits and coats.....	86.41	86.87	84.83	87.19	85.03	85.86	85.69	83.54	85.25	85.69	83.76	84.20	83.98	81.86	76.23
Men's and boys' furnishings.....	60.31	60.05	59.36	60.10	58.56	59.78	58.30	57.67	59.09	59.31	58.46	58.56	59.03	57.90	56.09
Women's, misses', and juniors' outerwear.....	71.69	72.21	68.67	73.56	71.90	71.34	71.34	71.34	73.63	72.38	66.73	68.68	68.21	68.68	66.78
Women's and children's undergarments.....	65.63	65.74	64.18	63.92	61.99	62.53	62.59	61.39	63.07	62.53	59.45	60.96	62.50	60.19	58.97
Hats, caps, and millinery.....	72.86	67.86	75.38	71.28	70.30	67.71	66.40	74.03	74.43	68.42	69.36	66.18	70.08	69.70	69.70
Girls' and children's outerwear.....	60.90	62.48	59.86	63.86	63.86	64.01	63.15	62.47	64.01	64.75	61.22	60.33	60.82	60.79	58.00
Fur goods and miscellaneous apparel.....	77.46	72.04	74.23	73.43	74.54	74.17	71.54	71.57	71.93	70.40	72.04	73.00	70.81	67.51	67.51
Miscellaneous fabricated textile products.....	78.17	80.96	76.58	76.23	69.92	74.10	74.30	73.71	74.11	73.34	72.35	75.08	77.42	73.73	70.47
Paper and allied products.....	120.81	121.37	121.92	120.77	120.50	120.18	119.03	117.50	117.34	116.37	115.83	117.82	116.85	114.22	109.57
Paper and pulp.....	139.19	138.43	138.29	137.39	137.56	135.45	134.25	132.76	131.72	131.28	130.69	131.87	131.12	128.16	121.88
Paperboard.....	139.19	140.12	138.91	138.12	139.38	138.78	139.54	141.22	136.96	133.95	136.05	138.16	136.80	132.14	124.32
Converted paper and paperboard products.....	104.08	105.00	105.75	104.23	103.91	104.66	103.57	102.34	102.41	101.50	101.26	102.97	100.91	99.42	96.28
Paperboard containers and boxes.....	109.39	110.17	111.89	109.82	108.54	110.08	108.89	106.01	107.35	105.92	104.00	108.50	108.00	104.23	100.56
Printing, publishing and allied industries.....	124.48	125.51	125.12	122.85	121.83	122.54	122.22	120.82	121.06	119.74	117.73	122.30	118.97	118.12	114.35
Newspaper publishing and printing.....	129.17	127.73	127.39	125.17	124.17	125.58	125.24	122.40	119.95	119.62	118.57	125.43	122.69	119.85	116.84
Periodical publishing and printing.....	139.03	139.03	132.93	132.76	129.44	125.58	124.74	126.00	124.90	124.50	120.67	122.15	125.83	122.01	122.01
Books.....	116.48	117.04	115.78	114.11	117.43	116.84	112.59	114.36	111.22	111.22	114.51	111.11	110.68	106.90	106.90
Commercial printing.....	127.44	129.20	129.04	127.20	126.25	125.37	125.45	124.03	125.77	124.03	120.59	124.80	122.14	120.96	116.42
Bookbinding and related industries.....	94.18	96.29	94.92	93.60	92.19	93.65	95.01	94.14	94.95	94.17	90.58	93.93	91.48	91.67	89.40
Other publishing and printing industries.....	127.26	125.26	126.81	124.16	123.00	122.43	122.88	123.13	125.05	124.41	123.24	125.22	120.90	120.90	116.10
Average weekly hours															
Apparel and related products.....	36.2	36.6	35.7	36.9	36.3	36.7	36.5	36.1	36.9	36.6	35.7	36.1	36.4	36.4	35.9
Men's and boys' suits and coats.....	37.9	38.1	37.7	39.1	38.3	38.5	38.6	37.8	38.4	38.6	37.9	38.1	38.0	37.9	36.3
Men's and boys' furnishings.....	37.0	37.3	37.1	37.8	37.3	37.6	36.9	37.4	37.3	37.3	37.0	37.3	37.6	37.6	36.9
Women's, misses', and juniors' outerwear.....	33.5	33.9	32.7	34.7	34.4	34.8	34.8	34.8	35.4	34.8	33.2	33.5	33.6	34.0	33.9
Women's and children's undergarments.....	37.5	38.0	37.1	37.6	36.9	37.0	36.6	35.9	37.1	37.0	35.6	36.5	37.2	36.7	36.4
Hats, caps, and millinery.....	35.0	36.8	34.8	37.5	36.0	37.0	36.6	35.7	37.2	37.4	36.2	36.7	35.2	36.5	36.3
Girls' and children's outerwear.....	35.0	35.7	34.4	36.7	36.7	37.0	36.5	35.9	37.0	37.0	35.8	35.7	36.2	36.4	35.8
Fur goods and miscellaneous apparel.....	38.7	39.3	38.1	38.5	36.8	38.0	38.1	37.8	38.4	38.0	37.1	38.7	39.1	38.4	38.3
Miscellaneous fabricated textile products.....	38.7	39.3	38.1	38.5	36.8	38.0	38.1	37.8	38.4	38.0	37.1	38.7	39.1	38.4	38.3
Paper and allied products.....	43.3	43.5	43.7	43.6	43.5	43.7	43.6	43.2	43.3	43.1	42.9	43.8	43.6	43.1	42.8
Paper and pulp.....	44.9	44.8	44.9	44.9	45.1	45.0	44.9	44.4	44.5	44.5	44.3	44.7	44.6	44.5	44.0
Paperboard.....	44.9	45.2	45.1	44.7	45.4	45.5	45.9	46.3	45.5	44.5	45.2	45.9	45.6	45.1	44.4
Converted paper and paperboard products.....	41.8	42.0	42.3	42.2	41.9	42.2	42.1	41.6	41.8	41.6	41.5	42.2	41.7	41.6	41.5
Paperboard containers and boxes.....	42.4	42.7	43.2	42.9	42.4	43.0	42.7	41.9	42.6	42.2	41.6	43.4	43.2	42.2	41.9
Printing, publishing and allied industries.....	38.9	39.1	39.1	39.0	38.8	38.9	38.8	38.6	38.8	38.5	38.1	39.2	38.5	38.6	38.5
Newspaper publishing and printing.....	36.8	36.6	36.5	36.6	36.2	36.4	36.3	36.0	35.7	35.6	35.5	37.0	36.3	36.1	36.4
Periodical publishing and printing.....	41.9	41.5	40.9	40.6	40.2	39.0	39.0	39.6	40.0	39.4	39.4	38.8	38.9	40.2	40.4
Books.....	39.7	40.0	41.8	42.1	41.8	42.7	42.8	41.7	42.2	41.5	41.5	42.1	41.0	41.3	40.8
Commercial printing.....	38.6	39.3	38.9	39.0	38.9	38.7	39.1	38.9	39.4	39.4	37.9	39.3	38.6	38.8	38.7
Bookbinding and related industries.....	39.4	38.9	38.9	38.8	38.8	38.5	38.4	38.6	39.2	39.0	39.0	39.5	39.0	39.0	38.7
Other publishing and printing industries.....	39.4	38.9	38.9	38.8	38.8	38.5	38.4	38.6	39.2	39.0	39.0	39.5	39.0	39.0	38.7
Average hourly earnings															
Apparel and related products.....	\$1.93	\$1.93	\$1.90	\$1.90	\$1.87	\$1.87	\$1.87	\$1.87	\$1.88	\$1.88	\$1.85	\$1.86	\$1.86	\$1.83	\$1.79
Men's and boys' suits and coats.....	2.28	2.28	2.25	2.23	2.22	2.23	2.22	2.21	2.22	2.22	2.21	2.21	2.21	2.16	2.10
Men's and boys' furnishings.....	1.63	1.61	1.60	1.59	1.57	1.59	1.58	1.58	1.58	1.58	1.58	1.57	1.57	1.54	1.52
Women's, misses', and juniors' outerwear.....	2.14	2.13	2.10	2.12	2.09	2.05	2.05	2.05	2.08	2.08	2.01	2.05	2.03	2.02	1.97
Women's and children's undergarments.....	1.75	1.73	1.73	1.70	1.68	1.69	1.71	1.71	1.70	1.69	1.67	1.67	1.68	1.64	1.62
Hats, caps, and millinery.....	1.98	1.98	1.95	2.01	1.98	1.90	1.85	1.86	1.99	1.99	1.89	1.89	1.88	1.92	1.92
Girls' and children's outerwear.....	1.74	1.75	1.74	1.74	1.74	1.73	1.73	1.74	1.73	1.75	1.71	1.69	1.68	1.67	1.62
Fur goods and miscellaneous apparel.....	2.06	2.06	1.99	1.99	1.99	2.02	2.01	1.96	1.95	1.96	1.95	1.99	2.00	1.94	1.87
Miscellaneous fabricated textile products.....	2.02	2.06	2.01	1.98	1.90	1.95	1.95	1.95	1.93	1.93	1.95	1.94	1.98	1.92	1.84
Paper and allied products.....	2.79	2.79	2.79	2.77	2.77	2.75	2.73	2.72	2.71	2.70	2.70	2.69	2.68	2.65	2.56
Paper and pulp.....	3.10	3.09	3.08	3.06	3.05	3.01	2.99	2.97	2.96	2.95	2.95	2.95	2.94	2.88	2.77
Paperboard.....	3.10	3.10	3.08	3.09	3.07	3.05	3.04	3.05	3.01	3.01	3.01	3.01	3.00	2.93	2.80
Converted paper and paperboard products.....	2.49	2.50	2.50	2.47	2.48	2.48	2.46	2.46	2.45	2.44	2.44	2.44	2.42	2.39	2.32
Paperboard containers and boxes.....	2.58	2.58	2.59	2.56	2.56	2.56	2.55	2.53	2.52	2.51	2.50	2.50	2.50	2.47	2.40
Printing, publishing and allied industries.....	3.20	3.21	3.20	3.15	3.14	3.15	3.15	3.13	3.12	3.11	3.09	3.12	3.09	3.06	2.97
Newspaper publishing and printing.....	3.51	3.49	3.49	3.42	3.43	3.45	3.45	3.40	3.36	3.36	3.34	3.39	3.38	3.32	3.21
Periodical publishing and printing.....	3.35	3.35	3.25	3.27	3.22	3.22	3.22	3.15	3.15	3.17	3.16	3.11	3.14	3.13	3.02
Books.....	2.78	2.80	2.75	2.73	2.75	2.73	2.70	2.71	2.68	2.68	2.72	2.71	2.68	2.62	2.62
Commercial printing.....	3.21	3.23	3.21	3.18	3.18	3.15	3.16	3.14	3.16	3.14	3.10	3.12	3.10	3.07	2.97
Bookbinding and related industries.....	2.44	2.45	2.44	2.40	2.37	2.42	2.43	2.42	2.41	2.39	2.39	2.39	2.37	2.36	2.31
Other publishing and printing industries.....	3.23	3.22	3.26	3.20	3.17	3.18	3.20	3.19	3.19	3.19	3.16	3.17	3.10	3.10	3.00

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, 94.

Industry	1966												1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964	
Average weekly earnings																
Manufacturing—Continued																
Nondurable goods—Continued																
Chemicals and allied products.....	\$127.87	\$127.26	\$127.14	\$125.70	\$126.00	\$125.76	\$124.49	\$124.66	\$122.64	\$123.19	\$122.18	\$123.35	\$123.06	\$121.09	\$116.48	
Industrial chemicals.....	142.89	143.31	142.04	140.53	141.53	140.77	139.26	139.26	137.76	137.34	136.27	138.32	138.65	136.08	131.04	
Plastics materials and synthetics.....	126.48	125.88	125.33	125.50	126.52	125.97	124.98	125.99	122.09	123.25	121.25	122.98	122.69	120.70	116.89	
Drugs.....	116.05	115.49	114.24	111.23	110.68	111.78	111.93	111.66	111.25	111.79	111.38	110.15	109.74	106.90	102.77	
Soap, cleaners, and toilet goods.....	123.81	122.35	122.77	122.93	121.42	121.93	118.12	117.29	116.62	116.31	116.03	117.59	116.33	113.15	108.68	
Paints, varnishes, and allied products.....	116.97	118.40	119.83	118.58	118.01	119.99	120.70	118.72	115.65	114.40	112.75	114.26	113.71	113.15	109.03	
Agricultural chemicals.....	104.23	106.21	105.15	103.39	104.23	102.48	105.94	107.88	106.48	103.25	102.53	102.24	100.44	100.69	97.63	
Other chemical products.....	123.09	122.64	123.97	121.51	120.38	121.55	119.00	118.43	115.62	116.72	116.75	116.90	119.00	116.90	112.98	
Petroleum refining and related industries.....	144.48	145.09	146.80	142.72	147.06	145.95	145.61	145.69	141.62	140.61	141.62	140.95	143.06	138.42	133.76	
Petroleum refining.....	151.32	149.76	152.04	148.57	153.91	152.40	154.15	154.21	149.58	148.10	148.39	148.87	150.78	145.05	139.52	
Other petroleum and coal products.....	120.55	128.86	130.87	123.48	125.27	124.37	116.42	115.87	111.87	112.86	114.09	110.62	114.65	115.90	112.49	
Rubber and miscellaneous plastic products.....	112.44	113.52	114.21	111.04	110.27	111.30	111.57	110.62	110.46	111.14	111.41	113.42	111.94	109.62	104.90	
Tires and inner tubes.....	163.37	167.10	165.99	163.02	162.94	161.55	163.44	162.79	159.56	161.01	162.62	167.17	161.73	158.06	142.54	
Other rubber products.....	110.51	110.62	110.72	106.91	104.34	107.33	106.24	105.06	105.57	106.24	106.75	108.71	107.01	103.82	99.96	
Miscellaneous plastic products.....	94.35	95.04	95.04	93.11	92.21	93.38	93.56	93.11	93.60	93.79	92.74	94.08	93.44	92.35	90.06	
Leather and leather products.....	75.06	74.68	74.09	75.85	74.49	76.05	74.88	73.33	73.92	75.26	74.11	74.87	72.96	71.82	68.98	
Leather tanning and finishing.....	102.47	101.45	100.19	100.19	102.66	103.16	102.09	101.93	100.21	99.31	101.02	101.50	97.99	94.19	89.94	
Footwear, except rubber.....	71.63	71.06	71.25	73.32	72.71	73.88	71.62	69.94	71.05	72.34	71.39	71.94	68.82	68.80	66.55	
Other leather products.....	75.27	75.27	72.18	73.71	70.88	72.77	72.96	71.63	72.77	73.33	71.44	74.11	72.93	70.49	66.73	
Handbags and personal leather goods.....	72.20	66.22	70.49	68.63	68.60	68.63	67.89	69.91	70.09	65.88	68.22	71.34	67.86	64.88		
Average weekly hours																
Chemicals and allied products.....	42.2	42.0	42.1	41.9	42.0	42.2	42.2	42.4	42.0	41.9	41.7	42.1	42.0	41.9	41.6	
Industrial chemicals.....	42.4	42.4	42.4	42.2	42.5	42.4	42.2	42.2	42.0	42.0	41.8	42.3	42.4	42.0	41.6	
Plastics materials and synthetics.....	42.3	42.1	42.2	42.4	42.6	42.7	42.8	43.0	42.1	42.5	42.1	42.7	42.6	42.5	42.2	
Drugs.....	41.3	41.1	40.8	40.3	40.1	40.5	40.7	40.9	40.9	41.1	41.1	41.1	41.1	40.8	40.3	
Soap, cleaners, and toilet goods.....	42.4	41.9	41.9	42.1	41.3	41.9	41.3	41.3	41.5	41.1	41.0	41.7	41.4	40.7	40.4	
Paints, varnishes, and allied products.....	40.9	41.4	41.9	41.9	41.7	42.4	42.5	42.1	41.6	41.3	41.0	41.4	41.2	41.6	41.3	
Agricultural chemicals.....	42.2	43.0	42.4	42.2	42.2	42.7	44.7	46.5	45.7	43.2	42.9	42.6	42.2	43.4	43.2	
Other chemical products.....	42.3	42.0	42.6	41.9	41.8	42.5	41.9	41.7	41.0	41.1	41.4	41.6	41.9	41.9	42.0	
Petroleum refining and related industries.....	42.0	42.3	42.8	42.1	43.0	42.8	42.7	42.6	41.9	41.6	41.9	41.7	42.2	42.2	41.8	
Petroleum refining.....	41.8	41.6	42.0	41.5	42.4	42.1	42.7	42.6	41.9	41.6	41.8	41.7	42.0	41.8	41.4	
Other petroleum and coal products.....	42.9	44.9	45.6	44.1	44.9	44.9	42.8	42.6	41.9	41.8	42.1	41.9	43.1	43.9	43.6	
Rubber and miscellaneous plastic products.....	41.8	42.2	42.3	41.9	41.3	42.0	42.1	41.9	42.0	42.1	42.2	42.8	42.4	42.0	41.3	
Tires and inner tubes.....	43.8	44.8	44.5	44.3	43.8	43.9	44.9	44.6	44.2	44.6	44.8	45.8	44.8	44.4	41.8	
Other rubber products.....	41.7	41.9	42.1	41.6	40.6	41.6	41.5	41.2	41.4	41.5	41.7	42.3	41.8	41.2	40.8	
Miscellaneous plastic products.....	41.2	41.5	41.5	41.2	40.8	41.5	41.4	41.2	41.6	41.5	41.4	42.0	41.9	41.6	41.5	
Leather and leather products.....	38.1	38.1	37.8	39.1	39.0	39.2	38.6	37.8	38.5	39.2	38.8	39.2	38.2	38.2	37.9	
Leather tanning and finishing.....	40.5	40.1	40.4	40.4	40.9	41.1	41.0	41.1	40.9	40.7	41.4	41.4	41.6	41.0	40.6	
Footwear, except rubber.....	37.7	37.6	37.7	39.0	39.3	39.3	38.3	37.4	38.2	39.1	38.8	39.1	37.4	37.8	37.6	
Other leather products.....	38.6	38.8	37.4	39.0	37.7	38.5	38.4	37.9	38.5	38.8	38.0	38.8	39.0	38.1	37.7	
Handbags and personal leather goods.....	38.0	35.6	38.1	37.3	37.3	37.9	37.5	37.1	38.2	38.3	36.6	37.9	39.2	37.7	37.5	
Average hourly earnings																
Chemicals and allied products.....	\$3.03	\$3.03	\$3.02	\$3.00	\$3.00	\$2.98	\$2.95	\$2.94	\$2.92	\$2.94	\$2.93	\$2.93	\$2.93	\$2.89	\$2.80	
Industrial chemicals.....	3.37	3.38	3.35	3.33	3.33	3.32	3.30	3.30	3.28	3.27	3.26	3.27	3.27	3.24	3.15	
Plastics materials and synthetics.....	2.99	2.99	2.97	2.96	2.97	2.95	2.92	2.93	2.90	2.90	2.88	2.88	2.88	2.84	2.77	
Drugs.....	2.81	2.81	2.80	2.76	2.76	2.76	2.75	2.73	2.72	2.72	2.71	2.68	2.67	2.62	2.55	
Soap, cleaners, and toilet goods.....	2.92	2.92	2.93	2.92	2.94	2.91	2.86	2.84	2.81	2.83	2.83	2.82	2.81	2.78	2.69	
Paints, varnishes, and allied products.....	2.86	2.86	2.86	2.83	2.83	2.83	2.84	2.82	2.78	2.77	2.75	2.76	2.76	2.72	2.64	
Agricultural chemicals.....	2.47	2.47	2.48	2.45	2.47	2.40	2.37	2.32	2.33	2.39	2.39	2.40	2.38	2.32	2.26	
Other chemical products.....	2.91	2.92	2.91	2.90	2.88	2.86	2.84	2.84	2.82	2.84	2.82	2.81	2.84	2.79	2.69	
Petroleum refining and related industries.....	3.44	3.43	3.43	3.39	3.42	3.41	3.41	3.42	3.38	3.38	3.38	3.38	3.39	3.28	3.20	
Petroleum refining.....	3.62	3.60	3.62	3.58	3.63	3.62	3.61	3.62	3.57	3.56	3.55	3.57	3.59	3.47	3.37	
Other petroleum and coal products.....	2.81	2.87	2.87	2.80	2.79	2.77	2.72	2.72	2.67	2.70	2.71	2.64	2.66	2.64	2.58	
Rubber and miscellaneous plastic products.....	2.69	2.69	2.70	2.65	2.67	2.65	2.65	2.64	2.63	2.64	2.64	2.65	2.64	2.61	2.54	
Tires and inner tubes.....	3.73	3.73	3.73	3.68	3.72	3.68	3.64	3.65	3.61	3.61	3.63	3.65	3.61	3.56	3.41	
Other rubber products.....	2.65	2.64	2.63	2.57	2.57	2.58	2.56	2.55	2.55	2.56	2.56	2.57	2.56	2.52	2.45	
Miscellaneous plastic products.....	2.29	2.29	2.29	2.26	2.26	2.25	2.26	2.26	2.25	2.26	2.24	2.24	2.23	2.22	2.17	
Leather and leather products.....	1.97	1.96	1.96	1.94	1.91	1.94	1.94	1.92	1.92	1.92	1.91	1.91	1.91	1.88	1.82	
Leather tanning and finishing.....	2.53	2.53	2.53	2.48	2.48	2.51	2.51	2.49	2.48	2.45	2.44	2.44	2.44	2.39	2.32	
Footwear, except rubber.....	1.90	1.89	1.89	1.88	1.85	1.88	1.87	1.87	1.86	1.85	1.84	1.84	1.84	1.82	1.77	
Other leather products.....	1.95	1.94	1.93	1.89	1.88	1.89	1.90	1.89	1.89	1.89	1.89	1.88	1.88	1.85	1.77	
Handbags and personal leather goods.....	1.90	1.86	1.85	1.85	1.84	1.81	1.83	1.83	1.83	1.83	1.80	1.80	1.82	1.80	1.73	

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Average weekly earnings															
Transportation and public utilities:															
Railroad transportation:															
Class I railroads <sup>3</sup>						\$137.54	\$135.83	\$132.75	\$135.12	\$139.91	\$131.94	\$132.76	\$133.04	\$130.80	\$121.80
Local and interurban passenger transit:															
Local and suburban transportation	\$116.10	\$112.83	\$113.63	\$114.59	113.52	113.52	111.83	109.36	109.10	108.42	109.30	109.20	108.20	104.16	104.16
Intercity and rural bus lines	141.80	149.57	158.84	148.50	141.24	142.46	143.60	131.77	138.16	140.87	135.29	136.71	133.72	125.83	125.83
Motor freight transportation and storage:															
Public warehousing	96.88	98.16	98.29	98.33	95.92	95.04	92.43	92.59	95.34	93.26	94.13	94.35	93.09	91.53	91.53
Pipeline transportation	151.88	152.77	148.37	150.38	148.96	151.00	153.18	150.75	151.00	150.32	148.88	149.19	145.85	142.55	142.55
Communication:															
Telephone communication	119.25	119.43	117.62	119.19	118.44	116.47	116.29	116.47	117.74	115.20	117.45	119.97	114.62	110.15	110.15
Telegraph communication <sup>4</sup>	113.55	114.11	112.33	114.12	113.15	111.63	111.08	111.63	112.87	110.12	112.59	115.50	109.08	105.32	105.32
Radio and television broadcasting	129.86	131.94	131.37	131.07	131.50	127.17	124.99	124.26	123.54	123.97	124.99	126.44	122.55	116.05	116.05
Electric, gas, and sanitary services:															
Electric companies and systems	155.56	152.82	149.27	152.05	150.86	148.13	148.92	148.45	150.42	148.45	150.75	149.60	147.63	140.66	140.66
Gas companies and systems	140.87	137.86	136.54	139.35	134.72	135.14	133.99	133.25	135.62	135.20	134.05	135.43	131.24	125.25	125.25
Combined utility systems	141.78	139.93	139.61	143.90	137.78	137.78	136.29	136.29	136.54	137.03	135.38	134.96	133.31	127.62	127.62
Water, steam, and sanitary systems	131.67	128.03	124.64	124.64	122.72	124.14	122.61	121.99	124.92	124.31	123.30	124.50	120.83	116.03	116.03
Water, steam, and sanitary systems	153.30	149.82	148.93	152.70	147.33	147.03	146.26	144.89	149.29	148.19	147.42	150.88	143.79	135.55	135.55
Water, steam, and sanitary systems	111.79	111.24	109.74	112.17	108.39	108.53	110.00	107.83	110.51	108.58	106.55	107.49	105.41	100.77	100.77
Average weekly hours															
Transportation and public utilities:															
Railroad transportation:															
Class I railroads <sup>3</sup>						44.8	44.1	43.1	44.3	44.7	42.7	44.4	44.2	43.6	43.5
Local and interurban passenger transit:															
Local and suburban transportation	43.0	42.1	42.4	42.6	43.0	43.0	42.2	41.9	41.8	41.7	42.2	42.0	42.1	42.0	42.0
Intercity and rural bus lines	43.1	45.6	47.7	45.0	44.0	44.8	45.3	42.1	44.0	44.3	43.5	44.1	43.7	42.8	42.8
Motor freight transportation and storage:															
Public warehousing	43.0	43.1	43.1	42.9	43.1	42.0	41.7	42.0	42.3	41.6	42.7	42.5	42.5	41.9	41.9
Pipeline transportation	41.4	40.9	41.3	40.8	39.8	39.6	39.0	39.4	40.4	40.2	40.4	41.2	40.3	40.5	40.5
Communication:															
Telephone communication	40.5	41.4	41.1	41.2	40.7	40.7	41.4	41.3	40.7	40.3	40.9	41.1	41.2	41.2	41.2
Telegraph communication <sup>4</sup>	40.7	40.9	40.7	41.1	40.7	40.3	40.1	40.3	40.6	40.0	40.5	41.8	40.5	40.2	40.2
Radio and television broadcasting	40.3	39.9	39.7	39.7	39.7	39.5	39.5	39.8	39.9	39.8	40.2	40.0	39.9	39.4	39.4
Electric, gas, and sanitary services:															
Electric companies and systems	41.8	41.4	41.5	42.1	41.2	41.2	41.1	41.0	41.6	41.6	41.5	41.8	41.4	41.2	41.2
Gas companies and systems	41.7	41.4	41.8	42.7	41.5	41.5	41.3	41.3	41.5	41.4	41.4	41.4	41.4	41.4	41.3
Combined utility systems	41.8	41.3	41.0	41.0	40.5	40.7	40.6	40.8	41.5	41.3	41.1	41.5	41.1	41.0	41.0
Water, steam, and sanitary systems	42.0	41.5	41.6	42.3	41.5	41.3	41.2	40.7	41.7	42.1	42.0	42.5	41.8	41.2	41.2
Water, steam, and sanitary systems	41.1	41.2	41.1	41.7	40.9	40.8	41.2	41.0	41.7	41.6	41.3	41.5	41.5	41.3	41.3
Average hourly earnings															
Transportation and public utilities:															
Railroad transportation:															
Class I railroads <sup>3</sup>						\$3.07	\$3.08	\$3.08	\$3.05	\$3.13	\$3.09	\$2.99	\$3.01	\$3.00	\$2.80
Local and interurban passenger transit:															
Local and suburban transportation	\$2.70	\$2.68	\$2.68	\$2.69	2.64	2.64	2.65	2.61	2.61	2.60	2.59	2.60	2.57	2.48	2.48
Intercity and rural bus lines	3.29	3.28	3.33	3.30	3.21	3.18	3.17	3.13	3.14	3.18	3.11	3.10	3.06	2.94	2.94
Motor freight transportation and storage:															
Public warehousing	3.21	3.22	3.17	3.18	3.18	3.17	3.15	3.14	3.13	3.10	3.11	3.10	3.07	2.96	2.96
Pipeline transportation	2.34	2.40	2.38	2.41	2.41	2.40	2.37	2.35	2.36	2.32	2.33	2.29	2.31	2.26	2.26
Communication:															
Telephone communication	3.75	3.69	3.61	3.65	3.66	3.71	3.70	3.65	3.71	3.73	3.64	3.63	3.54	3.46	3.46
Telegraph communication <sup>4</sup>	2.93	2.92	2.89	2.90	2.91	2.89	2.90	2.89	2.90	2.88	2.90	2.87	2.83	2.74	2.74
Radio and television broadcasting	2.79	2.79	2.76	2.77	2.78	2.77	2.77	2.77	2.78	2.76	2.78	2.75	2.70	2.62	2.62
Electric, gas, and sanitary services:															
Electric companies and systems	3.02	3.04	3.02	3.02	3.03	3.02	3.02	2.91	2.90	2.91	2.90	2.92	2.85	2.75	2.75
Gas companies and systems	3.86	3.83	3.76	3.83	3.80	3.75	3.77	3.73	3.77	3.73	3.75	3.74	3.70	3.57	3.57
Combined utility systems	3.37	3.33	3.29	3.31	3.27	3.28	3.26	3.25	3.26	3.25	3.23	3.24	3.17	3.04	3.04
Water, steam, and sanitary systems	3.40	3.38	3.34	3.37	3.32	3.32	3.30	3.30	3.29	3.31	3.27	3.26	3.22	3.09	3.09
Water, steam, and sanitary systems	3.15	3.10	3.04	3.04	3.03	3.05	3.02	2.99	3.01	3.01	3.00	3.00	2.94	2.83	2.83
Water, steam, and sanitary systems	3.65	3.61	3.58	3.61	3.55	3.56	3.55	3.56	3.58	3.52	3.51	3.55	3.44	3.29	3.29
Water, steam, and sanitary systems	2.72	2.70	2.67	2.69	2.65	2.66	2.67	2.63	2.65	2.61	2.58	2.59	2.54	2.44	2.44

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. 94.

Industry	1966											1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964	
	Average weekly earnings															
Wholesale and retail trade.....	\$79.42	\$79.86	\$79.92	\$80.73	\$80.94	\$79.45	\$78.60	\$78.23	\$77.86	\$77.70	\$77.54	\$77.29	\$77.17	\$76.53	\$74.28	
Wholesale trade.....	112.59	112.74	111.93	111.38	112.20	110.70	111.11	110.43	109.48	109.08	108.53	109.59	108.12	106.49	102.31	
Motor vehicles and automotive equipment.....		105.41	106.26	103.42	105.58	104.08	103.83	103.42	103.07	101.75	101.50	102.06	101.82	100.14	96.79	
Drugs, chemicals, and allied products.....		115.37	115.66	113.08	114.33	113.36	114.29	113.88	112.00	111.48	112.44	112.06	111.24	109.08	105.04	
Dry goods and apparel.....		110.78	108.95	109.16	107.82	106.96	107.54	105.75	105.08	105.18	103.32	105.26	104.98	103.19	99.94	
Groceries and related products.....		103.48	103.89	103.66	105.75	101.34	100.85	99.54	99.23	99.06	98.09	98.53	96.08	96.76	94.16	
Electrical goods.....		129.60	127.97	123.65	123.48	125.24	127.15	126.85	125.85	126.58	124.84	130.24	128.63	122.84	111.79	
Hardware, plumbing, and heating goods.....		108.14	108.12	106.90	106.34	106.86	106.34	106.49	105.67	106.37	105.41	105.67	104.04	101.91	98.01	
Machinery, equipment, and supplies.....		124.94	122.18	123.49	123.37	121.66	120.83	120.01	117.96	117.55	116.88	117.99	116.88	115.23	111.52	
Miscellaneous wholesalers.....		111.48	111.35	110.83	111.10	110.83	110.68	110.28	109.07	109.34	109.89	111.11	108.81	107.20	104.38	
Retail trade.....	68.48	68.87	69.09	70.11	70.48	69.14	67.64	67.47	67.12	67.30	67.49	67.71	66.77	66.61	64.75	
General merchandise stores.....		61.15	61.38	62.24	62.93	61.49	59.88	59.73	59.40	59.22	58.53	60.55	58.74	58.81	56.77	
Department stores.....		65.27	65.54	66.50	67.18	65.52	63.83	63.69	62.98	62.98	62.08	63.30	61.88	62.98	61.18	
Mail order houses.....		70.04	71.25	71.66	71.55	71.96	70.64	68.61	68.94	67.40	66.78	79.80	68.61	71.00	70.12	
Limited price variety stores.....		46.21	46.66	48.00	47.23	46.03	44.54	44.97	44.82	44.53	44.53	46.53	44.64	44.10	41.53	
Food stores.....		71.60	72.76	74.84	75.05	73.49	70.81	70.26	70.26	70.35	70.35	70.17	70.98	70.32	68.51	
Grocery, meat, and vegetable stores.....		72.81	74.00	75.90	76.33	74.74	71.81	71.26	71.26	71.69	71.57	71.32	72.21	71.69	69.55	
Apparel and accessories stores.....		58.79	59.01	59.84	60.52	58.92	58.03	58.18	56.90	57.05	58.38	60.38	57.23	57.46	55.26	
Men's and boys' apparel stores.....		72.24	71.48	73.64	74.78	73.44	70.90	69.65	68.56	69.40	71.20	70.79	69.05	69.84	67.53	
Women's ready-to-wear stores.....		52.80	52.98	52.63	54.26	52.81	52.49	52.33	51.19	51.04	52.49	54.54	51.84	51.46	49.73	
Family clothing stores.....		58.18	57.32	59.99	60.12	57.67	57.38	57.55	57.23	56.40	59.04	60.70	56.72	56.45	54.27	
Shoe stores.....		57.34	60.41	60.52	59.88	57.66	56.36	59.67	55.67	56.52	56.65	59.40	56.03	56.64	55.21	
		Average weekly hours														
Wholesale and retail trade.....	36.6	36.8	37.0	37.9	38.0	37.3	36.9	36.9	36.9	37.0	37.1	37.7	37.1	37.7	37.9	
Wholesale trade.....	40.5	40.7	40.7	40.8	41.1	40.7	40.7	40.6	40.7	40.7	40.8	41.2	40.8	40.8	40.6	
Motor vehicles and automotive equipment.....		41.5	42.0	41.7	42.4	41.8	41.7	41.7	41.9	41.7	41.6	42.0	41.9	41.9	41.9	
Drugs, chemicals, and allied products.....		40.2	40.3	40.1	40.4	40.2	40.1	40.1	40.0	40.1	40.3	40.6	40.6	40.4	40.4	
Dry goods and apparel.....		38.2	37.7	38.3	38.1	38.2	38.0	37.5	37.8	37.7	37.3	38.0	37.9	37.8	38.0	
Groceries and related products.....		40.9	40.9	41.3	42.3	40.7	40.5	40.3	40.5	40.6	40.7	41.4	40.2	41.0	41.3	
Electrical goods.....		43.2	42.8	42.2	42.0	42.6	43.1	43.0	43.1	43.2	42.9	44.3	43.9	42.8	41.1	
Hardware, plumbing, and heating goods.....		40.5	40.8	40.8	40.9	41.1	40.9	40.8	40.8	40.6	40.7	40.8	40.8	40.6	40.5	
Machinery, equipment, and supplies.....		41.1	41.0	41.3	41.4	41.1	41.1	41.1	41.1	41.1	41.3	41.4	41.3	41.3	41.0	
Miscellaneous wholesalers.....		40.1	40.2	40.3	40.4	40.3	40.1	40.1	40.1	40.2	40.4	40.7	40.3	40.3	40.3	
Retail trade.....	3.53	35.5	35.8	36.9	36.9	36.2	35.6	35.7	35.7	35.8	35.9	36.6	35.9	36.6	37.0	
General merchandise stores.....		32.7	33.0	34.2	34.2	33.6	32.9	33.0	33.0	32.9	32.7	35.9	33.0	33.8	34.2	
Department stores.....		32.8	33.1	34.1	34.1	33.6	32.9	33.0	32.8	32.8	32.5	34.4	32.4	33.5	33.8	
Mail order houses.....		34.5	35.1	35.3	34.9	35.1	34.8	33.8	34.3	33.7	33.9	42.0	36.3	36.6	37.7	
Limited price variety stores.....		30.6	30.7	32.0	31.7	31.1	30.3	30.8	30.7	30.5	30.5	33.0	31.0	31.5	31.7	
Food stores.....		33.3	34.0	35.3	35.4	34.5	33.4	33.3	33.3	33.5	33.5	33.9	33.8	34.3	34.6	
Grocery, meat, and vegetable stores.....		33.4	34.1	35.3	35.5	34.6	33.4	33.3	33.3	33.5	33.6	33.8	33.9	34.3	34.6	
Apparel and accessories stores.....		32.3	32.6	34.0	34.0	33.1	32.6	32.5	32.7	32.6	32.8	34.5	32.7	33.6	33.9	
Men's and boys' apparel stores.....		34.4	34.7	36.1	36.3	36.0	35.1	35.0	34.8	34.7	34.9	36.3	34.7	36.0	36.7	
Women's ready-to-wear stores.....		32.0	32.5	33.1	33.7	32.8	32.4	32.5	32.4	32.1	32.4	34.3	32.4	33.2	33.6	
Family clothing stores.....		32.5	32.2	33.7	33.4	32.4	32.6	32.7	32.7	32.6	32.8	34.1	32.6	33.4	33.5	
Shoe stores.....		30.5	31.3	34.0	32.9	31.0	30.3	30.6	31.1	31.4	31.3	33.0	31.3	32.0	32.1	
		Average hourly earnings														
Wholesale and retail trade.....	\$2.17	\$2.17	\$2.16	\$2.13	\$2.13	\$2.13	\$2.13	\$2.12	\$2.11	\$2.10	\$2.09	\$2.05	\$2.08	\$2.03	\$1.96	
Wholesale trade.....	2.78	2.77	2.75	2.73	2.73	2.72	2.73	2.72	2.69	2.68	2.66	2.66	2.65	2.61	2.52	
Motor vehicles and automotive equipment.....		2.54	2.53	2.48	2.49	2.49	2.49	2.48	2.46	2.44	2.44	2.43	2.43	2.39	2.31	
Drugs, chemicals, and allied products.....		2.87	2.87	2.82	2.83	2.82	2.85	2.84	2.80	2.78	2.79	2.77	2.74	2.70	2.60	
Dry goods and apparel.....		2.90	2.89	2.85	2.83	2.80	2.83	2.82	2.78	2.79	2.77	2.77	2.77	2.73	2.63	
Groceries and related products.....		2.53	2.54	2.51	2.50	2.49	2.49	2.47	2.45	2.44	2.41	2.38	2.39	2.36	2.28	
Electrical goods.....		3.00	2.99	2.92	2.94	2.94	2.95	2.95	2.92	2.93	2.91	2.94	2.93	2.87	2.72	
Hardware, plumbing, and heating goods.....		2.67	2.65	2.62	2.60	2.60	2.60	2.61	2.59	2.62	2.59	2.59	2.55	2.51	2.42	
Machinery, equipment, and supplies.....		3.04	2.98	2.99	2.98	2.96	2.94	2.92	2.87	2.86	2.83	2.85	2.83	2.79	2.72	
Miscellaneous wholesalers.....		2.78	2.77	2.75	2.75	2.75	2.76	2.75	2.72	2.72	2.72	2.72	2.70	2.66	2.59	
Retail trade.....	1.94	1.94	1.93	1.90	1.91	1.91	1.90	1.89	1.88	1.88	1.88	1.85	1.86	1.82	1.75	
General merchandise stores.....		1.87	1.86	1.82	1.84	1.83	1.82	1.81	1.80	1.80	1.79	1.73	1.78	1.74	1.66	
Department stores.....		1.99	1.98	1.95	1.97	1.95	1.94	1.93	1.92	1.92	1.91	1.84	1.91	1.88	1.81	
Mail order houses.....		2.03	2.03	2.03	2.05	2.05	2.03	2.03	2.01	2.00	1.97	1.90	1.89	1.94	1.86	
Limited price variety stores.....		1.51	1.52	1.50	1.49	1.48	1.47	1.46	1.46	1.46	1.46	1.41	1.44	1.40	1.31	
Food stores.....		2.15	2.14	2.12	2.12	2.13	2.12	2.11	2.11	2.10	2.10	2.07	2.10	2.05	1.98	
Grocery, meat, and vegetable stores.....		2.18	2.17	2.15	2.15	2.16	2.15	2.14	2.14	2.14	2.13	2.11	2.13	2.09	2.01	
Apparel and accessories stores.....		1.82	1.81	1.76	1.78	1.78	1.78	1.79	1.74	1.75	1.78	1.75	1.75	1.71	1.63	
Men's and boys' apparel stores.....		2.10	2.06	2.04	2.06	2.04	2.02	1.99	1.97	2.00	2.04	1.95	1.99	1.94	1.84	
Women's ready-to-wear stores.....		1.65	1.63	1.59	1.61	1.61	1.62	1.61	1.58	1.59	1.62	1.59	1.60	1.55	1.48	
Family clothing stores.....		1.79	1.78	1.78	1.80	1.78	1.76	1.75	1.73	1.80	1.80	1.78	1.74	1.69	1.62	
Shoe stores.....		1.88	1.93	1.78	1.82	1.86	1.86	1.95	1.79	1.80	1.81	1.80	1.79	1.77	1.72	

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. 94.

Industry	1966										1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Average weekly earnings															
Wholesale and retail trade—Continued															
Retail trade—Continued															
Furniture and appliance stores.....	\$91.96	\$91.64	\$91.37	\$91.77	\$89.89	\$88.59	\$87.81	\$88.09	\$87.47	\$89.21	\$92.75	\$89.10	\$88.18	\$85.44	
Furniture and home furnishings.....	91.01	90.46	91.20	90.12	89.89	88.65	87.47	87.30	86.63	88.03	91.98	88.13	86.98	83.82	
Eating and drinking places <sup>5</sup> .....	47.91	48.00	48.93	48.79	47.40	46.51	46.31	46.31	46.38	46.17	46.23	45.49	45.76	44.38	
Other retail trade.....	86.40	85.81	86.90	87.53	86.46	84.99	85.01	84.00	83.81	84.03	84.46	84.03	83.44	80.75	
Building materials and hardware.....	93.41	93.21	93.28	93.51	92.64	90.91	90.49	88.81	88.38	89.02	90.10	89.25	88.41	85.46	
Motor vehicle dealers.....	109.31	106.50	108.97	110.77	110.25	108.46	108.28	107.50	104.92	104.98	106.52	106.76	105.32	100.76	
Other vehicle and accessory dealers.....	90.48	89.20	91.54	92.82	89.38	88.54	87.03	86.76	86.76	87.16	86.24	85.93	85.89	85.41	
Drug stores.....	63.05	63.46	64.60	65.15	63.50	61.70	61.72	61.20	61.58	61.41	63.55	62.11	61.60	59.57	
Fuel and ice dealers.....	102.85	99.25	97.29	98.33	97.11	98.18	98.41	99.54	102.38	103.97	100.62	99.06	96.05	93.09	
Finance, insurance, and real estate <sup>6</sup> .....	\$93.25	92.88	92.01	92.13	92.75	91.88	92.63	92.50	91.76	92.13	91.76	90.88	90.27	88.91	85.79
Banking.....	83.40	82.14	82.21	82.43	81.18	82.21	82.21	81.84	81.47	82.28	80.35	80.35	79.24	76.67	
Credit agencies other than banks.....	87.09	85.27	85.96	86.41	84.75	86.56	86.18	85.28	86.26	87.10	85.28	84.67	84.29	80.89	
Savings and loan associations.....	87.93	86.25	87.05	89.07	85.38	86.81	86.54	85.56	86.16	87.70	84.67	84.22	84.67	82.72	
Security dealers and exchanges.....	133.19	133.20	132.82	135.42	139.13	149.71	148.93	145.16	144.02	139.13	138.28	135.72	127.43	120.99	
Insurance carriers.....	100.44	99.70	99.32	99.80	99.06	98.69	98.85	98.85	99.22	98.21	97.61	96.87	95.86	92.01	
Life insurance.....	100.19	99.82	99.82	99.65	98.92	98.64	98.19	98.92	98.82	98.26	97.52	96.15	95.63	91.73	
Accident and health insurance.....	88.45	90.27	89.65	88.91	89.17	88.56	88.43	88.32	88.67	86.14	86.35	85.98	85.38	81.70	
Fire, marine, and casualty insurance.....	102.82	101.52	101.41	101.90	101.41	100.93	100.81	100.70	101.08	100.17	100.20	99.44	97.92	94.75	
Average weekly hours															
Wholesale and retail trade—Continued															
Retail trade—Continued															
Furniture and appliance stores.....	39.3	39.5	39.9	39.9	39.6	39.2	39.2	39.5	39.4	39.3	40.5	39.6	39.9	40.3	
Furniture and home furnishings.....	39.4	39.5	40.0	39.7	39.6	39.4	39.4	39.5	39.2	39.3	40.7	39.7	39.9	40.3	
Eating and drinking places <sup>5</sup> .....	33.5	33.8	35.2	35.1	34.1	33.7	33.8	33.8	34.1	34.2	34.5	34.2	35.2	35.5	
Other retail trade.....	40.0	40.1	40.8	40.9	40.4	39.9	40.1	40.0	40.1	40.4	40.8	40.4	40.9	41.2	
Building materials and hardware.....	41.7	41.8	42.4	42.7	42.3	41.7	41.7	41.5	41.3	41.6	42.3	41.9	42.1	42.1	
Motor vehicle dealers.....	42.7	42.6	42.9	43.1	42.9	42.7	42.8	43.0	43.0	43.2	43.3	43.4	43.7	44.0	
Other vehicle and accessory dealers.....	43.5	43.3	43.8	44.2	43.6	43.4	43.3	43.6	43.6	43.8	44.0	43.4	43.6	43.8	
Drug stores.....	33.9	34.3	35.3	35.6	34.7	33.9	34.1	34.0	34.4	34.5	35.7	34.7	35.4	36.1	
Fuel and ice dealers.....	42.5	41.7	41.4	42.2	41.5	41.6	41.7	42.0	43.2	43.5	43.0	42.7	42.5	42.9	
Finance, insurance, and real estate <sup>6</sup> .....	37.3	37.3	37.1	37.3	37.4	37.2	37.2	37.3	37.3	37.3	37.4	37.3	37.2	37.3	
Banking.....	37.4	37.0	37.2	37.3	36.9	37.2	37.2	37.2	37.2	37.4	37.2	37.2	37.2	37.4	
Credit agencies other than banks.....	37.7	37.4	37.7	37.9	37.5	37.8	37.8	37.9	38.0	38.2	37.9	37.8	37.8	37.8	
Savings and loan associations.....	37.1	36.7	37.2	37.9	36.8	37.1	37.3	37.2	37.3	37.8	37.3	37.1	37.3	37.6	
Security dealers and exchanges.....	37.1	37.0	37.1	37.1	37.5	37.9	37.8	38.0	37.8	37.1	38.2	37.7	37.7	37.0	
Insurance carriers.....	37.2	37.2	37.2	37.1	37.1	37.1	37.3	37.3	37.3	37.2	37.4	37.4	37.3	37.1	
Life insurance.....	36.7	36.7	36.7	36.5	36.5	36.4	36.5	36.5	36.6	36.8	36.8	36.7	36.5	36.4	
Accident and health insurance.....	36.7	37.3	37.2	37.2	37.0	36.9	37.0	36.8	37.1	36.5	36.9	36.9	36.8	36.8	
Fire, marine, and casualty insurance.....	37.8	37.6	37.7	37.6	37.7	37.8	37.9	38.0	38.0	37.8	38.1	38.1	38.1	37.9	
Average hourly earnings															
Wholesale and retail trade—Continued															
Retail trade—Continued															
Furniture and appliance stores.....	\$2.34	\$2.32	\$2.29	\$2.30	\$2.27	\$2.26	\$2.24	\$2.23	\$2.22	\$2.27	\$2.29	\$2.25	\$2.21	\$2.12	
Furniture and home furnishings.....	2.31	2.29	2.28	2.27	2.27	2.25	2.22	2.21	2.21	2.24	2.26	2.22	2.18	2.08	
Eating and drinking places <sup>5</sup> .....	1.43	1.42	1.39	1.39	1.39	1.38	1.37	1.37	1.36	1.35	1.34	1.33	1.30	1.25	
Other retail trade.....	2.16	2.14	2.13	2.14	2.14	2.13	2.12	2.10	2.09	2.08	2.07	2.08	2.04	1.96	
Building materials and hardware.....	2.24	2.23	2.20	2.19	2.19	2.18	2.17	2.14	2.14	2.14	2.13	2.13	2.10	2.03	
Motor vehicle dealers.....	2.56	2.50	2.54	2.57	2.57	2.54	2.53	2.50	2.44	2.43	2.46	2.46	2.41	2.29	
Other vehicle and accessory dealers.....	2.08	2.06	2.09	2.10	2.05	2.04	2.01	1.99	1.99	1.99	1.96	1.98	1.97	1.95	
Drug stores.....	1.86	1.85	1.83	1.83	1.83	1.82	1.81	1.80	1.79	1.78	1.78	1.79	1.74	1.65	
Fuel and ice dealers.....	2.42	2.38	2.35	2.33	2.34	2.36	2.36	2.37	2.37	2.39	2.34	2.32	2.26	2.17	
Finance, insurance, and real estate <sup>6</sup> .....	\$2.50	2.49	2.48	2.47	2.47	2.49	2.48	2.46	2.47	2.46	2.43	2.42	2.39	2.30	
Banking.....	2.23	2.22	2.21	2.21	2.20	2.21	2.21	2.20	2.19	2.20	2.16	2.16	2.13	2.05	
Credit agencies other than banks.....	2.31	2.28	2.28	2.28	2.26	2.29	2.28	2.25	2.27	2.28	2.25	2.24	2.23	2.14	
Savings and loan associations.....	2.37	2.35	2.34	2.35	2.32	2.34	2.32	2.30	2.31	2.32	2.27	2.27	2.27	2.20	
Security dealers and exchanges.....	3.59	3.60	3.58	3.65	3.71	3.95	3.94	3.82	3.81	3.75	3.62	3.60	3.38	3.27	
Insurance carriers.....	2.70	2.68	2.67	2.69	2.67	2.66	2.65	2.65	2.66	2.64	2.61	2.59	2.57	2.48	
Life insurance.....	2.73	2.72	2.72	2.73	2.71	2.71	2.69	2.71	2.70	2.67	2.65	2.62	2.62	2.52	
Accident and health insurance.....	2.41	2.42	2.41	2.39	2.41	2.40	2.39	2.40	2.39	2.36	2.34	2.33	2.32	2.22	
Fire, marine, and casualty insurance.....	2.72	2.70	2.69	2.71	2.69	2.67	2.66	2.65	2.66	2.65	2.63	2.61	2.57	2.50	

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. 94.

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Average weekly earnings														
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>3</sup> .....		\$55.06	\$53.73	\$53.58	\$53.72	\$52.68	\$52.97	\$52.36	\$52.13	\$52.59	\$52.36	\$52.73	\$51.99	\$51.17	\$49.54
Personal services:															
Laundries, cleaning and dyeing plants.....		62.65	61.88	60.74	61.76	62.15	61.44	60.04	59.82	58.90	59.44	59.68	58.83	58.98	55.73
Motion pictures:															
Motion picture filming and distributing.....		166.57	159.29	162.51	165.68	160.19	148.71	147.66	146.07	148.80	153.97	156.75	152.09	148.08	136.17
	Average weekly hours														
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>3</sup> .....		37.2	36.8	38.0	38.1	37.1	37.3	37.4	37.5	37.3	37.4	37.4	37.4	37.9	38.4
Personal services:															
Laundries, cleaning and dyeing plants.....		38.2	38.2	38.2	38.6	38.6	38.4	38.0	38.1	38.0	38.1	38.5	38.2	38.8	38.7
Motion pictures:															
Motion picture filming and distributing.....		42.6	41.7	42.1	42.7	41.5	40.3	39.8	39.8	40.0	40.2	40.4	39.3	39.7	39.7
	Average hourly earnings														
Services and miscellaneous:															
Hotels and lodging places:															
Hotels, tourist courts, and motels <sup>3</sup> .....		\$1.48	\$1.46	\$1.41	\$1.41	\$1.42	\$1.42	\$1.40	\$1.39	\$1.41	\$1.40	\$1.41	\$1.39	\$1.35	\$1.29
Personal services:															
Laundries, cleaning and dyeing plants.....		1.64	1.62	1.59	1.60	1.61	1.60	1.58	1.57	1.55	1.56	1.55	1.54	1.52	1.44
Motion pictures:															
Motion picture filming and distributing.....		3.91	3.82	3.86	3.88	3.86	3.69	3.71	3.67	3.72	3.83	3.88	3.87	3.73	3.43

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9. For employees covered, see footnote 1, table A-10.

<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 (ICC Group D). Beginning January 1965, data relate to railroads with operating revenues of \$5,000,000 or more.

<sup>4</sup> Data relate to nonsupervisory employees except messengers.

<sup>5</sup> Money payments only, tips not included.

<sup>6</sup> Data for nonoffice salesmen excluded from all series in this division.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics for all series except that for Class I 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. 94.

Industry division and group	1966											1965	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.
Mining.....	42.4	42.8	42.9	42.4	43.2	42.9	42.6	41.7	43.2	42.7	42.6	42.9	42.1
Contract construction.....	37.1	37.3	37.7	36.9	37.8	37.4	36.1	37.2	38.5	38.1	37.8	38.6	37.2
Manufacturing.....	41.3	41.3	41.5	41.4	41.0	41.3	41.5	41.5	41.5	41.5	41.4	41.3	41.4
Durable goods.....	42.1	42.2	42.3	42.1	41.8	42.0	42.2	42.3	42.3	42.4	42.4	42.2	42.2
Ordnance and accessories.....	42.1	42.2	42.5	42.1	42.7	42.1	42.4	42.2	42.0	42.3	42.4	42.4	42.4
Lumber and wood products, except furniture.....	40.8	40.4	40.3	40.3	40.6	40.5	41.4	41.3	41.1	41.2	41.4	41.5	41.2
Furniture and fixtures.....	40.9	41.1	41.2	41.6	41.0	41.8	42.0	41.6	41.9	41.7	41.7	41.7	41.7
Stone, clay, and glass products.....	41.7	41.8	41.9	41.8	41.5	41.9	41.8	42.1	42.8	42.4	42.5	43.0	42.2
Primary metal industries.....	42.2	42.8	42.5	42.4	41.6	42.0	42.2	41.8	41.9	41.9	41.9	41.3	41.2
Fabricated metal products.....	42.1	42.3	42.7	42.2	42.1	42.3	42.4	42.4	42.4	42.5	42.5	42.3	42.3
Machinery.....	43.9	43.9	44.3	43.8	43.3	43.8	43.8	43.7	44.0	43.9	43.8	43.8	43.7
Electrical equipment and supplies.....	41.1	41.1	41.3	41.2	40.9	41.2	41.3	41.4	41.3	41.5	41.5	41.4	41.2
Transportation equipment.....	42.4	42.3	42.9	43.2	42.1	42.3	42.2	43.4	42.9	43.3	43.4	43.0	42.9
Instruments and related products.....	41.7	42.0	42.2	41.7	41.7	42.0	42.4	42.0	42.4	42.3	42.2	41.7	41.7
Miscellaneous manufacturing industries.....	39.8	40.0	39.9	40.0	39.7	40.1	40.3	40.0	40.3	40.2	40.0	40.2	40.2
Nondurable goods.....	40.1	40.1	40.2	40.2	40.1	40.3	40.3	40.3	40.4	40.5	40.2	40.2	40.3
Food and kindred products.....	41.0	40.9	41.2	41.1	41.3	41.0	40.9	41.1	41.1	41.5	41.1	41.1	41.1
Tobacco manufactures.....	37.8	37.6	38.7	37.8	37.9	38.0	38.5	39.2	39.4	41.3	38.9	37.8	37.9
Textile mill products.....	41.0	41.3	42.1	42.0	41.7	42.2	42.2	41.9	42.4	42.3	42.2	42.0	41.9
Apparel and related products.....	36.3	36.7	35.6	36.3	36.2	36.5	36.5	36.4	36.5	36.5	36.2	36.4	36.5
Paper and allied products.....	43.4	43.1	43.4	43.3	43.4	43.4	43.7	43.7	43.5	43.5	43.3	43.5	43.7
Printing, publishing, and allied industries.....	39.0	39.0	38.9	38.9	39.0	39.0	38.7	38.9	38.9	38.7	38.5	38.7	38.6
Chemicals and allied products.....	42.2	42.1	42.0	42.0	42.0	42.0	41.9	42.3	42.0	42.1	42.0	42.0	42.0
Petroleum refining and related industries.....	42.2	42.3	41.8	41.9	42.4	42.5	42.5	42.6	42.6	42.6	42.3	42.0	42.4
Rubber and miscellaneous plastic products.....	41.8	42.1	42.0	41.8	41.5	41.7	42.1	42.4	42.2	42.3	42.3	42.3	42.4
Leather and leather products.....	38.5	38.8	38.3	38.6	38.3	38.7	39.0	39.0	38.5	38.7	38.5	38.4	38.6
Wholesale and retail trade.....	36.9	36.9	37.0	37.3	37.3	37.2	37.0	37.1	37.1	37.3	37.4	37.4	37.4
Wholesale trade.....	40.5	40.7	40.7	40.8	40.9	40.6	40.7	40.7	40.8	40.9	41.0	40.9	40.8
Retail trade.....	35.7	35.7	35.8	36.1	36.1	36.0	35.9	35.9	36.0	36.1	36.2	36.3	36.3

<sup>1</sup> For employees covered, see footnote 1, table A-10.<sup>2</sup> Preliminary.NOTE: The seasonal adjustment method used is described in *The BLS Seasonal Factor Method* (1966) which may be obtained from the Bureau on request.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. 94.

Major industry group	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Manufacturing.....	\$2.63	\$2.62	\$2.61	\$2.57	\$2.59	\$2.58	\$2.58	\$2.58	\$2.56	\$2.56	\$2.56	\$2.54	\$2.53	\$2.50	\$2.44
Durable goods.....	2.80	2.79	2.78	2.73	2.74	2.74	2.74	2.74	2.72	2.72	2.72	2.70	2.69	2.67	2.60
Ordnance and accessories.....	3.08	3.07	3.06	3.04	3.04	3.04	3.05	3.04	3.05	3.04	3.05	3.07	3.04	3.03	2.96
Lumber and wood products, except furniture.....	2.21	2.22	2.19	2.18	2.17	2.16	2.13	2.09	2.10	2.08	2.08	2.08	2.10	2.08	2.03
Furniture and fixtures.....	2.13	2.12	2.11	2.10	2.10	2.10	2.09	2.07	2.06	2.06	2.06	2.06	2.06	2.03	1.97
Stone, clay, and glass products.....	2.62	2.61	2.59	2.57	2.57	2.57	2.57	2.55	2.55	2.54	2.54	2.53	2.49	2.49	2.42
Primary metal industries.....	3.16	3.15	3.13	3.15	3.14	3.13	3.13	3.11	3.09	3.09	3.07	3.07	3.06	3.04	2.99
Fabricated metal products.....	2.76	2.75	2.71	2.71	2.70	2.71	2.71	2.70	2.69	2.68	2.67	2.66	2.63	2.63	2.57
Machinery.....	2.94	2.92	2.89	2.89	2.89	2.89	2.88	2.87	2.86	2.86	2.85	2.84	2.81	2.81	2.75
Electrical equipment and supplies.....	2.55	2.54	2.52	2.52	2.52	2.52	2.52	2.51	2.51	2.51	2.51	2.50	2.49	2.49	2.44
Transportation equipment.....	3.21	3.21	3.13	3.13	3.13	3.12	3.11	3.11	3.11	3.10	3.10	3.10	3.09	3.04	2.96
Instruments and related products.....	2.60	2.60	2.58	2.58	2.59	2.57	2.58	2.57	2.56	2.56	2.55	2.55	2.53	2.52	2.47
Miscellaneous manufacturing industries.....	2.14	2.14	2.12	2.14	2.14	2.13	2.14	2.13	2.13	2.13	2.08	2.06	2.07	2.02	2.02
Nondurable goods.....	2.39	2.37	2.36	2.34	2.35	2.34	2.34	2.33	2.32	2.31	2.31	2.31	2.29	2.27	2.21
Food and kindred products.....	2.40	2.39	2.37	2.39	2.41	2.42	2.43	2.41	2.38	2.38	2.36	2.36	2.33	2.33	2.27
Tobacco manufactures.....	2.05	2.04	2.12	2.27	2.26	2.24	2.24	2.18	2.17	2.13	2.09	2.08	2.08	1.96	1.91
Textile mill products.....	1.90	1.89	1.88	1.88	1.88	1.83	1.83	1.82	1.82	1.82	1.81	1.81	1.81	1.78	1.71
Apparel and related products.....	1.88	1.86	1.85	1.84	1.83	1.83	1.83	1.83	1.84	1.84	1.82	1.83	1.82	1.80	1.76
Paper and allied products.....	2.62	2.61	2.60	2.60	2.58	2.57	2.57	2.55	2.55	2.55	2.53	2.52	2.50	2.43	2.43
Printing, publishing, and allied industries.....			(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Chemicals and allied products.....	2.91	2.90	2.88	2.89	2.87	2.84	2.82	2.81	2.83	2.83	2.83	2.83	2.83	2.79	2.72
Petroleum refining and related industries.....	3.30	3.29	3.27	3.28	3.28	3.27	3.30	3.28	3.29	3.28	3.27	3.28	3.28	3.18	3.10
Rubber and miscellaneous plastic products.....	2.55	2.55	2.52	2.55	2.52	2.52	2.52	2.51	2.51	2.51	2.51	2.51	2.50	2.49	2.44
Leather and leather products.....	1.91	1.91	1.88	1.86	1.88	1.88	1.89	1.87	1.86	1.86	1.86	1.86	1.86	1.84	1.78

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9. For employees covered, see footnote 1, table A-10. 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 weekly overtime hours of production workers in manufacturing, by industry<sup>1</sup>  
 Revised series; see box, p. 94.

Industry	1966										1965		Annual average		
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Manufacturing.....	3.9	4.1	4.2	4.0	3.8	4.0	4.0	3.9	3.9	3.8	3.7	4.0	3.9	3.6	3.1
Durable goods.....	4.3	4.5	4.6	4.3	4.1	4.4	4.4	4.3	4.2	4.2	4.1	4.4	4.3	3.9	3.3
Nondurable goods.....	3.4	3.6	3.7	3.5	3.5	3.5	3.4	3.3	3.3	3.3	3.1	3.4	3.4	3.2	2.9
<i>Durable goods</i>															
Ordnance and accessories.....		4.3	4.2	4.1	3.7	3.9	3.7	3.6	3.4	3.5	3.9	4.0	3.7	3.0	1.8
Ammunition, except for small arms.....		3.6	3.5	3.5	3.0	3.1	3.1	3.0	2.9	3.2	3.8	3.8	3.8	3.1	1.8
Sighting and fire control equipment.....		2.2	3.4	3.0	3.4	4.1	3.6	3.5	3.4	3.7	3.4	4.0	2.6	1.6	1.3
Other ordnance and accessories.....		6.3	6.0	5.6	5.4	5.6	5.0	5.2	4.5	4.4	4.0	4.4	3.9	2.9	2.0
Lumber and wood products, except furniture.....		3.9	4.0	4.1	4.1	4.2	4.4	4.3	4.0	3.7	3.8	3.9	3.9	3.8	3.4
Sawmills and planing mills.....		3.9	3.9	4.1	4.1	4.3	4.5	4.4	4.0	3.8	3.8	3.8	3.7	3.7	3.4
Millwork, plywood, and related products.....		3.7	3.8	3.9	3.9	4.2	4.7	4.4	4.1	3.9	3.9	4.2	4.3	4.0	3.6
Wooden containers.....		3.5	4.0	4.6	4.5	4.4	4.7	4.2	3.4	3.6	3.6	4.2	3.8	3.5	2.8
Miscellaneous wood products.....		4.0	4.2	4.1	4.0	3.9	3.9	3.9	3.8	3.6	3.6	3.7	3.8	3.6	3.4
Furniture and fixtures.....		4.3	4.3	4.2	3.3	4.0	3.8	3.4	3.7	3.5	3.4	4.4	4.1	3.6	3.2
Household furniture.....		4.2	4.0	3.9	2.9	3.7	3.6	3.3	3.6	3.5	3.3	4.4	4.1	3.6	3.4
Office furniture.....		5.2	4.9	5.2	4.7	4.7	4.6	4.5	4.3	4.5	4.0	4.2	3.7	3.5	2.5
Partitions; office and store fixtures.....		4.8	5.5	5.4	4.1	4.9	4.3	3.6	4.0	3.6	3.5	4.7	4.5	3.7	2.4
Other furniture and fixtures.....		4.1	5.1	5.0	4.6	4.5	4.1	3.4	3.4	3.2	3.1	4.2	3.8	3.7	3.1
Stone, clay, and glass products.....		4.7	4.7	4.8	4.7	4.9	4.8	4.6	4.5	4.0	4.0	4.3	4.6	4.2	3.9
Flat glass.....		4.9	3.8	4.0	4.2	3.6	4.1	4.8	4.4	4.3	4.3	3.4	5.6	4.1	3.7
Glass and glassware, pressed or blown.....		4.3	4.1	4.1	4.1	4.6	4.5	4.0	4.4	4.3	4.0	4.2	4.4	4.0	3.6
Cement, hydraulic.....		2.8	3.0	3.0	3.3	2.7	2.8	2.7	2.7	2.3	2.5	1.9	2.2	2.2	2.1
Structural clay products.....		3.7	3.7	3.7	3.9	4.0	3.9	3.8	3.6	3.1	3.3	3.5	3.7	3.6	3.3
Pottery and related products.....		2.7	3.0	2.7	2.0	2.6	2.2	2.5	2.3	2.4	2.3	2.4	2.6	2.2	2.0
Concrete, gypsum, and plaster products.....		6.6	7.0	7.3	7.2	7.1	7.0	6.8	6.3	5.0	5.3	6.0	6.3	6.2	5.9
Other stone and mineral products.....		4.3	4.2	4.2	4.0	4.4	4.3	4.3	4.0	4.0	3.4	3.8	3.9	3.5	3.3
Primary metal industries.....		4.1	4.5	4.1	3.9	4.2	4.0	4.1	4.0	3.9	3.6	3.5	3.4	3.8	3.2
Blast furnace and basic steel products.....		2.6	3.3	3.0	3.1	2.9	2.8	2.8	2.4	2.3	1.8	1.5	1.4	2.8	2.4
Iron and steel foundries.....		5.2	5.3	5.1	4.5	5.4	5.1	5.6	5.6	5.6	5.1	5.5	5.6	5.5	4.7
Nonferrous smelting and refining.....		4.4	4.3	4.2	3.8	4.0	3.8	3.9	3.6	3.5	3.2	3.5	3.6	3.5	3.1
Nonferrous rolling, drawing, and extruding.....		6.1	6.3	6.0	5.5	6.5	6.2	5.9	5.9	5.9	6.0	5.9	5.4	5.0	3.9
Nonferrous foundries.....		4.9	5.2	4.4	3.7	4.7	4.5	4.6	4.5	4.5	4.7	4.7	4.2	3.9	3.2
Miscellaneous primary metal industries.....		6.3	6.5	5.4	4.8	5.7	6.0	5.4	6.1	6.3	6.1	6.1	6.0	5.2	4.0
Fabricated metal products.....		4.7	5.0	4.7	4.3	4.6	4.6	4.3	4.3	4.2	4.1	4.4	4.4	4.0	3.4
Metal cans.....		3.6	5.1	5.6	6.9	4.6	4.8	4.4	3.8	4.0	3.4	2.9	3.5	4.5	3.8
Cutlery, handtools, and general hardware.....		3.7	3.8	3.5	3.1	3.6	3.7	3.6	3.4	3.3	3.4	3.8	4.0	3.4	3.1
Heating equipment and plumbing fixtures.....		3.3	3.2	3.0	2.3	3.1	3.0	2.6	2.4	2.5	2.1	2.7	2.8	2.3	2.2
Fabricated structural metal products.....		4.4	4.7	4.4	4.1	4.3	4.1	3.6	3.5	3.4	3.4	4.1	4.0	3.6	3.0
Screw machine products, bolts, etc.....		7.1	7.3	6.5	5.9	7.0	6.9	6.7	6.8	7.0	6.7	6.7	6.1	5.4	4.3
Metal stampings.....		5.7	6.0	5.4	5.1	5.1	5.3	5.3	5.3	5.2	5.3	5.6	5.8	5.2	4.5
Coating, engraving, and allied services.....		5.3	5.7	5.1	4.4	5.0	5.1	4.8	4.8	4.7	4.3	4.8	4.7	4.3	3.8
Miscellaneous fabricated wire products.....		4.5	4.5	4.4	4.4	4.5	4.6	4.0	4.1	4.4	4.0	4.1	4.4	3.8	3.1
Miscellaneous fabricated metal products.....		4.2	4.4	4.3	3.8	4.9	4.6	4.0	4.3	4.1	3.7	3.8	3.8	3.4	2.7
Machinery.....		5.6	5.7	5.4	5.2	5.8	5.8	5.6	5.7	5.6	5.3	5.5	5.0	4.6	3.9
Engines and turbines.....		4.8	5.8	6.0	5.8	5.7	6.0	5.8	5.4	4.4	3.9	4.9	4.0	4.1	3.1
Farm machinery and equipment.....		3.6	4.0	3.4	3.2	3.7	4.2	4.4	4.3	4.0	3.7	3.7	2.8	2.9	2.6
Construction and related machinery.....		5.1	4.9	4.9	5.2	5.3	5.3	5.1	5.1	5.0	4.5	4.7	4.4	4.2	3.5
Metalworking machinery and equipment.....		7.6	7.6	7.1	7.4	8.2	8.3	8.0	8.2	8.0	7.6	7.7	7.1	6.7	5.9
Special industry machinery.....		5.7	6.1	5.4	4.7	5.8	5.5	5.3	5.6	5.6	5.4	5.9	5.3	4.8	4.1
General industrial machinery.....		6.0	6.0	5.6	5.0	5.8	5.7	5.1	5.1	5.2	5.1	5.4	5.0	4.4	3.5
Office, computing, and accounting machines.....		4.1	3.9	3.5	3.2	4.0	4.0	3.7	4.2	4.6	4.9	5.0	4.3	3.4	2.3
Service industry machines.....		3.3	3.3	3.7	3.4	3.7	3.3	3.3	3.5	3.3	3.0	3.2	3.0	2.9	2.3
Miscellaneous machinery.....		6.5	6.6	6.3	5.9	6.3	6.3	6.3	6.4	6.2	6.1	6.1	5.8	5.4	4.7
Electrical equipment and supplies.....		3.5	3.6	3.2	3.2	3.4	3.4	3.3	3.3	3.4	3.2	3.6	3.4	2.8	2.3
Electric distribution equipment.....		3.8	4.4	3.7	3.9	4.1	3.9	3.5	3.7	3.4	3.3	3.8	3.4	2.9	2.6
Electrical industrial apparatus.....		4.1	4.7	4.3	4.3	4.5	4.7	4.5	4.4	4.3	4.1	4.2	3.7	3.5	3.0
Household appliances.....		3.7	4.1	3.8	3.6	3.6	3.8	3.6	2.9	3.5	3.3	4.4	3.7	3.0	2.2
Electric lighting and wiring equipment.....		3.3	3.3	3.2	2.8	3.1	3.1	2.8	2.8	2.9	2.8	3.1	3.2	2.7	2.1
Radio and TV receiving sets.....		3.8	3.3	2.9	2.7	2.5	1.9	2.4	2.3	2.3	2.3	3.0	3.1	2.4	1.7
Communication equipment.....		3.5	3.6	2.9	2.7	3.2	3.4	3.0	3.3	3.4	3.6	3.8	3.4	2.7	2.2
Electronic components and accessories.....		2.8	2.9	2.7	2.9	3.3	3.4	3.3	3.3	3.4	2.9	3.0	3.0	2.4	2.1
Miscellaneous electrical equipment and supplies.....		3.8	3.5	3.1	2.5	2.8	3.0	2.9	2.9	3.5	3.2	4.2	4.0	3.2	2.6
Transportation equipment.....		5.2	4.9	4.8	4.5	4.4	4.4	5.1	4.7	4.8	5.1	5.7	6.0	4.8	3.9
Motor vehicles and equipment.....		5.8	5.2	5.0	4.4	4.2	4.1	5.8	4.7	5.3	5.5	6.9	7.4	6.2	5.0
Aircraft and parts.....		5.1	5.1	5.2	5.0	5.1	5.2	4.6	5.1	5.0	5.6	4.9	4.9	3.3	2.5
Ship and boat building and repairing.....		4.2	3.7	3.9	4.1	4.2	4.0	4.2	4.4	3.8	3.8	3.6	3.8	3.4	3.1
Railroad equipment.....		3.1	3.0	3.5	3.9	3.1	3.6	3.7	3.0	2.9	3.1	3.1	2.5	2.6	2.8
Other transportation equipment.....		2.8	3.4	3.1	2.6	3.2	3.3	2.9	2.8	2.0	2.0	2.5	2.9	2.9	3.2
Instruments and related products.....		4.0	4.0	3.5	3.4	3.8	3.8	3.5	3.6	3.7	3.5	3.6	3.6	3.0	2.4
Engineering and scientific instruments.....		4.7	4.5	3.9	4.0	4.5	4.5	3.7	4.0	4.2	3.9	4.5	4.0	3.4	2.3
Mechanical measuring and control devices.....		4.3	4.4	3.8	3.9	4.1	4.3	4.0	3.8	4.0	4.1	3.4	3.4	2.9	2.5
Optical and ophthalmic goods.....		3.2	3.5	3.1	3.0	3.3	3.2	2.2	3.3	3.2	2.9	2.9	2.8	2.7	2.4
Ophthalmic goods.....		2.8	2.9	2.5	2.8	2.8	2.8	2.1	2.9	2.7	2.6	2.5	2.6	2.4	2.1
Surgical, medical, and dental equipment.....		2.8	2.9	2.7	2.6	2.8	2.9	2.6	2.7	2.4	2.5	3.0	2.7	2.1	2.0
Photographic equipment and supplies.....		5.0	5.1	4.1	3.9	4.6	4.8	4.9	4.7	5.0	4.3	4.6	4.8	4.0	3.3
Watches and clocks.....		2.9	2.8	2.6	2.3	2.4	2.4	2.5	2.8	2.6	2.5	3.2	3.1	2.4	1.6

See footnotes at end of table.



TABLE C-4. Average weekly overtime hours of production workers in manufacturing, by industry<sup>1</sup>—Continued

Industry	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	Revised series; see box, p. 94.														
Manufacturing—Continued															
Durable goods—Continued															
Miscellaneous manufacturing industries		3.4	3.3	3.1	2.3	2.8	2.9	2.8	3.1	2.9	2.7	3.2	3.2	2.7	2.4
Jewelry, silverware, and plated ware		5.6	4.9	4.6	2.2	4.2	4.1	4.1	4.3	3.7	3.7	5.3	4.8	3.6	3.3
Toys, amusement and sporting goods		3.2	3.3	3.1	2.3	2.3	2.6	2.6	2.7	2.5	2.4	2.9	3.0	2.6	2.1
Pens, pencils, office and art materials		2.8	2.7	2.4	2.0	2.6	2.2	2.0	2.4	2.1	1.8	3.2	3.1	2.3	1.8
Costume jewelry, buttons, and notions		2.8	2.9	2.9	2.2	3.4	3.0	2.6	3.0	3.0	2.7	2.9	2.9	2.4	2.0
Other manufacturing industries		3.3	3.2	2.9	2.3	2.7	2.9	2.8	3.1	2.9	2.8	2.9	3.1	2.7	2.5
Musical instruments and parts		3.8	3.5	2.9	2.3	3.1	3.2	2.8	3.2	3.5	2.7	3.6	4.2	3.0	3.1
Nondurable goods															
Food and kindred products		4.1	4.4	4.0	4.7	4.2	3.8	3.4	3.4	3.6	3.5	3.8	3.9	3.8	3.6
Meat products		4.6	5.1	4.2	4.5	4.3	3.9	3.5	3.4	3.5	4.2	4.3	4.9	4.2	4.2
Dairy products		3.6	4.0	3.9	4.6	4.3	3.7	3.5	3.3	3.4	3.2	3.3	3.3	3.6	3.5
Canned and preserved food, except meats		3.1	3.5	3.4	3.6	3.1	3.1	2.8	2.7	3.3	2.6	2.7	2.8	2.9	2.8
Grain mill products		7.7	8.5	7.0	7.9	7.3	6.4	5.6	5.6	6.3	6.0	6.9	6.2	6.6	6.3
Bakery products		3.7	3.8	3.8	4.3	3.9	3.5	3.3	3.1	3.2	3.1	3.3	3.4	3.3	3.1
Sugar		3.1	4.4	4.0	4.8	4.0	3.7	3.5	4.6	4.5	3.4	3.7	4.1	3.9	3.7
Confectionery and related products		2.9	3.1	2.9	2.3	2.5	2.3	1.9	2.6	2.4	2.5	2.7	2.7	2.4	2.2
Beverages		3.7	4.0	4.2	6.7	4.4	3.5	3.6	3.1	2.8	2.7	3.2	3.3	3.3	3.1
Miscellaneous food and kindred products		4.8	5.0	4.2	4.4	4.2	4.1	3.8	3.9	4.4	4.0	4.5	4.9	4.3	4.0
Tobacco manufactures		1.4	1.5	1.7	1.7	1.5	1.2	1.3	1.0	1.9	.9	1.3	1.1	1.1	1.6
Cigarettes		1.5	1.8	2.2	2.5	1.9	1.2	1.6	.9	2.9	.6	.9	.6	.8	1.6
Cigars		1.3	.9	1.2	.8	1.0	1.3	1.1	1.1	1.2	1.2	2.0	1.3	1.3	2.1
Textile mill products		4.2	4.4	4.4	4.4	4.6	4.6	4.5	4.6	4.6	4.3	4.6	4.6	4.2	3.6
Cotton broad woven fabrics		4.9	5.2	5.1	5.5	5.3	5.3	5.3	5.5	5.6	5.4	5.3	5.4	4.8	4.3
Silk and synthetic broad woven fabrics		4.3	4.7	5.2	5.6	4.9	6.0	5.5	5.7	5.5	4.8	5.5	5.5	5.3	5.0
Weaving and finishing broad wools		4.0	4.3	4.3	5.0	5.2	5.5	5.3	5.1	5.2	4.7	4.6	4.1	4.4	3.4
Narrow fabrics and smallwares		3.9	4.3	3.9	3.7	4.4	4.0	3.9	4.4	4.5	4.1	4.2	4.1	3.6	3.1
Knitting		2.6	2.7	3.1	2.6	2.8	2.8	2.2	2.5	2.3	2.1	2.4	2.7	2.5	2.1
Finishing textiles, except wool and knit		5.0	4.9	4.8	4.5	5.9	5.6	5.7	5.8	5.5	5.1	5.6	5.4	4.6	4.2
Floor covering		4.3	5.4	4.9	3.5	4.5	4.1	4.2	4.4	4.7	4.0	6.2	6.1	5.1	4.4
Yarn and thread		4.6	5.0	4.9	4.7	5.1	5.0	5.2	5.2	5.4	5.2	5.1	5.2	4.7	3.6
Miscellaneous textile goods		5.0	5.2	4.7	4.2	5.1	5.2	5.0	4.8	4.9	4.8	5.3	5.1	4.3	3.6
Apparel and related products		1.7	1.5	1.7	1.3	1.5	1.5	1.4	1.6	1.5	1.3	1.4	1.7	1.4	1.3
Men's and boys' suits and coats		1.8	1.7	1.8	1.3	1.7	1.7	1.4	1.6	1.8	1.5	1.6	1.7	1.5	1.0
Men's and boys' furnishings		1.4	1.3	1.5	1.1	1.4	1.3	1.2	1.3	1.2	1.1	1.2	1.4	1.2	1.0
Women's, misses', juniors' outerwear		1.4	1.2	1.4	1.3	1.5	1.5	1.4	1.8	1.5	1.2	1.2	1.3	1.3	1.3
Women's and children's undergarments		2.1	1.9	1.9	1.5	1.5	1.5	1.3	1.7	1.6	1.1	1.4	1.9	1.4	1.4
Hats, caps, and millinery		1.2	1.2	1.7	1.3	1.3	1.0	1.0	1.9	1.9	1.3	1.2	.9	1.4	1.4
Girls' and children's outerwear		1.4	1.5	1.8	1.7	1.9	1.6	1.4	1.6	1.8	1.4	1.1	1.6	1.4	1.3
Fur goods and miscellaneous apparel		2.2	1.5	1.6	1.1	1.6	1.6	1.2	1.3	1.3	1.2	1.6	2.0	1.4	1.2
Miscellaneous fabricated textile products		3.1	2.4	2.4	1.6	1.9	1.9	1.9	2.0	1.8	1.7	2.2	2.9	2.1	1.9
Paper and allied products		5.7	5.8	5.6	5.5	5.7	5.6	5.3	5.3	5.1	5.0	5.5	5.6	5.0	4.7
Paper and pulp		6.6	6.5	6.4	6.3	6.5	6.7	6.2	6.2	6.2	6.1	6.2	6.3	6.0	5.7
Paperboard		7.3	7.4	7.4	7.6	7.7	7.8	8.2	7.5	7.0	7.5	7.7	7.6	7.0	6.3
Converted paper and paperboard products		4.3	4.5	4.3	4.3	4.3	3.9	3.7	3.9	3.7	3.5	4.0	4.0	3.5	3.3
Paperboard containers and boxes		5.4	5.7	5.0	4.9	5.2	5.0	4.5	4.8	4.5	4.2	5.2	5.4	4.5	4.1
Printing, publishing, and allied industries		3.9	4.0	3.7	3.4	3.5	3.5	3.3	3.5	3.0	2.8	3.6	3.2	3.1	2.9
Newspaper publishing and printing		3.1	3.0	2.7	2.6	3.0	3.0	2.6	2.3	2.0	1.9	3.2	2.7	2.4	2.4
Periodical publishing and printing		5.7	5.8	4.6	3.9	3.3	3.4	3.7	4.1	3.7	3.4	3.1	3.3	3.8	4.0
Books		4.9	5.2	5.4	4.9	5.4	5.4	5.1	5.1	4.4	4.3	4.6	4.2	4.2	3.8
Commercial printing		4.3	4.4	4.1	3.8	3.7	3.8	3.6	3.9	3.5	3.1	3.9	3.4	3.4	3.1
Bookbinding and related industries		3.3	3.3	3.1	2.8	2.8	3.0	2.8	3.0	2.4	2.2	2.6	2.5	2.5	2.4
Other publishing and printing industries		3.7	3.9	3.5	3.2	3.0	2.6	2.9	3.6	3.1	3.0	3.5	2.9	3.1	2.7
Chemicals and allied products		3.6	3.5	3.4	3.3	3.4	3.4	3.4	3.7	3.3	3.1	2.9	3.0	3.0	2.7
Industrial chemicals		3.7	3.5	3.4	3.5	3.4	3.2	3.4	3.2	3.0	2.9	3.0	3.0	3.0	2.6
Plastics materials and synthetics		3.4	3.2	3.5	3.5	3.4	3.3	3.6	3.0	3.2	2.8	2.9	2.9	2.9	2.7
Drugs		2.8	3.1	2.6	2.3	2.5	2.8	2.8	2.9	3.0	3.1	3.2	2.9	2.6	2.0
Soap, cleaners, and toilet goods		3.8	3.9	3.8	3.2	3.4	2.9	3.0	3.1	2.9	2.8	3.2	3.1	2.5	2.5
Paints, varnishes, and allied products		3.3	3.4	3.3	3.0	3.7	3.8	3.4	2.7	2.6	2.2	2.3	2.5	2.7	2.5
Agricultural chemicals		4.7	4.2	3.7	3.8	4.3	6.5	8.9	7.3	4.7	4.1	4.0	3.5	4.9	4.6
Other chemical products		3.7	3.8	3.3	3.3	3.6	3.4	3.1	2.7	3.0	2.9	2.9	3.2	3.0	3.0
Petroleum refining and related industries		3.3	3.7	3.1	3.7	3.6	3.5	3.4	2.6	2.4	2.4	2.6	2.8	2.8	2.5
Petroleum refining		2.1	2.6	2.2	2.7	2.6	3.1	3.0	2.3	2.0	1.9	2.2	2.2	2.1	1.8
Other petroleum and coal products		7.3	7.4	5.8	6.8	6.7	5.0	4.6	3.9	3.8	4.2	4.0	5.2	5.5	5.0
Rubber, miscellaneous plastic products		4.8	4.7	4.3	3.9	4.3	4.4	4.2	4.3	4.4	4.4	4.7	4.6	4.1	3.4
Tires and inner tubes		6.5	6.1	5.7	5.8	5.4	6.5	6.6	5.8	6.7	6.8	6.7	6.5	6.1	4.3
Other rubber products		4.3	4.4	4.0	3.3	3.8	3.7	3.5	3.6	3.6	3.7	4.1	4.0	3.3	2.7
Miscellaneous plastic products		4.4	4.5	4.0	3.5	4.2	4.1	3.9	4.2	4.0	4.0	4.3	4.0	3.7	3.7
Leather and leather products		1.9	2.0	2.2	2.2	2.3	2.1	1.9	2.1	2.4	2.1	2.3	2.1	1.8	1.7
Leather tanning and finishing		3.3	3.4	3.3	3.4	3.8	4.0	3.5	3.5	3.5	3.3	3.6	4.0	3.3	2.9
Footwear, except rubber		1.5	1.7	2.0	2.1	2.1	1.9	1.6	1.9	2.2	1.9	2.0	1.6	1.6	1.5
Other leather products		2.5	2.5	2.5	1.8	2.3	2.1	2.1	2.2	2.4	2.2	2.5	2.7	2.0	1.7
Handbags and personal leather goods		2.4	2.2	2.7	1.8	2.0	2.0	1.9	2.5	2.4	1.7	1.8	2.8	1.9	2.0

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9. For employees covered, see footnote 1, table A-10.

These series cover premium overtime hours of production and related workers during the pay period which includes the 12th 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 ends 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>2</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. 94.

Activity	1966											1965		Annual average	
	Nov. <sup>2</sup>	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
Man-hours															
Total	116.9	119.5	120.0	119.6	117.2	118.8	114.6	112.2	111.5	109.2	108.6	112.5	112.7	109.1	103.2
Mining	81.4	84.5	84.7	86.5	85.9	86.9	83.7	74.3	81.5	80.2	81.3	84.1	82.7	82.9	82.7
Contract construction	110.6	123.5	126.1	131.4	132.4	126.1	112.4	107.4	102.5	92.5	97.8	108.6	113.2	110.2	105.2
Manufacturing	119.9	120.6	120.7	119.1	116.0	119.1	116.5	114.9	114.6	113.7	111.9	114.6	114.1	110.2	103.9
Durable goods	126.7	127.1	126.9	123.2	121.5	125.8	123.6	122.1	120.9	119.6	118.1	120.0	118.5	114.1	105.5
Ordnance and accessories	158.0	153.7	150.9	145.2	142.5	141.5	139.3	134.4	132.0	130.8	128.3	122.3	122.6	113.1	118.7
Lumber and wood products, except furniture	95.3	98.0	100.2	104.1	103.7	105.6	102.0	98.9	96.4	94.8	95.9	98.8	99.1	97.5	95.7
Furniture and fixtures	128.6	130.3	130.0	131.6	122.5	128.1	124.3	122.0	123.7	121.6	120.8	126.4	124.0	119.0	111.6
Stone, clay, and glass products	109.1	111.7	113.5	115.4	114.5	115.2	112.8	110.9	108.0	104.5	105.4	109.0	111.0	108.1	105.4
Primary metal industries	114.5	115.6	117.7	117.3	116.3	119.2	116.5	115.8	113.5	112.1	110.2	108.0	105.4	112.9	106.2
Fabricated metal products	129.5	130.0	130.2	127.2	122.7	128.2	126.2	124.3	123.4	122.6	121.2	123.6	123.1	117.2	107.9
Machinery	137.8	137.5	138.0	135.9	134.5	137.9	136.3	134.3	134.2	132.8	130.2	130.6	126.6	123.0	112.1
Electrical equipment and supplies	154.5	153.9	152.1	148.6	141.9	146.7	143.3	141.5	139.4	139.5	137.4	139.1	135.3	125.6	113.0
Transportation equipment	123.2	121.9	119.4	103.0	109.3	116.5	116.4	117.2	116.3	115.4	114.6	117.1	115.6	106.8	94.8
Instruments and related products	129.9	130.0	129.3	127.7	125.5	128.2	125.6	122.9	123.6	122.3	120.0	119.5	118.5	112.3	104.6
Miscellaneous manufacturing industries	122.0	124.7	121.5	120.1	109.9	117.3	114.8	111.5	111.0	108.0	102.3	115.7	121.8	109.8	102.7
Non-durable goods	111.0	112.0	112.6	113.7	108.9	110.4	107.3	105.6	106.5	105.9	103.8	107.5	108.3	105.2	101.7
Food and kindred products	98.9	101.6	106.3	106.1	99.5	94.0	88.5	86.9	87.1	87.6	88.4	93.8	98.6	94.0	94.0
Tobacco manufactures	90.0	97.7	100.4	87.7	70.8	73.4	72.1	73.9	77.2	84.0	83.9	93.9	89.6	86.2	92.9
Textile mill products	104.6	105.1	105.8	107.2	103.4	108.4	106.0	103.4	105.2	104.5	102.6	104.4	104.9	101.5	96.8
Apparel and related products	119.5	121.1	117.7	122.5	114.2	121.1	118.8	116.2	120.6	118.9	110.5	115.9	117.3	115.0	109.1
Paper and allied products	118.4	117.4	117.5	118.4	117.2	118.2	114.7	113.4	112.7	111.4	110.9	114.2	113.1	109.8	106.8
Printing, publishing, and allied industries	118.8	119.4	118.7	118.0	116.4	116.7	115.1	114.3	114.2	113.0	110.9	114.8	112.7	110.2	106.5
Chemicals and allied products	116.7	116.7	116.9	117.9	116.8	117.9	116.0	116.1	113.4	111.5	110.1	110.9	110.6	110.1	106.0
Petroleum refining and related industries	79.3	80.2	82.2	82.2	83.9	82.6	80.2	78.7	76.3	75.5	75.7	76.4	78.1	78.3	78.9
Rubber and miscellaneous plastic products	154.3	154.1	152.1	149.7	143.6	147.9	145.8	143.8	143.2	142.2	142.8	145.6	143.3	135.4	122.1
Leather and leather products	97.1	96.7	96.7	102.4	97.7	102.1	98.6	96.2	99.3	101.5	98.7	100.5	97.6	96.3	94.6
Payrolls															
Mining		100.4	105.6	105.4	105.2	106.5	102.5	87.4	97.7	96.5	97.5	100.0	98.0	97.0	93.1
Contract construction		154.8	173.2	177.0	180.3	171.1	152.6	145.1	137.9	125.4	131.4	145.2	150.1	144.3	132.4
Manufacturing		156.4	156.9	156.7	148.6	152.5	149.0	146.8	145.3	143.8	141.3	144.3	142.9	136.3	124.3

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9. 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-10.

<sup>2</sup> Preliminary.

TABLE C-6. Gross and spendable average weekly earnings of production workers in manufacturing <sup>1</sup>  
[In current and 1957-59 dollars] <sup>1</sup>

Revised series; see box, p. 94.

Item	1966											1965		Annual average	
	Oct. <sup>2</sup>	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	1965	1964
<i>Manufacturing</i>															
Gross average weekly earnings:															
Current dollars	\$113.85	\$113.71	\$111.78	\$111.11	\$112.74	\$112.05	\$111.24	\$110.95	\$110.27	\$110.00	\$110.92	\$109.71	\$109.03	\$107.53	\$102.97
1957-59 dollars	99.43	99.66	98.22	98.07	99.86	99.51	98.88	99.06	98.81	99.10	99.93	99.20	98.76	97.84	95.25
Spendable average weekly earnings:															
Worker with no dependents:															
Current dollars	92.72	92.61	91.14	90.63	91.87	91.35	90.73	90.51	90.00	89.79	91.80	90.83	90.28	89.08	84.40
1957-59 dollars	80.98	81.17	80.09	79.99	81.37	81.13	80.65	80.81	80.65	80.89	82.70	82.12	81.78	81.06	78.08
Worker with 3 dependents:															
Current dollars	100.65	100.54	99.00	98.47	99.77	99.22	98.57	98.34	97.80	97.58	99.62	98.61	98.04	96.78	92.18
1957-59 dollars	87.90	88.12	86.99	86.91	88.37	88.12	87.62	87.80	87.63	87.91	89.75	89.16	88.80	88.06	85.27

<sup>1</sup> For comparability of data with those published in issues prior to October 1966, see footnote 1, table A-9. For employees covered, see footnote 1, table A-10.

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 married 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 Spendable Earnings Series," *Monthly Labor Review*, April 1966, pp. 406-410.

## 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, all items, groups, subgroups, and special groups of items

[1957-59=100 unless otherwise specified]

Group	1966											1965		Annual average	
	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
All items	114.6	114.5	114.1	113.8	113.3	112.9	112.6	112.5	112.0	111.6	111.0	111.0	110.6	109.9	108.8
All items (1947-49=100)	140.6	140.5	140.0	139.6	139.0	138.5	138.2	138.0	137.4	136.9	136.2	136.2	135.7	134.8	132.6
Food	114.8	115.6	115.6	115.8	114.3	113.9	113.5	114.0	113.9	113.1	111.4	110.6	109.7	108.8	106.4
Food at home	112.8	113.8	114.0	114.4	112.7	112.3	112.0	112.7	112.6	111.8	109.8	108.9	107.8	107.2	104.7
Cereals and bakery products	118.6	118.3	118.4	117.3	114.8	114.7	114.3	114.1	113.6	113.2	113.0	112.2	111.4	111.2	109.6
Meats, poultry, and fish	111.8	113.8	114.8	114.5	114.3	114.2	113.9	115.6	116.9	115.7	112.9	110.1	108.5	105.1	98.6
Dairy products	116.7	117.1	116.0	114.8	111.0	109.6	109.3	108.9	108.1	107.0	106.6	106.1	105.8	105.0	104.7
Fruits and vegetables	114.9	115.3	116.6	122.3	121.5	121.7	119.2	119.8	117.4	116.5	111.3	111.0	109.9	115.2	115.3
Other foods at home <sup>2</sup>	104.8	106.0	105.3	104.9	102.1	101.3	102.8	103.6	103.7	103.5	102.9	103.8	102.9	101.8	101.6
Food away from home	125.7	125.2	124.6	124.0	123.5	122.8	122.2	121.6	121.2	120.8	120.4	119.9	119.6	117.8	115.2
Housing	112.6	112.2	111.8	111.5	111.3	111.1	110.7	110.3	109.6	109.4	109.2	109.4	109.2	108.5	107.2
Shelter <sup>3</sup>	115.8	115.5	115.0	114.6	114.4	114.1	113.5	113.0	112.3	112.1	112.0	111.8	111.5	110.6	108.7
Rent	111.2	111.0	110.7	110.6	110.3	110.2	110.2	110.1	109.9	109.8	109.7	109.5	109.3	108.9	107.8
Homeownership <sup>4</sup>	117.8	117.4	116.8	116.4	116.2	115.8	115.0	114.3	113.5	113.3	113.1	112.9	112.5	111.4	109.1
Fuel and utilities <sup>5</sup>	108.3	108.1	108.0	107.9	107.9	108.0	108.2	108.3	106.6	106.5	106.4	108.1	107.9	107.2	107.3
Fuel oil and coal <sup>6</sup>	108.9	108.3	107.4	107.0	107.0	107.0	108.0	108.5	108.9	109.0	108.9	108.6	107.2	105.6	103.5
Gas and electricity	108.1	108.0	108.1	108.1	108.1	108.1	108.2	108.3	108.2	108.2	107.9	108.0	108.0	107.8	107.9
Household furnishings and operation <sup>7</sup>	106.5	106.1	105.7	105.2	105.1	104.8	104.6	104.4	104.0	103.8	103.6	103.6	103.3	103.1	102.8
Apparel and upkeep <sup>8</sup>	112.0	111.5	110.7	109.2	109.2	109.4	109.3	108.7	108.2	107.6	107.3	108.1	108.1	106.8	105.7
Men's and boys'	112.4	111.5	111.2	109.9	109.6	110.1	109.9	109.6	109.0	108.6	108.6	109.3	109.2	107.4	106.1
Women's and girls'	107.8	107.5	106.3	103.8	104.6	104.7	105.0	104.2	103.9	103.1	102.6	104.3	104.6	103.1	102.3
Footwear	122.8	122.2	121.3	120.4	119.8	119.8	119.0	118.1	116.9	116.2	115.6	115.6	115.1	112.9	111.0
Transportation	114.5	114.3	113.3	113.5	113.5	112.2	112.0	112.0	111.4	111.1	111.2	111.6	111.5	111.1	109.3
Private	112.6	112.3	111.3	111.6	111.5	110.7	110.5	110.5	109.9	109.6	109.6	110.1	110.1	109.7	107.9
Public	129.6	129.6	129.5	129.2	129.1	122.8	122.1	122.1	122.1	122.0	122.0	122.0	121.6	121.4	119.0
Health and recreation	120.8	120.4	119.9	119.5	119.1	118.7	118.4	118.1	117.6	117.1	116.9	116.6	116.4	115.6	113.6
Medical care	131.3	130.4	129.4	128.4	127.7	127.0	126.3	125.8	125.3	124.5	124.2	123.7	123.4	122.3	119.4
Personal care	113.4	113.3	113.0	112.7	112.5	112.2	112.0	111.6	111.0	110.8	110.4	110.0	109.6	109.9	109.2
Reading and recreation	118.3	118.0	117.5	117.4	117.2	117.0	116.8	116.6	116.6	115.9	115.7	115.4	115.4	115.2	114.1
Other goods and services <sup>9</sup>	116.0	115.9	115.7	115.5	115.3	114.9	114.7	114.3	113.8	113.6	113.4	113.4	113.3	111.4	108.8
Special groups:															
All items less shelter	114.4	114.3	113.9	113.6	113.1	112.6	112.4	112.4	111.9	111.4	110.8	110.8	110.4	109.6	108.0
All items less food	114.8	114.4	113.8	113.4	113.2	112.8	112.5	112.2	111.6	111.3	111.1	111.3	111.2	110.4	108.9
Commodities <sup>10</sup>	110.2	110.3	110.0	109.8	109.3	109.0	108.8	108.8	108.4	108.0	107.4	107.4	107.1	106.4	105.2
Nondurables <sup>11</sup>	112.9	113.1	112.9	112.5	111.8	111.5	111.3	111.4	111.1	110.6	109.6	109.4	108.9	107.9	106.0
Durables <sup>10 12</sup>	103.5	103.5	102.7	103.0	103.0	102.6	102.5	102.3	102.0	101.8	101.9	102.4	102.4	102.6	103.0
Services <sup>10 13 14</sup>	124.7	124.1	123.5	123.0	122.6	122.0	121.5	121.1	120.1	119.7	119.5	119.3	119.0	117.8	115.2
Commodities less food <sup>10</sup>	107.8	107.6	107.0	106.6	106.7	106.4	106.3	106.0	105.6	105.4	105.3	105.7	105.6	105.1	104.4
Nondurables less food	111.3	110.9	110.5	109.6	109.7	109.5	109.3	109.0	108.6	108.3	108.0	108.4	108.3	107.2	105.7
Apparel commodities	110.9	110.4	109.7	107.9	108.1	108.3	108.3	107.6	107.1	106.5	106.2	107.2	107.2	105.8	104.9
Apparel commodities less footwear	108.6	108.1	107.4	105.5	105.8	106.0	106.1	105.6	105.2	104.6	104.3	105.5	105.7	104.4	103.6
Nondurables less food and apparel	111.5	111.2	111.0	110.5	110.6	111.0	111.0	109.8	109.4	109.3	109.1	109.1	108.9	108.0	106.2
New cars	99.3	98.4	94.4	95.8	96.7	96.8	97.0	97.4	97.1	97.2	97.4	98.7	98.7	99.0	101.2
Used cars	119.3	120.8	120.1	122.1	120.3	118.2	117.5	117.4	115.4	114.0	114.8	118.2	118.7	120.8	121.6
Household durables <sup>15</sup>	97.6	97.4	97.3	97.0	96.9	96.7	96.7	96.4	96.2	96.1	96.1	96.1	96.0	96.9	98.4
Housefurnishings	99.9	99.5	99.3	98.9	98.8	98.6	98.5	98.3	98.0	97.8	97.6	97.8	97.6	97.9	98.4
Services less rent <sup>10 13</sup>	127.7	127.1	126.5	125.9	125.5	124.8	124.1	123.6	122.5	122.0	121.8	121.6	121.3	120.0	117.0
Household services less rent <sup>10</sup>	124.2	123.5	123.0	122.4	122.1	121.7	120.9	120.2	118.5	118.1	117.9	118.4	118.1	117.0	114.8
Transportation services	126.1	125.9	125.5	125.3	125.0	123.2	123.0	123.0	122.6	122.6	122.5	121.3	121.0	119.3	115.0
Medical care services	138.6	137.4	136.2	134.7	133.9	133.0	132.1	131.4	130.8	129.9	129.5	128.9	128.5	127.1	123.2
Other services <sup>10 16</sup>	128.5	128.2	127.5	127.1	126.7	126.4	125.9	125.5	125.0	124.1	123.8	123.2	123.0	121.8	118.5

<sup>1</sup> The CPI measures the average change in prices of goods and services purchased by urban wage-earner and clerical-worker families. Beginning January 1964, the index structure has been revised to reflect buying patterns of wage earners and clerical workers in the 1960's. The 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.

<sup>2</sup> Includes eggs, fats and oils, sugar and sweets, nonalcoholic beverages, and prepared and partially prepared foods.

<sup>3</sup> Also includes hotel and motel room rates not shown separately.

<sup>4</sup> Includes home purchase, mortgage interest, taxes, insurance, and maintenance and repairs.

<sup>5</sup> Also includes telephone, water, and sewerage service not shown separately.

<sup>6</sup> Called "Solid and petroleum fuels" prior to 1964.

<sup>7</sup> Includes housefurnishings and housekeeping supplies and services.

<sup>8</sup> Includes dry cleaning and laundry of apparel, infants' wear, sewing materials, jewelry, and miscellaneous apparel, not shown separately.

<sup>9</sup> Includes tobacco, alcoholic beverages, and funeral, legal, and bank service charges.

<sup>10</sup> Recalculated group—indexes prior to January 1964 have been recomputed.

<sup>11</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>12</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>13</sup> Excludes home purchase costs which were classified under this heading prior to 1964.

<sup>14</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, taxicab, 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>15</sup> Called "Durables less cars" prior to 1964. Does not include auto parts, durable toys, and sports equipment.

<sup>16</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<sup>1</sup>—U.S. city average for urban wage earners and clerical workers, selected groups, subgroups, and special groups of items, seasonally adjusted<sup>2</sup>

[1957-59=100 unless otherwise specified]

Group	1966											1965	
	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.
Food.....	115.1	115.6	115.3	115.5	113.2	114.0	114.0	114.3	114.2	113.1	111.6	110.8	110.0
Food at home.....	113.3	113.8	113.7	113.9	111.3	112.4	112.6	113.2	112.9	111.8	110.0	109.2	108.2
Meats, poultry, and fish.....	111.4	112.5	112.4	112.9	114.1	115.9	116.0	117.1	117.7	115.7	112.9	110.3	108.1
Dairy products.....	116.0	116.4	115.8	114.9	111.6	110.7	110.2	109.4	108.0	106.7	105.9	105.4	105.2
Fruits and vegetables.....	119.6	120.4	121.0	121.4	113.9	115.8	115.3	117.7	117.4	117.7	113.9	114.1	114.4
Other foods at home.....	104.0	104.1	103.8	105.1	102.9	102.9	104.0	104.5	104.4	103.3	102.1	103.3	102.1
Fuel and utilities <sup>3</sup> .....	108.1	108.1	108.2	108.4	108.4	108.4	108.5	108.2	106.3	106.3	106.0	107.7	107.7
Fuel oil and coal <sup>4</sup> .....	108.3	108.5	108.8	109.2	109.3	109.2	109.5	107.7	106.9	106.5	106.6	107.3	106.6
Apparel and upkeep <sup>5</sup> .....	111.3	110.8	110.5	109.6	109.6	109.5	109.4	108.8	108.5	108.0	107.8	107.6	107.5
Men's and boys'.....	111.7	111.1	111.0	110.2	109.9	110.2	109.9	109.7	109.4	109.0	109.0	108.8	108.5
Women's and girls'.....	106.5	106.0	105.8	104.5	105.1	105.0	105.4	104.5	104.4	103.8	103.6	103.3	103.4
Footwear.....	122.6	122.1	121.3	120.6	120.2	119.9	119.0	118.1	117.0	116.3	115.6	115.4	114.9
Transportation.....	113.9	113.8	113.5	113.5	113.4	112.3	112.0	112.3	111.8	111.4	110.8	111.3	110.9
Private.....	111.9	111.7	111.5	111.6	111.4	110.8	110.5	110.8	110.5	110.0	109.2	109.8	109.4
Special groups:													
Commodities <sup>6</sup> .....	110.1	110.1	109.9	109.8	109.1	108.9	109.0	109.0	108.6	108.1	107.5	107.4	107.0
Nondurables.....	112.9	112.9	112.8	112.4	111.4	111.5	111.6	111.6	111.4	110.7	109.8	109.5	108.9
Durables <sup>6,7</sup> .....	103.1	103.3	102.9	103.2	103.1	102.6	102.5	102.3	102.1	101.9	101.9	102.2	102.0
Commodities less food <sup>6</sup> .....	107.4	107.3	107.0	106.9	106.8	106.5	106.4	106.0	105.7	105.6	105.4	105.4	105.2
Nondurables less food.....	111.0	110.5	110.3	109.8	109.9	109.6	109.4	109.1	108.8	108.6	108.1	108.1	108.0
Apparel commodities.....	110.0	109.4	109.5	108.4	108.3	108.4	108.4	107.8	107.4	107.0	106.8	106.5	106.3
Apparel commodities less footwear.....	107.6	107.1	107.1	106.0	106.1	106.2	106.3	105.9	105.6	105.2	104.9	104.8	104.8
New cars.....	97.4	97.5	96.2	97.1	97.9	97.4	97.4	97.4	96.9	96.8	96.6	97.6	96.9
Used cars.....	118.0	119.4	118.7	120.8	118.6	116.8	117.6	118.2	117.6	117.3	116.5	118.4	117.4
Housefurnishings.....	99.8	99.5	99.3	99.2	98.9	98.4	98.4	98.0	97.8	97.9	97.9	97.8	97.5

<sup>1</sup> See footnote 1, table D-1.<sup>2</sup> Beginning January 1966, seasonally adjusted national indexes were computed for selected groups, subgroups, and special groups where there is a significant seasonal pattern of price change. Previously published indexes for the year 1965 have been adjusted. No seasonally adjusted indexes will be shown for any of the individual metropolitan areas for which separate indexes are published. Previously, the Bureau of Labor Statistics has made available only seasonal factors, rather than seasonally adjusted indexes (e.g., Department of Labor Bulletin 1366, *Seasonal Factors, Consumer Price Index: Selected Series*). The factors currently used were derived by the BLS

Seasonal Factor Method using data for 1956-65. These factors will be updated at the end of each calendar year, but the revised factors will be used only for future seasonal adjustments and not for revision of previously published indexes. A detailed description of the BLS Seasonal Factor Method is available upon request.

<sup>3</sup> See footnote 5, table D-1.<sup>4</sup> See footnote 6, table D-1.<sup>5</sup> See footnote 8, table D-1.<sup>6</sup> See footnote 10, table D-1.<sup>7</sup> See footnote 12, table D-1.

TABLE D-3. Consumer Price Index—U.S. and selected areas for urban wage earners and clerical workers<sup>1</sup>

[1957-59=100 unless otherwise specified]

Area <sup>2</sup>	1966											1965		Annual average		1947-49=100
	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964	Nov. 1966
	All items															
U.S. city average <sup>3</sup> .....	114.6	114.5	114.1	113.8	113.3	112.9	112.6	112.5	112.0	111.6	111.0	111.0	110.6	109.9	108.1	140.6
Atlanta, Ga.....	(4)	(4)	112.8	(4)	(4)	111.1	(4)	(4)	110.3	(4)	(4)	109.2	(4)	108.1	106.7	(4)
Baltimore, Md.....	(4)	(4)	114.3	(4)	(4)	113.4	(4)	(4)	112.5	(4)	(4)	110.9	(4)	109.6	107.9	(4)
Boston, Mass.....	(4)	118.5	(4)	(4)	117.1	(4)	(4)	116.8	(4)	(4)	113.9	(4)	(4)	113.2	111.1	(4)
Buffalo, N.Y. (Nov. 1963=100).....	108.0	(4)	(4)	107.7	(4)	(4)	106.6	(4)	(4)	105.8	(4)	(4)	104.6	103.5	101.1	-----
Chicago, Ill.—Northwestern Ind.....	111.9	112.0	111.9	111.4	110.5	110.6	110.2	109.9	109.9	109.3	108.6	108.8	108.4	107.6	106.1	141.1
Cincinnati, Ohio—Kentucky.....	(4)	(4)	111.7	(4)	(4)	110.2	(4)	(4)	109.1	(4)	(4)	107.9	(4)	107.2	106.3	(4)
Cleveland, Ohio.....	110.9	(4)	(4)	110.2	(4)	(4)	109.7	(4)	(4)	108.1	(4)	(4)	107.8	106.9	105.2	137.7
Dallas, Tex. (Nov. 1963=100).....	106.5	(4)	(4)	105.6	(4)	(4)	104.6	(4)	(4)	103.4	(4)	(4)	102.7	101.4	100.1	-----
Detroit, Mich.....	112.7	112.6	112.1	111.9	111.3	111.2	110.6	110.2	109.6	108.8	108.4	108.0	107.6	106.4	104.0	139.0
Honolulu, Hawaii (Dec. 1963=100).....	(4)	(4)	105.6	(4)	(4)	104.6	(4)	(4)	104.4	(4)	(4)	103.9	(4)	102.1	100.3	-----
Houston, Tex.....	(4)	112.4	(4)	(4)	111.6	(4)	(4)	110.9	(4)	(4)	110.0	(4)	(4)	108.5	107.2	(4)
Kansas City, Mo.—Kansas.....	(4)	(4)	117.1	(4)	(4)	116.5	(4)	(4)	115.3	(4)	(4)	114.6	(4)	113.3	109.8	(4)
Los Angeles—Long Beach, Calif.....	116.3	115.9	115.7	114.6	115.0	114.5	114.2	114.3	113.7	113.4	112.8	113.2	112.8	112.5	110.2	145.0
Milwaukee, Wis.....	111.6	(4)	(4)	111.5	(4)	(4)	110.1	(4)	(4)	109.5	(4)	(4)	108.7	108.2	106.0	140.7
Minneapolis—St. Paul, Minn.....	(4)	113.4	(4)	(4)	112.0	(4)	(4)	111.8	(4)	(4)	110.5	(4)	(4)	109.5	108.0	(4)
New York, N.Y.—Northeastern N.J.....	117.7	117.8	117.3	116.7	116.3	115.3	115.2	115.2	114.8	114.2	113.4	113.5	113.2	112.2	110.4	141.8
Philadelphia, Pa.—N.J.....	115.0	115.0	114.7	114.5	113.7	113.4	113.1	113.2	112.7	112.4	111.6	111.8	111.4	110.6	108.8	141.2
Pittsburgh, Pa.....	(4)	114.1	(4)	(4)	112.8	(4)	(4)	113.0	(4)	(4)	111.0	(4)	(4)	110.2	108.5	(4)
Portland, Oreg.—Wash. <sup>5</sup> .....	(4)	116.6	(4)	(4)	115.5	(4)	(4)	114.7	(4)	(4)	112.9	(4)	(4)	111.8	109.0	(4)
St. Louis, Mo.—Ill.....	(4)	(4)	114.7	(4)	(4)	113.6	(4)	(4)	112.1	(4)	(4)	111.5	(4)	109.9	108.1	(4)
San Diego, Calif. (Feb. 1965=100).....	103.5	(4)	(4)	102.0	(4)	(4)	101.6	(4)	(4)	101.2	(4)	(4)	100.3	100.1	-----	-----
San Francisco—Oakland, Calif.....	(4)	(4)	116.4	(4)	(4)	115.2	(4)	(4)	114.9	(4)	(4)	113.6	(4)	112.7	110.6	141.0
Seranton, Pa. <sup>6</sup> .....	116.2	(4)	(4)	115.5	(4)	(4)	114.1	(4)	(4)	113.9	(4)	(4)	111.7	111.0	109.3	138.6
Seattle, Wash.....	115.6	(4)	(4)	114.5	(4)	(4)	113.7	(4)	(4)	112.6	(4)	(4)	111.8	111.0	109.7	145.3
Washington, D.C.—Md.—Va.....	114.6	(4)	(4)	114.0	(4)	(4)	112.8	(4)	(4)	111.9	(4)	(4)	110.5	109.6	108.1	138.0
	Food															
U.S. city average <sup>3</sup> .....	114.8	115.6	115.6	115.8	114.3	113.9	113.5	114.0	113.9	113.1	111.4	110.6	109.7	108.8	106.4	-----
Atlanta, Ga.....	114.0	114.7	114.2	114.0	112.5	112.4	112.0	112.8	112.4	111.9	110.5	109.8	108.4	107.4	104.8	-----
Baltimore, Md.....	115.9	116.7	117.9	117.4	116.2	115.9	115.3	116.3	115.5	115.5	112.7	111.5	110.0	109.3	106.6	-----
Boston, Mass.....	118.5	119.3	119.3	118.9	117.0	115.7	115.3	116.6	116.0	115.4	113.6	112.5	112.6	112.5	109.8	-----
Buffalo, N.Y. (Nov. 1963=100).....	109.7	109.7	109.9	110.5	108.8	108.5	108.0	109.2	108.0	108.2	106.0	105.2	104.8	104.1	101.5	-----
Chicago, Ill.—Northwestern Ind.....	114.7	115.4	116.3	116.8	114.1	114.3	113.6	114.2	115.1	114.2	112.0	111.2	110.4	108.8	106.1	-----
Cincinnati, Ohio—Kentucky.....	112.4	113.6	113.4	113.9	112.1	111.6	110.7	111.2	110.9	110.9	108.9	107.8	106.8	106.2	104.5	-----
Cleveland, Ohio.....	111.8	112.1	112.4	113.1	111.1	111.1	110.0	110.3	110.1	109.8	106.9	107.2	106.7	104.8	102.1	-----
Dallas, Tex. (Nov. 1963=100).....	111.0	111.0	111.1	111.6	110.1	109.4	109.4	110.2	109.0	108.6	107.6	106.2	105.5	103.9	100.5	-----
Detroit, Mich.....	113.1	113.5	113.7	114.4	112.8	112.0	111.5	111.6	111.3	110.0	108.9	107.9	106.5	105.0	101.9	-----
Honolulu, Hawaii (Dec. 1963=100).....	108.7	108.4	107.3	106.6	106.5	106.6	106.2	106.6	106.7	106.4	106.2	105.9	104.6	103.5	100.8	-----
Houston, Tex.....	116.6	117.0	117.0	117.0	115.8	114.4	114.1	114.8	114.3	113.6	113.2	112.4	110.5	109.2	105.7	-----
Kansas City, Mo.—Kansas.....	117.5	118.7	119.0	118.1	117.1	116.9	116.0	116.5	116.7	116.4	115.3	114.4	114.3	111.3	107.2	-----
Los Angeles—Long Beach, Calif.....	113.7	114.2	113.7	113.8	112.8	112.4	113.0	113.5	113.4	112.9	112.1	111.1	110.4	110.7	108.2	-----
Milwaukee, Wis.....	114.3	-----	-----	116.2	-----	-----	113.5	-----	112.6	-----	109.3	107.7	107.7	105.0	-----	
Minneapolis—St. Paul, Minn.....	112.6	114.2	113.4	113.3	112.3	111.6	111.7	112.4	112.7	111.3	110.3	109.3	108.3	107.1	104.6	-----
New York, N.Y.—Northeastern N.J.....	115.7	116.5	116.3	116.4	115.1	114.5	114.4	115.0	115.1	114.2	112.1	111.5	110.5	109.8	108.4	-----
Philadelphia, Pa.—N.J.....	113.5	114.5	114.5	114.9	113.2	112.9	112.5	113.4	112.8	111.9	109.5	109.5	108.1	107.2	105.2	-----
Pittsburgh, Pa.....	111.4	112.8	112.8	112.8	111.6	111.4	111.5	112.8	111.9	111.7	109.7	109.3	108.5	107.5	104.8	-----
Portland, Oreg.—Wash. <sup>5</sup> .....	116.0	115.6	116.1	115.6	114.7	115.5	114.7	114.0	113.4	113.0	111.8	111.2	109.9	109.6	107.1	-----
St. Louis, Mo.—Ill.....	118.6	119.7	119.4	119.8	118.1	117.2	117.0	117.1	116.7	116.3	114.4	114.0	112.7	111.5	107.6	-----
San Diego, Calif. (Feb. 1965=100).....	106.6	-----	-----	106.8	-----	-----	106.3	-----	106.6	-----	103.7	102.7	-----	-----	-----	
San Francisco—Oakland, Calif.....	115.1	115.0	114.7	114.2	113.6	113.6	113.9	114.7	114.6	113.8	112.9	111.8	110.7	110.2	107.7	-----
Seranton, Pa. <sup>6</sup> .....	113.2	113.8	113.7	113.7	112.6	112.5	112.1	113.1	112.8	112.1	110.8	109.5	107.7	107.7	105.6	-----
Seattle, Wash.....	114.7	115.1	115.2	114.9	114.1	114.3	114.4	114.0	113.7	112.9	111.5	110.3	109.2	110.3	108.7	-----
Washington, D.C.—Md.—Va.....	113.5	115.1	115.6	115.8	114.3	114.1	113.6	114.2	113.8	113.2	110.6	110.4	109.3	108.4	106.0	-----

<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 not only the central city but the entire urban portion of the Standard Metropolitan Statistical Area, as defined for the 1960 Census of Population; except that the Standard Consolidated Area is used for New York and Chicago.

<sup>3</sup> Average of 56 "cities" (metropolitan areas and nonmetropolitan urban places) beginning January 1966.

<sup>4</sup> All items indexes are computed monthly for 5 areas and once every 3 months on a rotating cycle for other areas.

<sup>5</sup> Old series.

<sup>6</sup> 10-month average.

TABLE D-4. Indexes of wholesale prices,<sup>1</sup> by group and subgroup of commodities[1957-59=100, unless otherwise specified]<sup>2</sup>

Commodity group	1966										1965		Annual average		
	Nov. <sup>3</sup>	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
All commodities.....	105.9	106.2	106.8	106.8	106.4	105.7	105.6	105.5	105.4	105.4	104.6	104.1	103.5	102.5	100.5
Farm products and processed foods.....	107.1	108.8	111.5	111.3	109.9	107.7	107.9	108.7	109.4	109.8	107.7	106.5	104.3	102.1	98.0
Farm products.....	102.5	104.4	108.7	108.1	107.8	104.2	104.5	106.4	106.8	107.4	104.5	103.0	100.3	98.4	94.3
Fresh and dried fruits and vegetables.....	103.4	97.9	110.4	97.7	107.0	99.7	103.3	111.0	101.7	98.0	97.5	92.2	94.2	101.8	103.2
Grains.....	98.0	98.9	104.6	105.6	103.1	94.9	93.6	91.2	90.8	92.9	92.4	90.1	87.4	89.6	94.1
Livestock and live poultry.....	96.9	103.8	106.7	109.4	107.1	108.5	110.4	112.4	114.2	116.7	112.6	109.0	104.0	98.9	84.7
Plant and animal fibers.....	71.0	71.4	71.7	72.3	90.5	90.3	90.3	89.9	89.7	89.5	89.6	89.6	89.8	91.1	98.3
Fluid milk.....	124.4	125.8	125.4	124.1	119.3	112.6	111.0	111.9	112.7	111.5	108.4	108.0	107.3	103.5	102.0
Eggs.....	121.8	114.7	128.0	108.6	98.5	90.9	86.9	101.8	118.5	116.3	99.8	118.2	114.0	93.5	90.8
Hay, hayseeds, and oilseeds.....	122.9	121.5	126.3	139.2	135.2	122.6	120.2	116.9	115.6	116.6	113.5	110.8	107.2	112.9	110.1
Other farm products.....	98.7	100.8	102.3	102.5	101.3	101.1	101.4	102.5	102.1	102.3	102.5	103.5	99.9	97.6	98.6
Processed foods.....	110.9	112.4	113.8	113.8	111.7	110.6	110.5	110.6	111.5	111.8	110.3	109.4	107.6	105.1	101.0
Cereal and bakery products.....	118.7	118.7	118.9	118.9	115.5	114.0	113.0	112.6	112.2	112.1	111.7	111.2	110.6	109.0	107.8
Meats, poultry, and fish.....	104.4	108.1	112.2	111.1	110.0	109.9	110.9	110.9	113.3	114.9	111.7	110.5	105.5	101.0	90.8
Dairy products and ice cream.....	122.6	124.5	124.2	124.0	119.8	116.5	114.9	114.8	115.0	113.0	110.9	111.3	110.4	108.5	107.8
Canned and frozen fruits and vegetables.....	105.8	105.7	103.7	102.3	104.5	104.9	105.4	104.8	104.8	105.2	104.7	105.1	105.4	102.1	104.8
Sugar and confectionery.....	112.5	111.6	111.4	110.9	109.8	109.4	109.3	109.3	109.7	110.1	109.4	108.8	109.2	109.0	111.8
Packaged beverage materials.....	90.5	90.5	90.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.4	93.4	93.8	96.9
Animal fats and oils.....	106.2	108.9	115.9	120.9	106.3	105.8	107.7	115.2	121.8	126.2	125.8	116.4	115.8	113.4	95.4
Crude vegetable oils.....	99.2	100.1	112.4	127.5	113.0	105.6	106.7	105.6	106.7	104.3	107.6	105.5	100.3	100.9	84.5
Refined vegetable oils.....	102.2	97.0	107.6	138.4	109.8	104.7	108.5	111.3	112.0	116.0	116.1	109.1	105.0	97.0	82.2
Vegetable oil end products.....	107.0	108.2	110.4	108.7	103.8	101.9	101.9	102.5	103.0	102.5	99.5	98.4	101.2	101.2	89.7
Miscellaneous processed foods.....	114.6	115.1	114.2	114.1	114.0	112.5	113.1	114.0	114.4	114.1	114.6	114.1	114.2	113.6	108.9
All commodities except farm products.....	106.3	106.4	106.6	106.6	106.2	105.8	105.7	105.3	105.2	105.1	104.6	103.8	103.5	103.2	102.5
All commodities except farm and food.....	105.4	105.3	105.2	105.2	105.2	104.9	104.7	104.3	104.0	103.8	103.5	102.0	101.9	102.0	101.2
Textile products and apparel.....	102.1	102.2	102.2	102.4	102.4	102.2	102.2	102.2	102.1	102.0	101.9	102.0	101.9	101.8	101.2
Cotton products.....	103.0	103.3	103.1	103.3	103.0	102.6	102.3	102.3	101.8	101.5	101.0	101.2	101.0	100.2	99.6
Wool products.....	105.1	105.6	106.1	106.6	106.7	106.5	106.4	106.3	106.0	105.8	105.9	105.4	105.4	104.3	103.0
Manmade fiber textile products.....	87.8	88.1	88.8	89.6	90.1	90.0	89.9	90.5	90.8	91.0	91.3	91.9	92.5	95.0	95.8
Silk products.....	161.1	161.1	158.6	156.7	152.1	143.8	140.9	151.6	151.4	155.3	147.6	143.6	142.2	134.3	117.3
Apparel.....	105.5	105.3	105.1	105.2	105.0	104.8	104.9	104.7	104.7	104.7	104.6	104.3	104.2	103.7	102.8
Miscellaneous textile products.....	119.1	118.8	120.3	121.2	123.3	124.1	124.7	125.1	126.3	124.2	124.7	130.0	127.0	123.0	117.9
Hides, skins, leather, and leather products.....	117.4	118.7	119.9	121.2	122.7	122.9	122.8	120.6	118.7	117.8	116.0	114.6	113.6	109.2	104.6
Hides and skins.....	114.3	120.8	134.2	141.2	156.4	161.0	163.0	148.8	147.8	152.8	140.0	132.3	126.5	111.2	87.5
Leather.....	114.1	117.5	121.8	124.9	126.0	126.6	125.1	122.4	123.3	118.0	116.6	114.2	113.3	108.1	102.9
Footwear.....	120.1	120.1	119.1	119.1	119.0	118.9	118.2	115.4	115.0	114.6	113.8	113.7	110.7	108.5	108.5
Other leather products.....	115.1	115.6	115.1	116.0	116.6	115.7	115.4	114.4	112.5	111.6	110.3	110.2	109.0	106.1	103.1
Fuel and related products, and power.....	102.7	102.6	102.2	102.0	101.4	101.5	100.4	100.0	99.9	100.3	100.5	100.6	100.3	98.9	97.1
Coal.....	101.8	100.6	99.6	98.5	97.6	97.2	96.9	94.9	97.5	98.2	98.1	97.6	97.5	96.5	96.9
Coke.....	112.0	112.0	112.0	112.0	112.0	109.4	107.3	107.3	107.3	107.3	107.3	107.3	107.3	107.3	106.3
Gas fuels.....	130.7	130.7	129.2	128.9	128.3	128.5	128.3	129.2	128.2	128.2	128.2	128.6	128.6	124.1	121.3
Electric power.....	100.2	100.2	100.3	100.3	100.3	100.2	100.2	100.3	100.4	100.4	100.4	100.7	100.8	100.8	101.1
Petroleum products, refined.....	101.3	101.3	101.0	100.7	99.9	100.2	98.4	97.7	97.2	97.8	98.3	98.4	98.1	95.9	92.7
Chemicals and allied products.....	98.0	97.9	98.0	97.9	97.9	97.6	97.7	97.6	97.6	97.6	97.6	97.6	97.5	97.4	96.7
Industrial chemicals.....	95.9	95.9	95.8	95.8	95.9	95.8	96.0	95.6	95.2	95.2	95.1	95.5	95.5	95.0	94.2
Prepared paint.....	108.0	107.3	106.8	106.8	106.8	106.8	106.2	106.2	105.9	105.9	105.9	105.9	105.9	105.4	104.7
Paint materials.....	90.4	90.2	90.3	90.5	90.4	89.9	90.2	90.4	89.8	89.5	89.5	89.0	89.0	89.8	91.0
Drugs and pharmaceuticals.....	95.0	95.0	94.8	94.7	94.5	94.3	94.1	94.1	94.4	94.5	94.4	94.6	94.7	94.4	95.0
Fats and oils inedible.....	92.0	94.5	103.8	105.5	105.3	101.6	102.5	104.0	106.4	110.0	113.1	110.1	106.7	112.7	96.8
Mixed fertilizer.....	105.9	106.1	105.8	105.4	105.5	105.5	105.5	105.8	105.4	105.3	105.4	105.5	105.2	105.1	103.9
Fertilizer materials.....	105.0	103.7	102.5	102.5	104.2	104.8	106.6	105.5	104.7	104.7	103.8	103.8	103.8	103.5	100.1
Other chemicals and allied products.....	101.2	101.2	101.0	100.7	100.3	100.0	100.0	100.0	100.2	100.2	100.2	99.8	100.1	99.8	99.4
Rubber and rubber products.....	94.8	94.6	94.7	95.1	95.1	95.4	95.4	94.3	94.1	93.7	93.5	93.5	93.5	92.9	92.5
Crude rubber.....	87.9	87.4	87.9	88.8	89.0	89.5	90.0	90.0	91.2	91.0	90.0	89.6	89.3	90.0	90.6
Tires and tubes.....	93.4	93.4	93.4	93.9	93.9	94.4	94.4	94.4	91.1	91.1	91.1	91.1	91.1	90.0	89.0
Miscellaneous rubber products.....	99.2	98.9	99.0	99.0	99.0	98.9	98.7	98.7	98.7	98.5	97.9	97.7	97.7	97.1	96.9
Lumber and wood products.....	103.2	104.8	105.9	106.2	106.7	107.7	109.6	108.4	105.6	103.7	102.8	101.9	101.6	101.1	100.6
Lumber.....	105.9	108.0	109.5	110.2	110.5	112.0	113.2	110.8	107.2	105.6	104.3	103.4	103.0	101.9	100.7
Millwork.....	110.3	110.8	110.9	110.9	110.7	110.6	110.4	109.6	109.3	108.4	107.9	107.9	107.8	107.7	108.5
Plywood.....	86.9	88.1	89.2	90.0	91.5	92.2	100.3	102.4	97.7	94.0	93.9	92.1	91.7	92.3	92.3
Pulp, paper, and allied products.....	103.0	103.1	103.1	103.2	103.2	103.0	102.7	101.8	101.8	101.3	101.2	100.9	100.8	99.9	99.0
Woodpulp.....	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.1	98.1	98.1	96.1
Wastepaper.....	92.7	98.8	102.9	106.7	113.2	112.7	112.0	110.3	108.7	105.5	105.8	104.6	107.0	99.4	92.4
Paper.....	108.4	108.4	108.4	108.4	108.2	108.0	107.1	106.0	105.4	105.4	105.2	104.9	104.8	104.1	103.6
Paperboard.....	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.1	97.0	96.7	96.7	96.5	96.5	96.4	96.4
Converted paper and paperboard products.....	103.1	103.0	103.0	102.8	102.7	102.4	102.2	101.6	101.6	100.9	100.8	100.4	100.1	99.3	98.3
Building paper and board.....	93.1	93.0	92.7	92.8	92.7	92.4	92.4	92.4							



TABLE D-4. 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	1966										1965		Annual average		
	Nov. <sup>3</sup>	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
All commodities except farm and foods—Continued															
Metals and metal products.....	108.9	108.6	108.4	108.5	108.8	108.7	108.4	108.2	108.0	107.5	107.0	106.6	106.7	105.7	102.8
Iron and steel.....	102.5	102.5	102.5	102.7	102.2	102.0	101.8	102.0	102.3	102.2	102.0	101.7	101.3	101.4	100.5
Nonferrous metals.....	121.0	120.3	119.9	120.4	122.9	123.2	122.5	122.1	120.8	119.5	118.3	117.2	118.7	115.2	105.9
Metal containers.....	110.2	110.1	110.1	110.1	110.1	110.1	110.1	110.0	109.8	109.8	109.8	109.8	108.3	107.6	105.5
Hardware.....	111.3	110.9	110.3	110.1	109.8	109.8	109.6	108.4	108.3	107.4	107.3	107.2	107.0	106.0	104.8
Plumbing fixtures and brass fittings.....	110.5	110.6	110.6	110.0	110.0	108.5	107.9	107.1	105.7	104.9	104.8	104.9	103.6	103.1	100.9
Heating equipment.....	93.4	93.3	92.9	92.5	92.9	92.5	92.1	92.1	91.8	91.7	91.5	91.6	91.6	91.7	92.0
Fabricated structural metal products.....	104.8	104.6	104.4	104.2	104.2	104.1	103.8	103.7	103.1	102.6	102.3	102.0	102.0	101.2	99.3
Fabricated nonstructural metal products.....	113.2	112.7	112.4	112.3	111.2	111.2	110.9	110.9	110.9	110.5	110.0	109.7	109.8	109.4	108.5
Machinery and motive products.....	107.5	107.1	106.3	106.2	106.0	105.9	105.8	105.2	105.0	104.7	104.4	104.2	104.1	103.7	102.9
Agricultural machinery and equipment.....	119.7	118.5	118.2	118.3	118.5	118.4	118.2	118.1	118.0	117.8	117.3	117.0	116.8	115.1	112.9
Construction machinery and equipment.....	120.4	119.8	119.4	118.9	118.9	118.9	118.9	118.5	117.9	117.5	116.9	116.5	116.4	115.3	112.4
Metalworking machinery and equipment.....	125.8	125.6	125.0	124.0	123.5	123.5	122.5	121.0	121.0	120.8	119.6	118.9	118.6	116.9	112.6
General purpose machinery and equipment.....	112.2	111.8	111.1	110.6	110.0	109.8	109.3	108.5	107.3	106.8	106.8	106.5	106.5	105.1	104.4
Miscellaneous machinery.....	107.9	107.4	106.8	106.6	106.5	106.0	105.9	105.7	105.8	105.6	105.4	105.4	105.3	105.2	104.5
Special industry machinery and equipment.....	114.1	113.9	113.2	112.9	112.2	111.8	110.8	110.0	109.9	109.4	109.1	109.0	108.9	108.0	105.9
Electrical machinery and equipment.....	100.4	99.5	99.2	99.1	99.0	98.8	98.9	98.4	98.2	97.8	97.0	96.6	96.5	96.8	96.8
Motor vehicles.....	101.7	101.7	100.1	100.5	100.7	100.7	100.9	100.2	100.3	100.4	100.5	100.5	100.5	100.7	100.5
Transportation equipment, railroad rolling stock.....	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	100.9	100.5
Furniture and other household durables.....	100.1	99.7	99.2	99.1	99.0	98.9	98.9	98.6	98.4	98.4	98.3	98.2	98.0	98.0	98.5
Household furniture.....	111.5	110.3	109.8	109.4	109.1	108.9	108.9	108.3	107.2	107.2	107.0	106.7	106.6	106.2	105.3
Commercial furniture.....	108.0	107.3	106.0	105.8	105.8	105.3	105.3	104.1	104.1	104.1	104.1	104.0	104.0	103.7	103.2
Floor coverings.....	96.6	96.6	96.6	96.6	96.8	97.1	97.5	97.5	97.5	97.7	97.7	97.5	97.4	97.7	99.4
Household appliances.....	88.7	88.6	88.9	89.0	89.2	89.4	89.4	89.3	89.1	89.0	89.0	88.8	88.6	89.2	91.3
Television, radio receivers, and phonographs.....	83.8	83.8	83.3	83.1	83.5	83.5	83.5	83.5	83.5	83.8	83.9	84.5	84.5	85.2	87.2
Other household durable goods.....	109.4	109.3	107.9	107.8	107.8	106.7	106.7	106.7	106.9	107.1	106.8	106.2	106.2	105.4	104.2
Nonmetallic mineral products.....	103.2	103.2	103.0	102.7	102.7	102.5	102.4	102.3	102.1	102.1	102.0	101.6	101.6	101.7	101.5
Flat glass.....	102.7	102.1	100.6	99.7	100.3	100.2	100.2	99.5	99.2	99.9	99.9	99.9	99.9	100.9	102.4
Concrete ingredients.....	104.3	104.3	103.9	103.8	103.7	103.6	103.7	103.8	103.8	103.7	103.6	103.4	103.4	103.2	102.8
Concrete products.....	103.5	103.5	103.6	103.3	103.1	103.0	102.7	102.7	102.2	102.1	102.0	101.8	101.8	101.5	100.9
Structural clay products.....	107.1	106.9	106.7	106.7	106.5	106.5	106.3	106.0	105.9	105.8	105.6	105.6	105.4	105.1	104.2
Gypsum products.....	103.5	102.7	102.7	102.7	102.7	102.2	102.2	101.4	101.4	101.4	101.4	97.4	98.6	104.0	108.2
Asphalt roofing.....	97.6	97.6	97.6	97.6	97.6	94.4	94.4	94.8	94.8	94.8	94.6	94.6	94.6	92.8	88.8
Other nonmetallic minerals.....	101.1	102.0	101.8	101.8	101.7	101.2	101.7	101.8	102.1	101.7	101.8	100.9	101.0	101.3	101.5
Tobacco products and bottled beverages.....	110.1	110.1	110.1	110.1	110.0	109.8	109.4	109.4	109.2	108.0	108.1	107.9	107.7	107.7	107.4
Tobacco products.....	110.3	110.3	110.3	110.3	110.3	110.3	110.3	110.2	109.8	106.6	106.6	106.0	106.1	106.2	106.0
Alcoholic beverages.....	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.1	101.1	101.3	100.9	100.7
Nonalcoholic beverages.....	132.2	132.2	132.2	132.2	131.8	131.0	128.5	128.5	128.5	128.5	128.5	128.5	128.5	128.3	127.0
Miscellaneous products.....	118.5	118.2	120.4	121.1	120.5	115.7	115.1	113.0	113.1	116.0	114.8	112.5	113.2	111.0	109.2
Toys, sporting goods, small arms, ammunition.....	104.8	105.0	104.8	104.9	104.5	103.7	103.7	103.7	103.3	103.3	103.2	103.1	103.0	102.7	101.0
Manufactured animal feeds.....	128.4	128.1	132.3	133.6	132.6	124.1	123.1	119.2	119.6	124.8	121.8	118.6	119.9	116.3	113.9
Notions and accessories.....	100.8	100.8	100.8	100.8	100.8	101.8	100.8	99.8	99.8	99.8	99.1	99.1	99.1	99.1	99.1
Jewelry, watches, and photographic equipment.....	106.2	105.2	105.2	105.3	105.5	105.2	105.1	105.1	105.1	105.1	105.0	105.1	105.1	104.4	103.5
Other miscellaneous products.....	106.8	106.0	105.9	105.7	105.4	105.2	105.2	105.0	104.7	104.9	105.0	104.9	104.7	103.7	102.5

<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.

<sup>7</sup> Formerly titled "prepared asphalt roofing."

TABLE D-5. Indexes of wholesale prices for special commodity groupings<sup>1</sup>[1957-59=100, unless otherwise specified]<sup>2</sup>

Commodity group	1966											1965		Annual average	
	Nov. <sup>3</sup>	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
	All foods.....	110.6	111.3	114.0	112.4	110.9	109.0	109.1	110.2	110.9	110.8	108.9	108.3	106.7	104.5
All fish.....	125.0	131.3	131.4	129.5	129.7	127.2	126.9	126.5	126.7	123.2	124.5	119.3	119.4	112.8	107.4
All commodities except farm products.....	106.3	106.4	106.6	106.6	106.2	105.8	105.7	105.3	105.2	105.1	104.6	104.2	103.9	102.9	101.2
Textile products, excluding hard and bast fiber products <sup>5</sup> .....	98.0	98.4	98.6	99.0	99.1	98.8	98.7	98.8	98.6	98.5	98.3	98.6	98.7	99.1	98.9
Bituminous coal—domestic sizes.....	102.0	101.2	99.4	97.4	95.6	94.5	93.6	92.9	97.7	100.0	100.0	99.7	99.5	96.6	96.7
Refined petroleum products.....	101.3	101.3	101.0	100.7	99.9	100.2	98.4	97.7	97.2	97.8	98.3	98.4	98.1	95.9	92.7
East Coast markets.....	98.1	98.1	98.1	96.4	96.4	96.3	96.3	96.3	98.2	98.2	98.2	98.2	96.6	95.3	93.6
Midcontinent markets.....	99.5	98.6	100.2	100.2	100.2	100.2	97.1	97.7	93.7	98.9	98.5	98.6	98.6	97.6	89.7
Gulf Coast markets.....	105.1	105.1	104.2	104.5	102.4	104.1	100.7	100.2	98.6	98.6	99.7	99.7	99.5	95.1	94.0
Pacific Coast markets.....	94.4	96.4	90.4	90.4	90.4	87.8	89.4	89.4	89.4	89.4	88.3	88.3	89.0	90.6	87.4
Midwest markets <sup>6</sup> .....	92.7	92.0	93.3	93.3	93.3	93.3	93.3	92.0	89.0	93.3	93.3	93.8	93.8	93.2	88.0
Soaps.....	113.8	113.8	113.8	113.8	113.7	113.7	113.7	113.7	113.7	113.7	113.7	113.1	113.1	112.3	107.1
Synthetic detergents.....	101.2	101.2	101.2	101.2	100.5	99.3	99.3	99.3	99.7	99.7	99.7	99.7	100.8	100.5	99.6
Pharmaceutical preparations.....	97.5	97.3	97.2	97.0	96.8	96.6	96.2	96.2	96.5	96.5	96.5	96.5	97.0	96.5	97.1
Ethical preparations <sup>6</sup> .....	94.0	93.8	93.8	93.7	94.0	93.8	94.1	94.1	95.0	95.0	94.9	95.0	95.0	94.7	95.4
Anti-infectives <sup>6</sup> .....	76.0	76.0	76.0	76.0	77.2	77.2	78.3	78.3	82.3	82.3	82.3	82.3	82.3	82.0	85.4
Anti-arthritis <sup>6</sup> .....	103.7	103.7	103.7	103.7	103.7	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6	100.6
Sedatives and hypnotics <sup>6</sup> .....	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	118.3	115.3	113.3
Ataractics <sup>6</sup> .....	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Anti-spasmodics and anti-cholinergics <sup>6</sup> .....	105.6	105.6	105.6	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	102.3	100.2
Cardiovasculars and anti-hypertensives <sup>6</sup> .....	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	97.6
Diabetics <sup>6</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	103.8
Hormones <sup>6</sup> .....	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	104.1	102.3	100.6
Diuretics <sup>6</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>6</sup> .....	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7	108.7
Hematinics <sup>6</sup> .....	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	110.6	108.8
Analgesics <sup>6</sup> .....	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	105.8	101.8
Anti-obesity preparations <sup>6</sup> .....	102.9	102.9	102.9	102.9	102.9	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>6</sup> .....	104.9	101.5	101.5	104.9	104.9	104.9	104.9	104.9	104.4	104.4	102.1	104.4	104.4	102.9	103.5
Vitamins <sup>6</sup> .....	89.4	89.4	89.4	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	87.7
Proprietary preparations <sup>6</sup> .....	107.5	107.5	107.0	106.8	105.3	105.2	103.0	103.0	103.0	102.2	102.1	103.0	103.0	103.0	102.7
Vitamins <sup>6</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	100.3
Cough and cold preparations <sup>6</sup> .....	104.4	104.4	102.3	102.3	102.3	103.9	101.2	101.2	100.5	99.9	99.9	102.4	102.4	100.9	101.0
Laxatives and elimination aids <sup>6</sup> .....	109.6	109.6	108.9	108.9	108.0	108.0	107.0	107.0	107.0	107.0	107.0	106.9	106.9	106.0	105.4
Internal analgesics <sup>6</sup> .....	108.4	108.4	108.4	108.4	107.9	105.4	104.8	104.8	104.8	104.8	102.5	102.1	102.1	102.3	102.2
Tonics and alteratives <sup>6</sup> .....	106.0	103.9	101.1	101.1	103.2	100.2	92.8	92.8	92.8	92.8	92.8	98.2	98.2	95.0	100.2
External analgesics <sup>6</sup> .....	106.9	106.9	107.5	107.5	107.9	107.9	105.8	105.8	105.8	105.8	105.8	107.3	107.3	105.2	103.1
Antiseptics <sup>6</sup> .....	116.3	116.3	116.3	116.3	111.0	111.0	101.8	101.8	96.4	101.8	101.8	102.9	108.3	104.9	108.6
Antacids <sup>6</sup> .....	103.6	103.6	103.6	103.6	103.0	103.0	103.0	103.0	102.8	102.8	102.8	102.8	102.8	102.9	103.0
Lumber and wood products (excluding millwork).....	101.8	103.7	105.1	105.8	106.4	107.7	110.3	109.0	105.1	103.0	102.0	100.9	100.5	99.8	98.9
Softwood lumber.....	101.4	103.2	104.6	105.2	105.8	107.5	109.0	106.5	102.6	100.9	99.9	99.1	99.1	99.1	99.3
Pulp, paper, and allied products (excluding building paper and board).....	103.4	103.5	103.6	103.6	103.6	103.4	103.1	102.7	102.2	101.7	101.5	101.2	101.1	100.2	99.3
Special metals and metal products <sup>7</sup> .....	107.4	107.2	106.6	106.8	107.0	106.9	106.8	106.5	106.3	106.0	105.7	105.4	105.4	104.7	102.6
Steel mill products.....	105.2	105.1	105.1	105.0	104.5	104.5	104.3	104.3	104.3	104.2	104.1	103.9	103.6	103.3	102.8
Machinery and equipment.....	110.0	109.4	108.9	108.5	108.3	108.1	107.8	107.2	106.9	106.5	106.0	105.7	105.5	105.0	103.8
Agricultural machinery (including tractors).....	121.6	120.2	119.9	120.0	120.2	120.1	120.1	119.9	120.0	119.6	119.1	118.7	118.5	116.6	114.3
Metalworking machinery.....	127.4	127.2	126.4	125.2	124.4	124.5	122.8	121.1	120.9	119.6	119.2	118.6	118.4	116.8	114.4
All tractors.....	121.6	120.7	120.3	120.0	120.0	120.0	117.4	116.7	115.7	114.2	110.5	109.4	109.3	108.9	107.2
Industrial valves.....	121.5	121.0	118.8	118.4	117.4	116.7	115.7	114.2	110.5	109.4	109.3	108.9	109.4	105.7	107.2
Industrial fittings.....	100.5	100.5	100.5	99.1	94.8	93.9	93.9	92.9	92.9	92.9	91.9	91.9	91.9	90.8	92.7
Anti-friction bearings and components.....	83.7	83.4	83.4	83.2	83.1	83.1	83.0	83.0	83.0	83.0	84.0	83.7	83.7	84.1	89.0
Abrasive grinding wheels.....	94.7	94.7	95.0	95.0	94.1	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	94.2	96.1
Construction materials.....	104.0	104.3	104.3	104.5	104.6	104.8	105.1	104.3	103.2	102.4	101.9	101.4	101.3	100.8	99.6

<sup>1</sup> See footnote 1, table D-4.<sup>2</sup> See footnote 2, table D-4.<sup>3</sup> Preliminary.<sup>4</sup> Revised.<sup>5</sup> Formerly titled "textile products, excluding hard fiber products."<sup>6</sup> New series, January 1961=100.<sup>7</sup> Metals and metal products, agricultural machinery and equipment, and motor vehicles.

TABLE D-6. Indexes of wholesale prices,<sup>1</sup> by stage of processing and durability of product[1957-59=100]<sup>2</sup>

Commodity group	1966											1965		Annual average	
	Nov. <sup>3</sup>	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1965	1964
All commodities.....	105.9	106.2	106.8	106.8	106.4	105.7	105.6	105.5	105.4	105.4	104.6	104.1	103.5	102.5	100.5
<i>Stage of processing</i>															
Crude materials for further processing.....	101.0	103.6	106.1	107.4	107.8	105.6	105.7	106.3	106.9	107.5	105.2	103.2	100.8	98.9	94.1
Crude foodstuffs and feedstuffs.....	102.5	106.2	109.9	111.2	109.1	106.0	106.5	107.5	108.3	109.6	106.8	104.1	100.7	98.3	91.9
Crude nonfood materials except fuel.....	97.6	98.2	98.9	100.2	105.7	105.1	104.5	104.5	104.6	103.8	102.8	101.3	100.7	99.8	97.8
Crude nonfood materials, except fuel, for manufacturing.....	97.0	97.7	98.5	100.0	106.1	105.4	104.7	104.7	104.8	104.0	102.2	101.2	100.6	99.5	97.4
Crude nonfood materials, except fuel, for construction.....	104.3	104.3	103.9	103.8	103.7	103.6	103.7	103.9	103.8	103.8	103.6	103.4	103.4	103.2	102.8
Crude fuel.....	108.9	108.2	107.0	106.2	105.5	105.3	105.0	104.0	105.2	105.9	105.6	105.4	104.8	103.3	102.5
Crude fuel for manufacturing.....	108.8	108.1	107.0	106.2	105.5	105.3	105.0	103.9	105.1	105.8	105.5	105.3	104.7	103.2	102.4
Crude fuel for nonmanufacturing.....	109.1	108.3	107.2	106.4	105.6	105.5	105.2	104.2	105.5	106.2	105.9	105.7	105.0	103.5	102.8
Intermediate materials, supplies, and components.....	105.3	105.3	105.6	105.8	105.4	104.9	104.8	104.3	103.9	103.8	103.4	103.0	103.0	102.2	100.9
Intermediate materials and components for manufacturing.....	104.4	104.3	104.6	104.8	104.4	104.1	104.1	103.7	103.4	103.2	102.8	102.6	102.5	102.0	100.4
Intermediate materials for food manufacturing.....	111.4	111.6	113.6	114.8	111.9	110.0	109.8	110.1	110.8	111.1	109.7	108.8	108.1	106.6	104.0
Intermediate materials for nondurable manufacturing.....	99.2	99.5	99.8	100.1	100.2	100.0	99.7	99.4	99.2	99.0	98.9	98.9	98.8	98.7	97.8
Intermediate materials for durable manufacturing.....	106.9	106.8	106.8	106.9	106.6	106.7	106.8	106.6	106.1	105.8	105.5	105.2	105.3	104.6	102.5
Components for manufacturing.....	106.5	105.9	105.5	105.4	105.1	105.0	104.8	104.1	103.3	102.9	102.5	102.3	102.2	101.3	99.7
Materials and components for construction.....	104.3	104.5	104.6	104.6	104.5	104.5	104.8	104.3	103.4	102.7	102.3	101.9	101.8	101.4	100.6
Processed fuels and lubricants.....	102.5	102.6	102.1	102.1	101.7	101.8	100.7	100.3	99.8	100.2	100.7	100.9	100.8	99.5	98.1
Processed fuels and lubricants for manufacturing.....	103.4	103.5	103.1	103.1	102.8	102.8	101.9	101.7	101.2	101.5	101.9	102.1	102.0	101.0	99.8
Processed fuels and lubricants for nonmanufacturing.....	100.8	100.9	100.5	100.4	99.9	100.2	98.7	97.9	97.4	97.9	98.7	98.8	98.7	97.1	95.2
Containers, nonreturnable.....	105.2	105.1	104.9	104.9	105.1	105.1	105.1	105.1	104.8	104.3	104.2	104.1	103.3	102.1	100.2
Supplies.....	111.6	111.5	112.8	113.3	112.7	110.0	109.5	108.3	108.0	109.3	108.2	107.0	107.2	106.0	105.0
Supplies for manufacturing.....	109.5	109.5	109.7	109.5	109.6	109.2	108.9	108.3	108.0	107.7	107.3	106.6	106.5	106.1	105.5
Supplies for nonmanufacturing.....	111.8	111.6	113.4	114.1	113.3	109.7	109.2	107.6	107.4	109.3	108.0	106.6	106.9	105.4	104.2
Manufactured animal feeds.....	121.2	120.9	125.0	126.3	125.0	116.9	116.0	112.4	112.7	117.7	114.8	111.7	113.1	109.7	107.4
Other supplies.....	103.9	103.9	104.3	104.6	104.1	103.4	103.0	102.8	102.3	102.1	101.9	101.6	101.2	100.9	100.4
Finished goods (goods to users, including raw foods and fuels).....	107.7	107.8	108.1	107.5	107.0	106.4	106.2	106.3	106.4	106.3	105.6	105.3	104.7	103.6	101.8
Consumer finished goods.....	106.9	107.2	107.8	107.1	106.4	105.7	105.6	105.9	106.1	106.0	105.2	104.9	104.2	102.8	100.9
Consumer foods.....	111.3	112.2	114.5	112.8	111.2	109.5	109.6	110.7	111.5	111.5	109.5	108.9	107.2	104.5	100.6
Consumer crude foods.....	112.2	108.1	116.6	105.3	106.0	99.3	99.9	107.8	107.6	105.6	101.0	102.6	102.7	100.2	99.8
Consumer processed foods.....	111.1	112.8	114.2	114.0	112.0	111.1	111.1	111.2	112.1	112.4	110.8	109.9	107.8	105.2	100.7
Consumer other nondurable goods.....	105.7	105.5	105.4	105.2	105.0	104.9	104.5	104.3	104.1	104.0	103.9	103.7	103.6	102.8	101.6
Consumer durable goods.....	101.1	100.9	100.0	100.1	100.2	100.1	100.2	99.8	99.7	99.7	99.7	99.6	99.6	99.6	99.9
Producer finished goods.....	109.6	109.1	108.4	108.3	108.1	107.9	107.6	107.0	106.8	106.6	106.2	106.0	105.9	105.4	104.1
Producer finished goods for manufacturing.....	113.2	112.7	112.0	111.7	111.4	111.2	110.8	110.0	109.8	109.6	109.1	108.8	108.7	108.0	106.2
Producer finished goods for nonmanufacturing.....	105.9	105.4	104.8	104.7	104.7	104.6	104.4	103.8	103.7	103.5	103.3	103.2	103.1	102.9	102.0
<i>Durability of product</i>															
Total durable goods.....	106.8	106.6	106.2	106.2	106.2	106.2	106.1	105.7	105.3	104.9	104.6	104.2	104.2	103.7	102.4
Total nondurable goods.....	105.1	105.8	107.1	107.0	106.4	105.2	105.0	105.1	105.3	105.5	104.5	103.9	102.9	101.5	99.1
Total manufactures.....	106.1	106.3	106.4	106.4	106.0	105.6	105.5	105.1	105.0	104.9	104.4	104.1	103.7	102.8	101.1
Durable manufactures.....	106.9	106.7	106.3	106.3	106.1	106.1	106.1	105.6	105.1	104.8	104.5	104.2	104.2	103.7	102.5
Nondurable manufactures.....	105.3	105.8	106.5	106.5	105.8	105.1	104.8	104.6	104.7	104.8	104.3	103.8	103.2	101.9	99.7
Total raw or slightly processed goods.....	104.6	106.0	108.4	108.2	108.2	105.8	105.8	107.0	107.3	107.5	105.3	104.0	102.4	100.7	97.5
Durable raw or slightly processed goods.....	106.3	105.6	104.4	105.0	112.4	112.4	110.1	113.9	114.7	111.4	108.2	105.4	106.5	104.7	98.0
Nondurable raw or slightly processed goods.....	104.6	106.0	108.7	108.4	108.0	105.4	105.6	106.6	106.9	107.3	105.1	104.0	102.2	100.5	97.5

<sup>1</sup> See footnote 1, table D-4.<sup>2</sup> See footnote 2, table D-4.<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.....	3,362	-----	941,000	-----	16,100,000	.13
1964.....	3,655	-----	1,640,000	-----	22,900,000	.18
1964: January.....	211	375	53,300	91,400	898,000	.09
February.....	233	375	80,600	116,000	1,040,000	.11
March.....	241	399	79,300	123,000	816,000	.08
April.....	364	529	140,000	187,000	1,170,000	.11
May.....	442	651	192,000	249,000	2,400,000	.24
June.....	376	586	124,000	222,000	1,900,000	.18
July.....	416	639	126,000	195,000	1,740,000	.15
August.....	306	556	73,100	133,000	1,200,000	.12
September.....	336	574	374,000	432,000	2,390,000	.23
October.....	346	584	214,000	549,000	6,590,000	.61
November.....	238	469	141,000	274,000	1,730,000	.17
December.....	146	346	42,000	149,000	1,060,000	.10
1965: January.....	244	404	98,800	183,000	1,740,000	.18
February.....	208	393	45,100	149,000	1,440,000	.15
March.....	329	511	180,000	274,000	1,770,000	.16
April.....	390	603	141,000	194,000	1,840,000	.17
May.....	450	669	127,000	201,000	1,850,000	.19
June.....	425	677	268,000	354,000	2,590,000	.23
July.....	416	702	156,000	334,000	3,670,000	.34
August.....	388	685	109,000	229,000	2,230,000	.20
September.....	345	631	155,000	250,000	2,110,000	.20
October.....	321	570	101,000	209,000	1,770,000	.16
November.....	289	505	140,000	192,000	1,380,000	.13
December.....	158	371	24,300	75,800	907,000	.08
1966: January <sup>2</sup> .....	205	335	101,000	127,000	1,000,000	.09
February <sup>2</sup> .....	240	380	107,000	142,000	865,000	.09
March <sup>2</sup> .....	310	450	198,000	236,000	1,350,000	.11
April <sup>2</sup> .....	350	500	228,000	379,000	2,450,000	.23
May <sup>2</sup> .....	480	640	208,000	294,000	2,870,000	.26
June <sup>2</sup> .....	430	660	150,000	243,000	1,950,000	.17
July <sup>2</sup> .....	420	660	235,000	299,000	2,980,000	.28
August <sup>2</sup> .....	440	700	108,000	331,000	3,420,000	.28
September <sup>2</sup> .....	380	620	117,000	221,000	1,950,000	.17
October <sup>2</sup> .....	390	630	193,000	260,000	2,290,000	.20
November <sup>2</sup> .....	320	550	114,000	221,000	2,170,000	.19

<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 shortages.

<sup>2</sup> Preliminary.

## Note

Publication of monthly and quarterly work-injury frequency rates for manufacturing industries (table F-1) ended with those in the October issue. The survey from which these data came has been discontinued. Annual frequency and severity rates for manufacturing and nonmanufacturing industries will continue to be compiled and will be available upon request.



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