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Women and the Labor Force

Evaluating Manpower Programs

Wage and Benefit Changes

Negro Mobility in Aerospace Industry

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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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Contents

Articles

- 1 Women and the Labor Force
- 13 Air Transport: Trends in Output per Employee
- 17 Papers From the IRRA Annual Meeting
- 17 The Peripheral Worker in the Affluent Society
- 21 Evaluating Manpower Programs
- 22 In-Plant Movement of Negroes in the Aerospace Industry
- 26 Educational Attainment of Workers
- 35 Service Industry Wage Changes and Fringe Benefits
- 40 Pattern of Wage and Benefit Changes in Manufacturing
- 49 Technology and Labor in the Textile Industry
- 56 Changing Manpower Needs in Telephone Offices

Technical Note

- 59 Problems of Gathering Occupational Data by Mail

Departments

- III The Labor Month in Review
- 62 Foreign Labor Briefs
- 64 Research in Progress
- 65 Summaries of Recent Studies
- 67 Significant Decisions in Labor Cases
- 70 Chronology of Recent Labor Events
- 71 Major Agreements Expiring in March
- 72 Developments in Industrial Relations
- 80 Book Reviews and Notes
- 88 Current Labor Statistics

February 1968 • Vol. 91 • No. 2

IN THE MARCH ISSUE . . .

A Special Section of 14 Articles on

LABOR IN THE SOUTH

THE ARTICLES WILL COVER

OCCUPATIONAL AND INDUSTRIAL CHANGES, MIGRATION, UNION DEVELOPMENT, WAGE DIFFERENTIALS, VOCATIONAL, SECONDARY, AND HIGHER EDUCATION, FARM LABOR, DISCRIMINATION AND INTEGRATION, MANPOWER PROGRAMS, AND INCOME AND LEVELS OF LIVING

THE AUTHORS INCLUDE

William Stober and Robert F. Smith, Louisiana State University; E. E. Liebhafsky, University of Houston; E. Walton Jones and Herbert Hamlin, North Carolina State University; Ralph McGill, Publisher, *Atlanta Constitution*; F. Ray Marshall, University of Kentucky; Vernon Briggs, University of Texas; Emory Via, University of Wisconsin; Rupert Vance, University of North Carolina; James Whitlock, George Peabody College; Winfred L. Godwin, Southern Regional Education Board; H. M. Douty, Helen H. Lamale, and Thomas J. Lanahan, Bureau of Labor Statistics

**IN ADDITION:
All the
Regular
Departments**

Chronology of Recent Labor Events
Research in Progress
Summaries of Recent Studies
Developments in Industrial Relations

Significant Decisions in Labor Cases
Foreign Labor Briefs
Book Reviews and Notes
Current Labor Statistics

The Labor Month in Review

Organization and Automation Among White-Collar Workers

THE SHARP GROWTH in the number of white-collar workers in the United States is paralleled by similar developments in the rest of the world. White-collar workers outnumber blue-collar workers in the United States, approach or have reached numerical superiority in other industrialized countries, and are disproportionately important in the economies of some developing countries.

At the 15th triennial congress of the International Federation of Commercial, Clerical, and Technical Workers (FIET), several papers analyzed trade union activity among white-collar workers and some of the effects of automation upon their jobs. Convening in Washington, D.C., in late 1967, the FIET congress was the first held in the Western Hemisphere.

The congress' justifiable pride at recent gains in affiliated unions and membership was offset by an undercurrent of frustration over the large proportion of unorganized white-collar workers. Delegates from almost 40 countries heard diagnoses of why relatively few white-collar workers are now organized and prescriptions for a better performance in the future. The other key topic was automation. This revealed that the congress was aware that income levels could be held down by the constant revision of job requirements made necessary by automation in stores and offices.

The First Five Million. Through its affiliates, the FIET has been growing by about a million members between recent congresses. From about 2 million members for whom fees were paid in 1958, the federation grew to almost 3 million in 1961, nearly 4 million in 1964, and in 1967, the year of the 15th congress, to over 5 million. Located in 62 countries of the non-Communist world, affiliated

unions totaled 112 in 1967, with about a third of them in Europe. About half of the affiliated membership was in Europe, birthplace of the federation, and most of the remainder in North and South America. Only a 10th of the membership was in Asia, Africa, and Oceania.

Ancestry of the FIET has been traced to a loose federation was sundered by each World War and Italian commercial unions that met in 1904. They came together to exchange views and cooperate in advancing the cause of nonmanual workers. The federation was sundered by each World War and had to be reestablished both times. It remained a European operation until after the Second World War when affiliated unions in the Americas, Asia, Africa, and Oceania were added.

At this congress, Erich Kissel, general secretary of the FIET, extolled the growth in membership that had moved the FIET into a second-place tie among international trade union secretariats. But he pointed out that there are an estimated 70 million nonmanual workers who lack trade union protection. This group is particularly large in the United States, despite recent sharp membership gains among North American white-collar unions. James Suffridge, president of the Retail Clerks and current president of the FIET, estimated that half of U.S. nonfarm manual workers are organized, compared with only about a seventh of nonmanual workers. (In addition to the Retail Clerks, U.S. affiliates of the FIET are the Building Service Employees, Insurance Workers, Office and Professional Employees, and Retail, Wholesale, and Department Store Workers.)

A World to Win. Because the proportion of the blue-collar workers is shrinking relatively, the delegates were told by Erich Kissel that unions need to organize more white-collar workers if organized labor is to continue to play its proper role in safeguarding worker standards and preserving political freedom. Trade unions were exhorted to develop their techniques to cope with the increasing number of white-collar jobs and the constant and often sudden revision of those jobs by automation.

In a series of papers and presentations, the FIET congress pondered why more white-collar workers do not belong to unions. Howard Coughlin, president of the Office and Professional Employees Union, saw the principal block to orga-

nizing U.S. white-collar workers as being their traditional identification with management. But that identification is being eroded by the constant alteration of white-collar jobs by automation. Since management makes the automation decisions, workers see union organization as a means of protecting jobs they are trained to do, or assuring they get opportunities at the new jobs. Mr. Coughlin also indicated that more white-collar workers might join a union as a result of successful organizing among professional groups such as airline pilots and teachers. On the negative side, however, he pointed to the recent tight job market, which permits some white-collar workers to improve their positions individually.

Romantic Illusion. In his paper, Rolf Spaethen (a German trade unionist who was unable to attend the congress), argued that the main hindrance to organizing white-collar workers in his country lay in their historical expectation to become self-employed. "For the vast majority of [these] workers, [self-employment] remained a mere romantic illusion." As they recognize that they will remain workers just like their blue-collar counterparts, they will be more willing to organize to secure better wage and working conditions, according to Spaethen.

The mental attitudes of white-collar workers were emphasized as the most serious hindrance to organization, but deficiencies in organizational methods were not overlooked. Mr. Coughlin maintained that it was a mistake to attempt to organize white-collar and blue-collar workers in the same union because their interests were different.

General Secretary Kissel held that white-collar workers can best be organized by emphasizing the promotions that will flow from training secured by the unions as opposed to the blue-collar method of emphasizing the increased wages obtainable by the union in the same or similar jobs.

Participants from several other countries added their prescriptions on how to improve white-collar organization. The variety of views implied that no one had a comprehensive picture of what to do, although there was broad agreement that special problems existed. The only paper that contained the opinion that organizing nonmanual workers in a particular country was no more troublesome than organizing other workers was that of Moshe Bar-Tal of Israel. The organizational ease in that country resulted from an almost overnight de-

velopment of the Israeli economy that did not permit cleavages in the attitudes of manual and nonmanual workers toward trade unions. The considerable social and economic power of the Histadrut labor federation, which has over four-fifths of workers organized, was also important.

There are various objective factors peculiar to each country, which inhibit white-collar organization. In the United States, for example, there is a high proportion of part-time and women workers, particularly in retail trade. These groups have proven more difficult to organize than full-time men workers. According to Thomas Cynog-Jones of Great Britain, the heavy complement of small family-operated stores, in that country and Europe, hinders both organization and automation. In developing countries, small establishments and pools of unemployed or underemployed workers lower prospects for organizing.

The Tight White Collar. In his paper, Benjamin Seligman of the University of Massachusetts forecast that increasing automation and job rationalization will force white-collar workers to view themselves apart from the management team. Reporting on research in a limited number of firms, he indicated that some clerical jobs have undergone a sea change or vanished under the wave of automation and job streamlining in offices, warehouses, and some retail stores. "The fit of the white collar is changing," he argued, "and . . . for many a nonmanual worker it promises to become increasingly tight as machines continue to replace them."

Annadore Bell, a German trade unionist, reported that the Dutch Research Center found a steep rise in computer use in Europe and forecast an even steeper climb by 1975. She expressed concern at this prospect because "redundancies" were already occurring among some white-collar workers in Germany. Britain's Cynog-Jones agreed with this forecast in his paper, but noted that economic dominance by small shops—in contrast to the abundance of large firms in the United States—would prevent wholesale introduction of computers for a considerable time. For him, the introduction of self-service has proved more revolutionary than the use of the computer thus far, in that it has reduced jobs and opened the way for future automation and mechanization. The British expert reported that success with completely automated food stores has been uneven in Europe.

Women and the Labor Force

More Women Are in the Labor Force
Now Than Ever Before and Majority Status
Among Them Has Shifted to the Married Group

VERA C. PERRELLA*

THE CONTINUING CHANGE of greatest effect, as well as greatest magnitude, in labor force participation is among married women. The twentieth century ushered in the change, but it continues at an accelerated rate through the post-World War II years. In 1947, 1 out of 5 married women worked; today, 20 years later, more than 1 out of 3 is in the labor force.¹ Concurrently, the rates for men and for other women (single, widowed, divorced, or separated) have either decreased or remained about the same, so that the configuration of the total labor force as well as of the female labor force has altered significantly. As a result of these changes, married women now constitute 20 percent of all civilian workers 14 years old and over, compared with 11 percent in 1947. (See chart.) Among women workers, majority status has shifted to the married group; in 1947 married women were 41 percent of working women; today, they are 57 percent.

The direction and magnitude of other labor force developments during the years since 1947 have undoubtedly been influenced by and have interacted with those among married women. The effect of the increase in the women's labor force rate is perhaps most sharply and simply illustrated, however, by computing a current overall labor force participation rate assuming that the married women's rate had remained unchanged from its 1947 level while the rates for men and other women are accepted at their current levels. Actually, the overall labor force rate has remained fairly steady over the 20-year period, around 56 percent, but the rate has decreased by several percentage points for single women and for men younger than age 20 and older than 54, as youths

stay in school longer and older men retire earlier. Had the rate for married women not risen, the current overall labor force participation rate would be 5 percentage points lower than in 1947 and the number of married women working would be 8.6 million at most, instead of the 16 million it is at present. Thus this dramatic change in participation rates is responsible for 7.4 million workers—one-tenth of the total current labor force.

Dynamics of Change

That the rate for married women rose is the result of many forces operating over time, forces which represent a revolution in social, cultural, and techno-economic areas of our lives.

The industrial revolution and the changeover from a rural to an urban society, the campaign for women's rights, the work experience gained by millions of women during the war when there was a shortage of male workers, the shift away from physical and manual labor to lighter work in the factories, the growth in white-collar jobs, and a rate of economic growth sufficient to generate an increasing number of jobs have all contributed to our almost matter-of-course acceptance of the presence of women in the labor force.

*Of the Division of Labor Force Studies, Bureau of Labor Statistics.

¹ Most of the data in this report are based on information from supplementary questions in the monthly survey of the labor force conducted in March of each year for the Bureau of Labor Statistics by the Bureau of the Census through its Current Population Survey. Data presented here relate to the population 14 years old and over, including inmates of institutions and those members of the Armed Forces living off post or with their families on post.

In this report, all references to women are to married women, husband present, unless otherwise indicated.

And without that presence, a number of other developments might not have come about, or at the least might have been of different magnitude or direction. To name one important effect, the proportions of families at the higher income levels would not have increased as much as they did between 1947 and 1965. In constant (1965) dollars, the proportion of families with income of \$10,000 and over more than tripled while the proportion with less than \$3,000 decreased by nearly one-half over the period. The growth in the proportion of families in which the wife is in the paid labor force has significantly influenced these shifts. Moreover, educational attainment of the population might not have increased as much as it has, if working mothers had not added to family income so that children could stay in high school and go to college.

The cause-and-effect aspects of the labor force participation of married women are difficult to disentangle. If women had not entered the labor force in increasing proportions, would young people have done so in greater degree than currently? Would retirement for men be postponed, instead of tending to occur at an earlier age than formerly? Do young people tend to stay in school longer because family income is higher, on the average? Do more mothers tend to work so that they can afford to give their children more schooling? Or would the pressures of scientific and technological advances inevitably result in larger proportions of men and women preparing themselves through more education to fill the jobs which such advances open up?

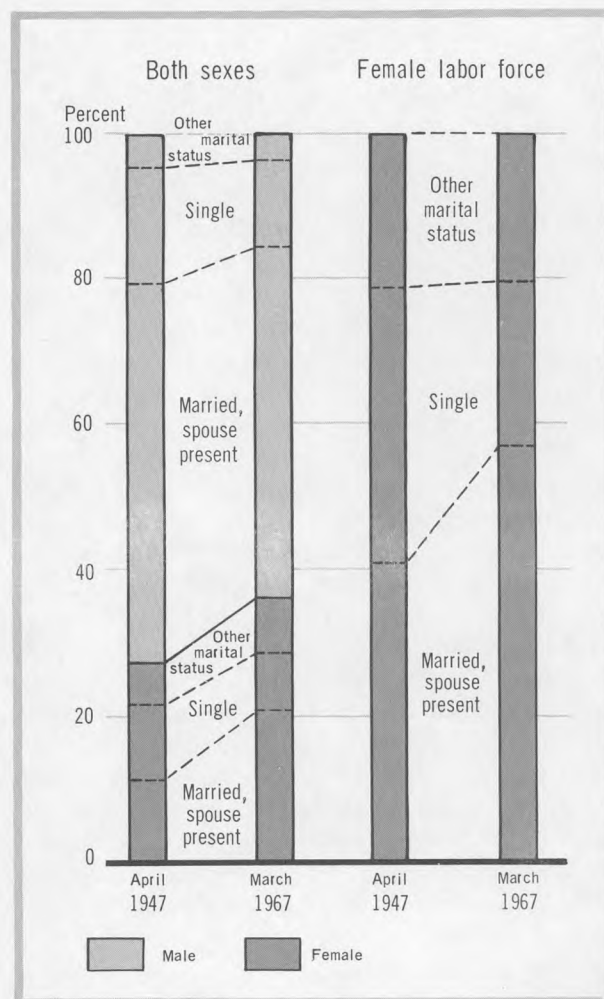
Undoubtedly, the long-term changes in family formation patterns have played an important part in the growth of the married-woman labor force. Until quite recently, over a long period of time women were tending to marry earlier, have smaller families, and have their last child at an earlier age. Increases in life expectancy also influence a woman's work life. Women who were born in 1940, for example, can expect, on the average to live to age 66—15 years longer than the women who were born in 1900—with 6 of the additional years an increment to working life, bringing it to 12 years as an average for all women. Women born since 1940 have even longer life expectancy; those born in 1960 have an average life expectancy of 73 years, and a work life expectancy of 20 years. These averages undoubtedly cover up significant differences among groups of women which

arise from differences in demographic and socio-economic factors. For example, there is evidence that women in professional occupations tend to have a longer work life expectancy than women in other occupations. One of the important reasons for this difference is that women in professional occupations tend to have fewer children than other women, and work life expectancy increases as the number of children decreases. The relative attractiveness of professional work and the higher income it provides are also factors.

The Family Life Cycle

While age has important bearing on the labor force participation of all groups in the population, for none of them does it have as many ramifications and effects as for the married woman—again

Change in Composition of Labor Force, by Marital Status and Sex, 1947 and 1967



largely because of the changing phases of her life cycle as wife, mother, and homemaker. For example, in March 1967 the labor force participation rate was only about 35 percent for women in the prime childbearing ages of 25 to 34 years, whereas the rate was 45 percent for the age group 45 to 54 years, in which childbearing is mostly over and labor force participation is at its peak.

The overriding importance of childbearing patterns on women's work life and its phasing is indicated more clearly by the differential rates for women by presence and age of children. Among married women under 35 years of age, these differences in labor force rates are very marked:

Married women 14 to 34 years old:	
No children under 18 years old.....	64.8
Children 6 to 17 years old only.....	49.4
Children under 6 years.....	26.4

Moreover, the more children a woman has, the shorter her work life will be, on the average, because of the recurring interruption to continuous work or because of extended withdrawal from the labor force. Recent estimates indicate that the birth of a first child reduces the average number of years a married woman works by about 10 years, and the birth of each additional child further reduces the average work life expectancy by from 2 to 3 years.²

Some indication is emerging in this decade of accelerated change in labor force participation even when preschool age children are present. Whereas increases in rates in the 1940's and 1950's were more marked among women past 35 years old, significant gains so far in the 1960's have been among those younger than 35, even when they have children too young to be in school:

Married women with children under 6 years of age	Labor force participation rate		Increase percentage points
	March 1966-67 average	March 1959-60 average	
14 to 34 years old.....	25.2	18.2	7.0
14 to 24.....	25.9	17.2	8.7
14 to 19.....	21.3	11.0	10.3
20 to 24.....	26.6	18.3	8.3
25 to 34.....	24.9	18.6	6.3

Among mothers of preschool children, the probability of working is higher in those families in which older children as well as children under 6 years old are present. In March 1967, for example,

among married women with children 6 to 17 years old as well as younger children, the progression was upward in labor force participation as the age of the older children increased:

Children 12 to 17 and under 6.....	35.9
Children 12 to 17, 6 to 11, and under 6.....	26.9
Children 6 to 11 and under 6.....	24.3

Generally, the presence of a nonworking daughter or other female relative 18 years old or older also increases the probability of the wife's working, even when she has preschool children.

Effect on Age Pattern

The recent increase in labor force participation of wives in the younger ages seems to be exerting a very slight downward pull on the median age of married women in the labor force. Increased longevity has increased the median age of married women in the population from about 39 years in 1947 to about 42 years in 1967; among those in the labor force, the median age has risen from about 38 to 41.3 years. Generally, the age pattern of wives in the labor force has closely followed that of all married women, but trending slightly higher in the first part of this decade. In 1965, 1966, and 1967, however, the labor force median age dropped slightly, while the population median continued its upward drift. Given the recent increases in labor force participation in the youngest ages, the labor force median age might have shown somewhat more decrease relative to the population median, if the age by which most women have made their first marriage had not been increasing somewhat at the same time. Between 1962 and 1966, the age by which most women have made their first marriage increased by one-half year (to 22.8 years) while the age by which most men have married for the first time decreased by one-half year (to 25.8 years). This has probably been a natural adjustment to the excess of women over men in what had, for some years previously, been the ages by which most first marriages had occurred for each.

Once the imbalance in the male and female cohorts passes, the age at first marriage may revert to previous levels, with consequent effect on the age structure of married women. (Any effect of the increasing tendency to go to school longer on current age at first marriage of women and men seems to have been discounted already.)

² See Stuart Garfinkle, *Work Life Expectancy and Training Needs of Women* (U.S. Department of Labor, Manpower Administration), Manpower Report 12, May 1967.

Education

Educational attainment is an element of tremendous importance in the postwar labor force participation of married women. Whatever other element is examined—age, color, presence and age of children, income or educational attainment of the husband—labor force participation among married women tends to increase significantly with each successive level of schooling. Moreover, this increase tends to be present not only when education is matched with each of these characteristics, but also when it is matched with a combination of them. (See accompanying table.)

The contrast with the early work history of married women is sharp: the relatively few who worked tended to be the poorest (many of them of immigrant stock) and the least likely to have schooling.

Until less than 100 years ago formal education was predominately a male preserve, particularly any beyond the rudimentary ABC's. Mores and economic considerations largely set the pattern: Education was wasted on women; they did not possess the intellectual endowment to benefit from it, and, besides, it had no economic benefit since girls got married and married women didn't work. Even when girls were afforded more than a rudimentary education, it very often took the form of the finishing school, designed more to give them the social graces than to further their learning or to exercise their mental capacities. Factors such as compulsory school attendance laws, child labor laws, and the fight for women's rights gradually brought about a change so that, by 1910, the earliest period for which reliable estimates are available, the proportion of women with a high school education was higher than that of men. It has continued higher, although decreasingly so, up to the present time.

However, the proportion of women with a college education has always been considerably lower than that of men, and women are rapidly losing whatever advantage they may have had in average educational attainment. As of March 1967 the median years of school completed by men and women 18 years old and over was the same (12.1 years), because the proportions of men with high school diplomas and with college degrees have both been increasing at a much faster rate than those of women.

So far as labor force participation per se is concerned, educational attainment is much more a factor for women than for men. Now, as formerly, nearly all men in the prime working ages (25 to 54 years), once they are out of school, are in the labor force regardless of educational attainment. Among married women, the higher the educational attainment, the greater the likelihood of labor force participation. The reasons are obvious. Job opportunities for women have increased substantially in those occupations in which education is a factor—the clerical and professional, technical, and kindred occupations. Also, an appreciable portion of the secondary school curriculum is geared to meeting the demands of a large segment of the present-day occupational structure of female employment, with such courses as typing, shorthand, and bookkeeping. And women who have invested the money and effort to acquire a college education are reluctant to forego the monetary and nonmonetary returns derived from work in the professional fields. In March 1967 the progression in labor force participation of married women 18 years old and over generally moved upward with educational attainment, ranging from 19 percent for those with lowest attainment to 50 percent for those with highest.

<i>Number of years of school completed</i>	<i>Percent in labor force</i>
Less than 5 years.....	19.3
5 to 7 years.....	26.3
8 years.....	29.2
9 to 11 years.....	35.4
12 years.....	40.4
13 to 15 years.....	38.1
16 years or more.....	49.8

Income

In recent years, the labor force participation rates of married women have increased at every level of income of the husband. However, while married women most often give economic reasons as the major impetus for their labor force entry,³ the link between level of husband's or family's income and the labor force participation rate of wives is not as simply forged as that between the wife's age, educational attainment, or presence and age of children. That is, it does not necessarily hold that the higher the income, the lower the labor force rate, on the average, nor that both will move in the same direction. It is precisely because these more directly traceable factors are

³ "Why Women Start and Stop Working: A Study in Mobility," *Monthly Labor Review*, September 1965, pp. 1077-1082, reprinted as Special Labor Force Report No. 59.

PERCENT OF MARRIED COUPLES WITH WIFE IN PAID LABOR FORCE IN MARCH 1964, BY EDUCATION OF WIFE, PRESENCE AND AGE OF CHILDREN, AND HUSBAND'S INCOME IN 1963

Income of husband in 1963, and presence and age of children	Education of wife		
	Elementary, 8 years or less	High school, 1 to 4 years	College, 1 year or more
Total.....	24.4	33.6	39.3
Under \$3,000 ¹	20.8	37.6	50.8
\$3,000 to \$5,999.....	30.0	37.0	49.5
\$6,000 and over.....	23.1	29.3	32.4
No own children under 18 years old.....	20.9	42.1	51.4
Under \$3,000 ¹	17.4	39.1	51.0
\$3,000 to \$5,999.....	26.1	45.4	57.2
\$6,000 and over.....	22.8	41.0	47.8
Own children 6 to 17 years.....	35.4	40.5	43.0
Under \$3,000 ¹	34.6	53.0	(2) 63.3
\$3,000 to \$5,999.....	42.1	46.0	36.4
\$6,000 and over.....	27.6	35.3	23.9
Some children under 6 years.....	23.0	20.7	46.0
Under \$3,000 ¹	23.1	27.0	32.0
\$3,000 to \$5,999.....	26.2	25.3	18.3
\$6,000 and over.....	15.1	14.5	

¹ Includes persons reporting no income or loss of income in 1963.
² Percent not shown where base is less than 100,000.

involved that income level and the propensity of wives to work move in more complex relationship to each other. On the one hand, income level is very much a function of the husband's age, educational attainment, and occupational and career ladder stages. On the other hand, a given income level represents a relative rather than an absolute income position. Different socioeconomic groups have different standards of living and aspirations at various stages of the family cycle, so that what is considered adequate by one may not be by another. And of course, a given income becomes progressively less adequate with each additional person dependent upon it, or each additional demand upon it in the form of costs of prolonged illness, college education, and so on.

If the labor force rate of wives is examined by income level of the husband, without reference to any other factor, the wives whose husband's income is \$3,000 to \$6,999 have higher labor force rates (2 out of 5) than do the wives of men at either lower or higher income levels (1 out of 3). But a more detailed examination, in terms of the wife's age and the age of the children, shows variations within income groups, as is indicated by the following:

Labor force rate of wife when income of husband is between \$5,000 and \$6,999, March 1967

16- to 34-year-old married women, total.....	41.0
No children under 18 years.....	71.4
Children 6 to 17 years only.....	52.5
Children less than 6 years.....	30.9

Total money income is considerably higher in families where the wife works. In most families she is the only secondary earner; if there is more than one secondary earner she usually earns the most (in a husband-wife family, the husband is the primary worker or earner and all other family members are secondary). Only 6 percent of the families with a working wife had total money income under \$3,000 in 1965; in families where the wife did not work, 17 percent had that little. At the other end of the scale, more than a third of the families with a working wife had incomes of \$10,000 or more, compared with less than a fourth of the families in which the wife did not work. Family income is very much a function of the number of workers in a family, as well as occupation and extent of employment of those members during a year.

No data are available to indicate to what extent the income of various family members is a pooled family resource. However, a wife's labor force participation is probably much more related to her husband's than to the family's income. Empirically a husband's earnings generally determine the family life style and standard of living, and if the wife works, both his and her earnings are usually used for family expenditures.

On balance, the most substantial postwar increases in labor force participation of married women have been among those whose husband's income is above the average. More and more wives are going to work not because the basic necessities are lacking, but to afford a higher standard of living, to satisfy personal nonmonetary aspirations, and, very probably, to assert a measure of economic self-sufficiency.

Work Experience

The proportion of married women who work at some time during the year, that is, those with work experience, has also increased markedly in the postwar period. Between 1950 and 1966, the proportion with work experience rose from 35 percent to 47 percent. The increases have been particularly high for women age 45 to 64.

Differences between the number with work experience during the year and the number in the labor force in an average week give a measure of the turnover in the women's labor force. Moreover, comparison of these figures for married women (the largest group of secondary workers)

with those for married men (the most stable group in the labor force) underscores the greater elasticity in the women's labor force. Almost all married men are in the labor force all year and they are the workers least likely to move in and out of the labor force, so there is comparatively little difference between the number who work at some time during the year and the average number in the labor force at any given time. For married women, on the other hand, movement in and out of the labor force is much more common, and the number of married women who worked at some time during the year exceeds the weekly average by a third. Even at the ages in which movement is lowest—45 to 64 years—the number with work experience during the year exceeds the weekly average in the labor force by about a fourth. However, in the past decade the difference between the number of married women who worked at some time during the year and the weekly average has decreased, indicating that they are tending to stay in the labor force longer during the year.

Full-time Workers

In spite of family responsibilities, most working wives hold full-time jobs—about three-fourths of the married women employed in nonagricultural industries in 1966 worked on full-time schedules. During the year, the average workweek for married women in these industries was 35.5 hours, about 3 hours longer than for single women. More than half the married women worked 35 to 40 hours, and about 17 percent worked 41 hours or more. As is indicated by these averages, a significant proportion work overtime, some of them fairly regularly. For a week surveyed in May 1966, for example, about 13 percent of all married women who were wage and salary workers worked some overtime, and among those who did about 30 percent received premium pay for their overtime.⁴

Women are less likely than men to work overtime, and also less likely to receive premium pay, and not necessarily because of discrimination on the part of employers or personal preference for shorter hours. The number of hours which women may work are regulated by law in many States (intended as a protective measure); also, women are more likely than men to be working in industries which are not covered by premium pay provisions of the Fair Labor Standards Act or

collective bargaining agreements. The likelihood of premium pay in service industries, for example, is small, and many women work in those industries.

Among married women who work, the proportion employed full time for however long they work during the year has remained about the same between 1950 and 1966. But, because of improved economic conditions, there has been an increase in recent years in the proportion who work all year at full-time jobs. This increase has been appreciable whatever the ages of children in the family, even while the classic differentials of smaller proportions associated with younger age of children have been retained.

The variations by age in the proportions who are year-round full-time workers are particularly interesting in the group of women with no children under 18 years, because of the mixture of young women with no children at all and older women whose children, if any, are over 18 years old. The proportion of year-round full-time workers among them decreases as the women's age increases, in contrast with the pattern among mothers with children under 18 years. Among the latter, generally, the younger the mother and the children, the lower the tendency to be year-round full-time workers or, indeed, to be in the labor force at all.

These differentials may have important implications with respect to the female labor force in light of current developments in the field of birth control and family planning. At the least, planned spacing of children accompanied by no overall decline in completed size of family could have important effects in the timing of labor force entry, withdrawal, and reentry, and in the age structure of the female labor force. At the most, a significant decline in birth rates might affect not only the age composition of the female labor force, but also its size, because of the different rates of labor force participation associated with the various presence-and-age-of-children patterns.

During the last decade, there has been a decline in fertility rates concurrent with a rise in labor force participation of married women. However, while there is some indication that married women who work tend to have fewer children than those who do not, it is difficult to separate cause and effect.

⁴ See "Overtime Hours and Premium Pay," *Monthly Labor Review*, September 1966, pp. 973-977, reprinted as Special Labor Force Report No. 72.

Unemployment

In the post-World War II period, married women have generally had lower unemployment rates than persons in all other marital status categories except married men. In the years 1957 to 1966, their annual average unemployment rate fluctuated in response to economic conditions, ranging between 3.6 percent and 6.5 percent; in 1966, the rate was 3.7 percent, double that of married men.

While most unemployment results from losing or leaving a job, a greater part of unemployment among married women than among men arises from entry or reentry into the labor force, which often entails a period of job hunting.

Among workers who were unemployed at some time during 1966, about the same proportions, nearly one-fourth, of the married men and married women were jobless for a total of 15 weeks or more, regardless of the number of spells of unemployment. However, a somewhat greater proportion of women than men were unemployed for a relatively short period (fewer than 5 weeks). Also, a smaller proportion of married women than men with unemployment had three spells or more of joblessness. These lower proportions for married women may reflect to some extent the tendency of some women to leave the labor force soon after they become unemployed or when their seasonal job ends, and to return when jobs open up.

Because wives constitute the largest proportion of secondary workers in families, considerable interest centers on their labor force and employment status in those families in which the husband is unemployed. Women whose husbands are unemployed are somewhat more likely to be in the labor force and considerably more likely to be unemployed than women whose husbands are employed. Generally, the unemployment rate for wives whose husbands are unemployed is about three times that of wives whose husbands are employed. Various factors contribute to this difference. In some areas, unemployment is general rather than limited to certain groups or industries. Also, given the high correlation between age, edu-

ational attainment, and occupational groups of husbands and wives, a husband in one of the "high risk" groups (older workers, nonwhites, less educated, less skilled) is likely to have a wife similarly handicapped in the job market.

Married women in the West and South have higher labor force participation rates than those in the North. Latterly, the rates in the West have made the most gain, although the women in the South still show the highest rate. This is largely because the proportion of Negro women in the South is higher than in the other regions,⁵ and Negro women historically have had higher labor force participation rates than white women.

The Geography of Growth

The pattern of population and industrial growth has been of great import for the current geographical distribution of the married-woman labor force. Post-World War II population and industry growth rates have been higher in the South and West than in other regions. Durable goods industries have tended to locate in those two regions, as have defense contract awards, particularly for research and development. And as population and other industry grew, so did the service industries, such as personal services, professional services, and finance, insurance and real estate services, which are important employers of women. This kind of growth has had particularly significant effects for the married-woman labor force. The occupation groups of professional, clerical and service workers—important groups for women—have risen in every region, but at a higher rate in the West and portions of the South. The number of operatives, an occupation group which has shown little growth elsewhere, has increased in the South, and an appreciable portion of the factory employment which gave rise to this increase is in occupations in which women work.

An interesting aspect of these patterns of geographic growth is their implication with respect to the geographic mobility of labor,⁶ and the effect on that mobility of the increasing importance of married women as secondary workers. Whether mobility decreases if two job changes in a family rather than one are entailed in a move has not yet been measured. Nor has it been determined whether, when a primary earner becomes

⁵ Despite the great Negro exodus from the South, 54 percent of the Negro population is there.

⁶ See "Geographic Mobility of Labor in the United States, Recent Findings," *Social Security Bulletin*, March 1967, pp. 14-20, for data relating to various noneconomic factors which affect labor mobility.

unemployed, a wife who is working lessens the probability of a move to find employment for the primary earner (particularly in those cases where unemployment insurance affords a cushion). Traditionally, the husband has been the breadwinner and where the dictates of his work opportunities have led, the wife has followed. Recent studies have shown that the higher the education and skill level of men, the higher their migration rate,⁷ and that among men who migrate, half give job-related reasons for the move. But there are no data to indicate to what extent moves to other locations have entailed a wife's leaving her job, or to indicate how many men who might otherwise have moved did not do so because of their wives' employment. Figures for 1950-60 and 1960-63 indicate that an appreciable portion of the population in the West resulted from net migration, whereas population increase in the South has been more a function of births over deaths, with outmigration nearly balanced by immigration. It may be that the countervailing tendencies of industries to move to locations where labor is plentiful and for people to move where jobs are plentiful result in a job situation as favorable for women as for men, given the proliferation of white-collar and service jobs which has accompanied industrial expansion in the postwar years.

Industries and Occupations

The differential growth among industries and occupations has been among the factors which have facilitated the entry of women into paid employment. Mass production techniques and other technological advances have significantly altered the nature of work, so that in business and industry, as well as in the home, the physical labor aspect is becoming less important, minimizing the sex differential in the effort required for production of both goods and services. For married women, the laborsaving devices and services available in and for the home have been almost as important a factor in promoting labor force participation as the reduction of physical strength requirements in large segments of paid jobs. The hours and the physical energy spent in doing the laundry and ironing for a family—before the advent of automatic washing machines and synthetic fabrics

which require no pressing—furnish a ready illustration of the importance of the home laborsaving devices which have left more time and energy for work outside the home. The long-term shift in the pattern of job growth, away from the output of goods and toward more services, and emphasizing white-collar and service-producing jobs, has opened up manifold opportunities for women workers. At the beginning of the century, fewer than 1 in 5 of all employed women worked in white-collar occupations—about the same proportion as among men. Today, 3 out of 5 women are white-collar workers, compared with about 2 out of 5 men. Among the various descriptions of our times, a common one is "the paper age," and women play a considerable part in making it so: witness the 8.6 million in clerical jobs.

As the proportion of all workers in the goods-producing industries—agriculture, manufacturing, construction, and mining—fell, from about 50 percent in 1947 to 40 percent in 1967, the proportion in service-producing industries rose commensurately. Occupational requirements have also been significantly affected, since each industry has a different occupational structure. The industries which decreased in relative importance are the ones in which blue-collar occupations are concentrated, and, except for manufacturing, are overwhelmingly employers of male workers. In contrast, among industries in which employment has been increasing fastest—government and service, for example—large numbers of clerical and other white-collar workers are employed, thus opening many opportunities to women. Patently, the industrial shift has been a vital force in fostering the growth of the female labor force.

The changing pattern of the occupational distribution of married women vividly reflects these industrial shifts, with clear indications of their continuing influence when the distributions are examined separately for the younger and older among them. In 1947, the occupation group with the largest number of married women was that of operatives; in 1967, the clerical group had the largest number.

⁷ For example, about half the men 25 to 29 years old who were in professional, technical, and kindred occupations migrated between 1955 and 1960, about double the proportion of blue-collar workers.

Part-time Workers

Married women are perhaps the single most important element in the elasticity of the potential supply of workers, not only because they are the major source of additional workers but also because a collateral aspect of their participation is the extent to which voluntary part-time work is becoming a permanent component of our job structure. Because of their childbearing and child-rearing functions and home responsibilities, many married women find part-time work particularly suited to their needs and preferences for at least a portion of their work life. On the demand-for-labor side, industries are finding it advantageous to employ a portion of their personnel for peak-load days or hours only, as in the case of retail stores and service establishments. A postwar development has been the employment agency which is engaged solely in furnishing employers with temporary workers, often on a part-time basis; most of these workers are married women.⁸

Although students and semiretired workers are also a source of voluntary part-time workers, married women are the largest component of the group—about 2 in 5. Between 1957 and 1966, about 30 percent of the increase in nonagricultural employment was in voluntary part-time employment; moreover, this segment increased by almost 60 percent whereas the number who usually work full time increased by only 16 percent. For married women, the number in voluntary part-time jobs in nonagricultural industries increased by more than a half in the past decade, compared with about a third among those usually working full time. As of March 1967, 3.8 million or one-fourth of all employed married women were part-time workers, with almost half in clerical and service (except private household) occupations.

Earnings

Women's earnings have always represented a controversial area in the job market. On the one hand, fears have been expressed that the availability of women workers at much lower wages than were paid to men constituted a disadvantage to men, keeping out of work many of them who might otherwise have had jobs. On the other hand,

any discrimination represented by lower earnings for women has been disputed on various scores, such as differences in the kind of work skills and areas of responsibility. There is no doubt but that the generally lower pay scales for women compared with men constituted an entering wedge into the job market for women. In New York, in 1853, for example, women teachers were given one-tenth of the pay of men teachers, and by dint of that differential grudgingly were accorded some of the jobs.⁹ A further hurdle for women was that represented in the ruling in many school jurisdictions and businesses, fostered by custom and tradition, that once a woman married she could no longer remain employed. Currently, Title VII of the Civil Rights Act of 1964 and amendments to the Fair Labor Standards Act contain provisions to equalize rates of pay for men and women doing similar work. There is no question but that differences in occupations have contributed to differences in pay. The concentration of women in certain fields, such as secretarial and clerical, is to some extent responsible for lower earnings. Nonetheless, discrimination plays a part, since differences do exist where the kind and level of work, responsibility, and performance are not demonstrably different.¹⁰

Legal provisions do not result in immediate change. A recent study of low earners indicates that among year-round full-time workers, the proportion of women with earnings less than \$2,500 in 1965 (\$2,500 is roughly the minimum amount which would have been earned by workers covered by the provisions of the Fair Labor Standards Act) was more than double that of men.¹¹ The proportion of married women with low earnings was about 1 out of 5, about the same as for single and widowed, divorced, or separated women. For all the women who were year-round full-time workers in 1965, the median earnings were \$3,828, compared with \$6,388 for the men.

⁸ See "Women at Beck and Call," *Forbes*, July 15, 1967, pp. 42-45.

⁹ See Andrew Sinclair, *The Better Half—The Emancipation of the American Woman* (New York, 1965, Harper and Row), p. 100.

¹⁰ See *American Women*, Report of the President's Committee on the Status of Women, 1963, p. 28.

¹¹ See "Low Earners and Their Incomes," *Monthly Labor Review*, May 1967, pp. 35-40, reprinted as Special Labor Force Report No. 82.

Generally, earnings are highest for women who work in professional and related services (including teachers) and in public administration, and, inevitably, lowest for those in personal services (very heavily weighted by private household workers) and in retail trade.

The occupational distributions pretty well follow the industrial distribution: the women in professional, technical, and kindred occupations have the highest earnings, and service workers and sales workers have the lowest.

Even more important than the difference between men's and women's wages is the fact that there has been no material improvement in the women's positions relative to the men's over the last several years. Among year-round full-time wage and salary workers, the median earnings for women have been roughly 60 percent of the men's.

White and Negro Wives

The major differences between white and Negro wives who work are quickly summarized despite the complex network of factors which underlie those differences: on the average, Negro wives are more likely to be in the labor force and to have higher unemployment rates than white wives, and to be at the lower end of the educational occupational and earnings ranges.¹² They are also likely to have a larger number of dependents in their families than white wives.

Negro married women have, of course, a much longer history of labor force participation than white married women. Up to just before World War II, in 1940, the decennial census figures showed appreciably higher rates for Negro than for white married women in every age group. In the postwar period, the higher Negro rate continues in each of the age groups from 20 years and over, although the gap is narrowing considerably.

Children and Age of Mothers. Negro married women, as a group, are younger than white married women, both in the population and in the labor force. For both the white and Negro, the median age is lower in the labor force than in the population. In March 1967 the median age of Negro wives in the labor force, about 39 years, was 2½ years lower than that of white wives. Currently, Negro women have a lesser propensity than white women to be in the labor force in the

youngest age group (14 to 19 years) and a greater propensity at all other ages.

The differences which do exist in the age structures of white and Negro married women arise largely from the higher fertility and lesser longevity of the Negro. These differences in fertility and age structure play an important part with respect to differences in the proportions with children under 18 years of age and the number of such children—a factor which constitutes a major determinant of differential rates of labor force participation for women. The average number of children under 18 years of age for white wives with children was 2.39 in March 1966, compared with 2.92 for Negro wives. Overall, 61 percent of the Negro wives had children under 18 years compared with 57 percent of the white.

Negro women are more likely to be in the labor force than white women, whatever the age of the children, own age, husbands' ages, or husbands' incomes. But as with white women, those with children under 6 years have the lowest labor force rate. In March 1967 for example, these rates were 42 percent and 25 percent for Negro and white wives, respectively. The widest difference between Negro and white wives with children under 6 years occurs among those whose husbands' incomes are \$7,000 and over. Some of this difference may arise from the fact that a much greater proportion of white husbands than Negro husbands have incomes substantially higher than \$7,000, and labor force rates of wives decrease at succeeding levels of husbands' incomes above the \$7,000 threshold.

Another factor contributing to the much higher rate may be the somewhat higher educational attainment of Negro wives relative to that of husbands, in contrast with the reverse relationship among the white. (The decennial census figures for 1960 indicate that among Negro labor force participants, 4 percent more of the married women than of the married men had 1 year or more of college; among the white, the proportion of married women with 1 year or more of college was 2 percentage points lower than that of married men.) When economic necessity is not an overriding consideration, the amount which a wife can earn relative to her husband's earnings may be a determinant in her labor force participation: if her

¹² In some instances, data for nonwhites are used to describe the situation of Negroes, who constitute about 92 percent of all nonwhites 14 years old and over in the United States.

earnings are inconsequential relative to his, there is little point in her working, but with increased educational attainment, both earnings potential and interesting work opportunities increase. Undoubtedly, however, the different orientation of white and Negro women to the job market which arises from sociological and economic factors is also relevant. The Negro married man's experience in the job market has been characterized by a higher degree of instability of employment than that of the white—indeed, that experience has been one of the factors which has contributed to the lesser stability of the Negro marriage. Consequently, Negro women, even when the husband's income is above average, may view their own employment as a kind of insurance which they cannot afford to let lapse.

Educational Attainment. The difference in educational levels between the white and Negro population has been diminishing even while the levels for both groups have been rising. As of March 1967 the median years of school completed by all women age 18 and over was nearly 2 years lower for the Negro (10.5 years) than for the white (12.2 years). Women who are in the labor force have a higher median than those who are not and rather more markedly so among the Negro.

Despite some improvement in the kinds of jobs held by Negro women, the proportion of the employed with at least a high school education who work in white-collar occupations is still considerably below that of white women. In March 1967 among all employed women 18 years old and older who had at least a high school diploma, only about one-half of the Negro women were in professional, managerial, clerical and sales occupations, compared with 4 out of 5 white women. On the other hand, 31 percent of the Negro but only 11 percent of the white women were employed as service workers.

Unemployment rates tend to be higher among Negro than white women with comparable years of schooling. However, while the white women in the labor force generally have a declining percentage unemployed as education increases, the pattern is not so consistent for the Negro. Among Negro women the unemployment rates were about the same for those who had completed 4 years of high school or even 1 to 3 years of college as for those who had only an eighth grade education or

less. Only college graduates had a substantially lower unemployment rate than lesser educated women.

Family Income. Negro wives' earnings have relatively more effect on family money income levels than do white wives', even though Negro women have somewhat lower earnings than white. In Negro husband-wife families the median family income in 1965 was about half again as large when the wife was in the paid labor force as when she was not, compared with nearly one-third more in white families. The lower level of Negro husbands' income relative to white husbands' is very likely the major reason for this difference. Notwithstanding the additional earnings, one-fifth of the Negro families with the wives in the paid labor force had incomes under \$3,000, or three times the proportion among white families with wives in the paid labor force.

Work Experience. Expectably, a higher proportion of Negro than white wives work at some time during the year, and do so in every category of presence and age of children. Overall, 61 percent of the Negro and 46 percent of the white married women worked at some time during 1966.

Primarily because of the kinds of work they do, greater proportions of Negro than white wives are unemployed during the year, are jobless longer, and more often:

	Nonwhite	White
With unemployment during year (percent of total working or looking for work).....	20.0	11.2
Unemployed a total of 15 weeks or more (percent of workers with unemployment).....	31.3	22.2
With 3 spells or more of unemployment (percent of total who worked).....	17.0	11.3

Although unemployment rates are higher for married women than for married men in both the white and Negro groups, the women tend to have lower proportions with 3 spells or more of unemployment during the year. These differences between the men and women arise to some extent from their different patterns of labor force attachment. The larger proportions among women in the labor force who are new entrants or reentrants into the job market contribute to both these tendencies. Entry and reentry often entail a period of looking for work, and women are more likely

to leave the labor force when they become unemployed since they are secondary earners in the family. Generally, married men of working age stay in the labor force unless they are unable to work.

Occupations. The occupations in which Negro and white women tend to work reflect to some extent the lower educational attainment and lack of training of the Negro women as well as discriminatory hiring practices. Half the Negro married women were in service occupations in March 1967, about evenly divided between private household workers and other service workers. Among the white wives, 16 percent were in service occupations, with the proportion in private household work minimal. A higher proportion of white than Negro wives were in professional occupations. Relatively twice as many white as Negro wives were employed in clerical occupations. A significant portent for the future for both white and Negro women is the higher proportion of single women in clerical occupations relative to the married, indicating that, as they marry, the occupational distribution of wives will be affected accordingly.

The Shape of the Future

Women's labor force participation is expected to continue to increase in coming decades. The female labor force has been projected for 1980 at about 32 million, more than half again as large as it was in 1960. Much of the growth is expected to

be among married women, through some rise in labor force rates as well as population increase. Their economic role in the family has already achieved importance, despite the low level of their earnings relative to men's. Women should benefit from the provisions of Title VII of the Civil Rights Act of 1964, which, among other provisions, prohibits discrimination because of sex in hiring, upgrading, and all other areas of employment. However, whether women enter the upper reaches of professional and other occupations to a greater degree than now depends on factors such as the acceptance of women in such work by society, the opportunity and willingness to take work of increased responsibility, the desire for requisite education and training, commensurate pay as a return for the career investment, and adequate facilities for child day care. Experience in some countries suggests that all of these are possible of achievement in the United States.

The network of demographic and socioeconomic factors which influence women's labor force participation makes it difficult to predict the kind of life pattern which American women may be in the process of shaping for their future counterparts. The American experience may continue in an economic and cultural climate in which labor force participation for married women is, to a large extent, a matter of choice, based on individual aspirations, values, and preferences. Or it may culminate in an economically, culturally, or publicly imposed compulsion that women, like men, must work, as has already happened in some countries.

Of course [woman] belongs in the home, but so does her husband, and neither of them belongs there exclusively.

—Father A. M. Greeley, *The Catholic Standard*, October 30, 1964.

Air Transport: Trends in Output Per Employee

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OUTPUT PER EMPLOYEE INDEXES for the air transportation industry have increased at a rate of almost 8 percent a year since 1947, the highest rate for any major industry. As a result of this rate of gain, productivity levels in 1966 were five times greater than in 1947. By contrast, output per worker in the total private economy during the same period increased at an annual average rate of only 2.8 percent. Despite the high productivity gains, employment has advanced steadily, since demand for air transportation services has grown even more rapidly. (See chart.) The growth rate was not maintained consistently during the post-war period and reflected generally very high increases (averaging 11 percent a year) for the late 1940's and early 1950's, a slackening of the rate to about 4 percent from 1955 to 1961, and a return to the 11-percent rate since 1961.¹

The 1947-55 period, despite a slow start in 1947, evidenced extraordinarily large increases in output through 1955, averaging almost 17 percent a year. The industry was expanding rapidly into new service areas: coach service was introduced, local service carriers were certificated, and all-cargo carriers were established. Since productivity gains were fairly high, except in 1952, changes in employment ranged widely from actual decreases at the beginning of the period to a 12-percent increase in 1952. For the entire period, however, as output more than tripled, employment rose by only one-third.

The significantly lower rates of productivity growth during 1955-61 were associated with vary-

ing patterns of output and employment changes. Between 1955-57, annual output increases continued at the high 1947-55 rate, but employment gains of about 11 percent a year nearly matched output increases. During 1957-61, output gains fell off sharply to less than half of those in the 1947-57 period, while employment increases averaged slightly more than 3 percent a year. The most revolutionary technological change in the air transportation industry, which contributed to subsequent increases in productivity, was introduced during this period of lowest productivity gains. New turbojets had three times the capacity and were twice the cost of the DC-7's introduced in 1953.

Between 1961-66, output increased at a rate of over 17 percent a year with some acceleration evident. As productivity averaged about 11 percent a year, employment has been accelerating fairly rapidly from a 1.6-percent increase in 1962 to 9.4 percent in 1966.

Group Measures

Ordinarily, productivity reports for individual industries are limited to analysis of total output and input measures as data for individual companies or establishments are considered confidential.² For the air transportation industry, however, basic source data for each airline are published. In order to provide background material output per employee measures for individual airlines have been calculated³ to provide measures of dispersions and to build up totals for carrier groups.

*Of the Office of Productivity, Technology, and Growth, Bureau of Labor Statistics.

¹ BLS indexes of output per man-hour and per employee for the private economy and major sectors use the concept of net output, while the industry measures are based on final gross output. Lack of man-hour data in air transportation restricts calculations.

Productivity indexes for the air-transportation industry are developed in *Indexes of Output Per Employee, Air Transportation Industry, 1947-64* (BLS Report 308, 1966). The report includes a technical description of the procedures. The indexes cover SIC industry 4511: Air Transportation, Certified Carriers.

² Lack of comparable data for individual airlines prior to 1957 limited analysis to the post-1956 period.

³ Indexes for individual airlines are derived from the same data and use the same methods as the industry indexes. We have not identified the individual companies, primarily because the individual measures do not have the same degree of reliability as the overall measures. Our estimating techniques, which can provide relatively unbiased results for the industry, may be less valid for individual airlines. This is especially true for estimates of employment, strike adjustments, quality changes, and the omission of items such as excess baggage and subsidies.

The measures for individual airlines ranged from increases of over 20 percent a year to an average decline of 1 percent. These extreme rates were registered by small airlines. The extreme skewness of the size distribution—five of the airlines constitute about 65 percent of total employment—suggests the need for groupings that are more homogeneous in terms of services and size.

The average rate of productivity increase for the air transportation industry is a function of the changes in productivity for individual airlines and the effects of shifts in the relative importance of companies with different productivity levels. For the 1957–66 period, a test of shift effect was made by comparing the usual productivity measure with a measure calculated by combining individual rates for airlines with 1957 employment weights. The effect of shifts was found to be negligible, as the rate of gain from the measure

excluding the effects of shifts differed by only 0.1 percentage point from the industry rate of 8.2 percent.

The Civil Aeronautics Board has classified the certificated airlines currently operating into eight groups or subgroups. (See table 1 for listings of the airlines.) These groupings, based on company data, often reflect a considerable mix in type of operations and thus place some limitations on analysis. For example, some of the domestic airlines also engage in international operations; these operations are included in the output and input measures of the domestic group and are excluded from the data for the international territorial group. An analysis of some of these groups is presented below.

Big Four System. This group covers the four largest domestic trunk systems and contains over

Output Per Employee, Output and Employment in the Air Transportation Industry, 1947–66

[Ratio scale]

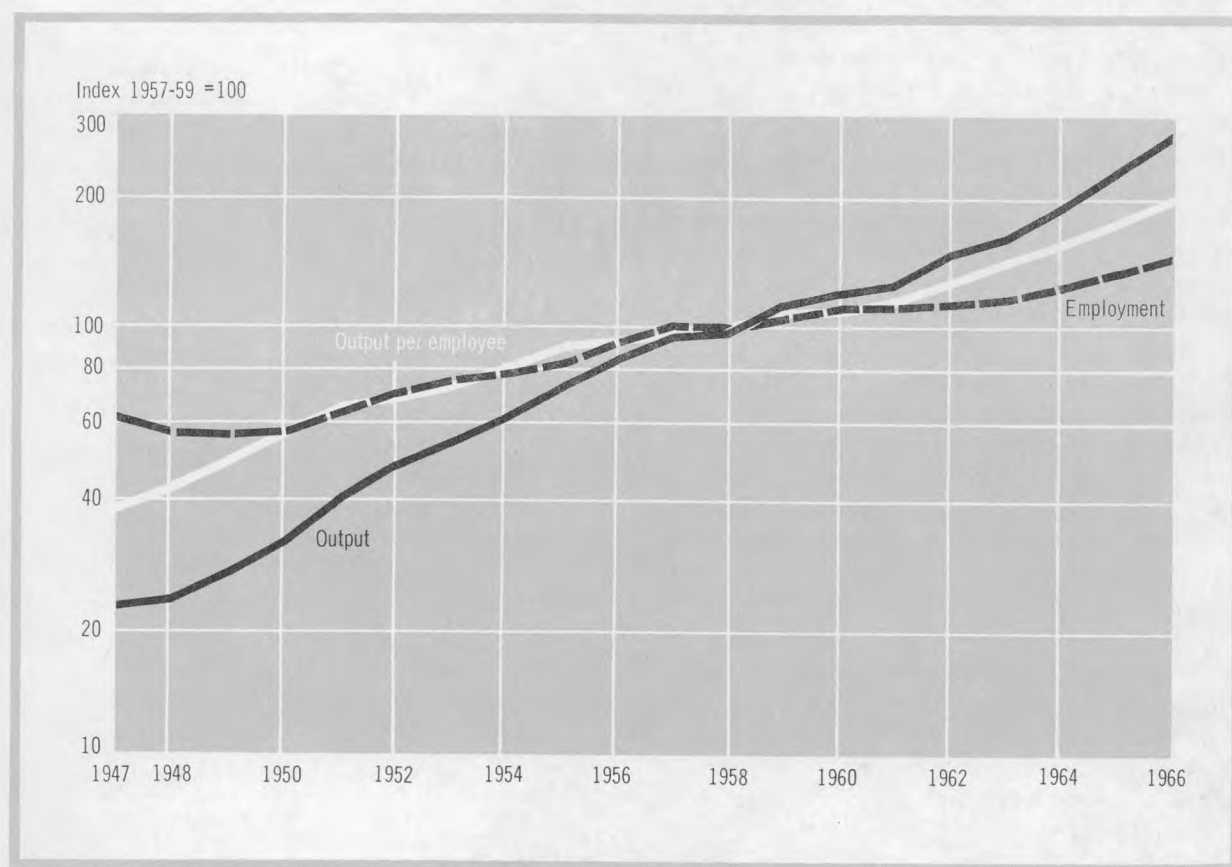


TABLE 1. AVERAGE EMPLOYMENT FOR AIRLINES AND CARRIER GROUPS¹ IN THE AIR TRANSPORTATION INDUSTRY, 1957 AND 1966

Airlines and groups	Average employment—		Airlines and groups	Average employment—	
	1957	1966 ²		1957	1966 ²
Certificated industry.....	139,312	215,233	Total, helicopter carriers.....	305	605
Total, Big Four system.....	76,877	113,659	Los Angeles Airways, Inc.....	111	220
American Airlines, Inc.....	21,030	27,189	New York Airways, Inc.....	194	385
Eastern Air Lines, Inc.....	15,551	20,958	Total, intra-Alaska carriers.....	781	968
Trans World Airlines, Inc.....	19,769	28,778	Alaska Coastal-Ellis Airlines, Inc.....	243	266
United Air Lines, Inc.....	20,527	36,734	Cordova Airlines, Inc.....	70	73
Total, other trunk system.....	26,296	45,157	Northern Consolidated Airlines, Inc.....	151	169
Braniff Airways, Inc.....	4,793	7,261	Reeve Aleutian Airways, Inc.....	63	152
Continental Air Lines, Inc.....	1,659	4,684	Wien Alaska Airlines, Inc.....	254	308
Delta Air Lines, Inc.....	5,876	12,919	Total, intra-Hawaiian carriers.....	903	1,560
National Airlines, Inc.....	3,837	5,136	Aloha Airlines, Inc.....	266	666
Northeast Airlines, Inc.....	1,701	2,692	Hawaiian Airlines, Inc.....	637	864
Northwest Airlines, Inc.....	5,820	7,469	Total, all-cargo carriers system.....	3,306	4,364
Western Air Lines, Inc.....	2,610	4,996	Airlift International, Inc.....	787	1,174
Total, local service carriers.....	8,252	19,333	The Flying Tiger Lines, Inc.....	1,569	1,962
Allegheny Airlines, Inc.....	790	2,282	Seaboard World Airlines, Inc.....	950	1,228
Bonanza Air Lines, Inc.....	341	905	Total, international and territorial carriers.....	22,592	28,344
Central Airlines, Inc.....	420	887	Alaska Airlines, Inc.....	439	537
Frontier Airlines, Inc.....	701	1,506	Caribbean-Atlantic Airlines, Inc.....	243	622
Lake Central Airlines, Inc.....	388	995	Mackey Airlines, Inc.....	110	234
Mohawk Airlines, Inc.....	724	1,920	Pacific Northern Airlines, Inc.....	617	711
North Central Airlines, Inc.....	1,150	2,334	Pan American-Grace Airways, Inc.....	1,388	1,394
Ozark Air Lines, Inc.....	776	1,788	Pan American World Airways, Inc.....	19,795	24,846
Pacific Air Lines, Inc.....	442	890			
Piedmont Aviation, Inc.....	865	1,931			
Southern Airways, Inc.....	507	1,319			
Trans-Texas Airways, Inc.....	685	1,660			
West Coast Airlines, Inc.....	463	916			

¹ Totals for carrier groups include only airlines operating throughout the 1957-66 period and will not agree with industry total.

² Average employment for 1966 reflects time lost due to strikes.

50 percent of the employment. Output per employee (table 2) rose 6.0 percent from 1957 to 1966 which is significantly below the 8.2 percent average for the entire industry and thus even much lower than the remaining sectors of the industry. The deviation seems to be due almost entirely to the extremely low rate of growth for the 1957-61 years. The individual airlines rate of productivity increase varied substantially from 3.1 to 8.2 with the coefficient of variation exceeding 30 percent.⁴ Output increases for the Big Four averaged 10.8 percent, also below the industry average of 12.4 percent. Output increases lagged behind the industry rate largely because the Big Four system had below average participation rates in the most favorable growth areas, such as international travel, freight, helicopter service, and local feeder lines. The output range for individual airlines ex-

tended from 6.6 to 13.3 percent. Employment increases of 4.5 percent a year exceeded the industry average but individual company rates ranged from 2.1 to 7.5 percent.

Other Domestic Trunks. These cover seven airlines of generally moderate size with fairly widespread area operations. Employment accounts for about 20 percent of total employment. Output per employee increased at the rate of 10.7 percent. Five of the airlines exceeded the industry average of 8.2 percent, one nearly matched it, and one fell slightly below. The variability within this group was less than that for the Big Four with coefficient of variation of 26 percent. Output also expanded (16.5 percent) at a rate above the industry average of 12.4 percent, with an individual high of 26.4 percent and a low of 10.7 percent. The employment change of 5.2 percent was accompanied by extremely wide patterns of change for individual airlines, extending from 1.4 percent to 11.3 percent.

⁴ The coefficient of variation measures the extent to which indicated changes for the individual airlines are clustered about a mean percentage change.

Local Service Carriers. Thirteen relatively small companies are included. They tend to operate in limited regions only; they make up almost 9 percent of total employment. While output increases exceeded 18 percent per year, output per employee rose only 8.1 percent or just under the industry rate. The small scale operations of the local service carriers made it impractical to purchase the new large-size jets that the bigger airlines could afford, thus limiting output-per-employee increases.

The associated employment rate change of 9.5 percent was more than twice the industry increase and boosted the relative employment share from about 6 percent in 1957 to about 9 percent in 1966. The absolute range for average annual output, employment, and productivity rates of individual airlines within this group tended to exceed ranges for other groups simply because of the larger number of airlines. However, the coefficient of variation, which is a superior measure of dispersion, was generally lower for the local service group for both output and employment rates, and did not depart significantly from the measures calculated for dispersion of productivity rates.

International and Territorial. This covers six airlines with about 13 percent of the industry employment. One large company accounts for the bulk of the employees. Productivity increases averaging 13.1 percent far surpass the industry average as does the output increase. Employment increases of 2.2 percent, however, are substantially below the industry rate. Measures of dispersion were highest for this group for productivity, out-

put, and employment, reflecting lack of homogeneity within this grouping.

All-Cargo Carriers. This consists of three small airlines with about 2 percent of total employment. The output per employee rate (14.4 percent) was the highest of the five major groups and the output increase (16.6 percent), the second highest. Employment at 1.9 percent a year rose the least.

Technology and Outlook

Technological changes have been closely associated with a series of extensive changes in new types of equipment. The introduction of the turbojet in 1958 and its rapid spread is the latest and most revolutionary of four major reequipment programs beginning in 1945. The full effect of these changes tends to lag behind the introduction period because time is required for adoption and effective utilization throughout the industry. Improvements in traffic handling facilities, many of an evolutionary character, have also been important. Thus, installation of automatic reservation systems, improved cargo facilities, better airports, improved air traffic control systems, and maintenance facilities were vital factors.

In terms of purchase of new equipment, the immediate outlook is for the acquisition of short- and medium-range passenger craft and convertible passenger-cargo planes. Another round of new technology, involving both subsonic and supersonic transports and vertical or short takeoff and landing craft, is possible by 1975. Continued progress in the traffic handling facilities is necessary for maintenance of efficient service.

Output is expected to increase at a high rate with air cargo being the likely area for greatest expansion. Freight and express revenue ton-miles were only 11 percent of total revenue ton-miles in 1947 but had expanded to 24.5 percent in 1966. Industry estimates are that passenger traffic will likely grow from 7 to 10 percent annually through 1970 while air cargo may increase at 20 percent a year. The rising demand for air transportation services may more than offset expected productivity increases and thus call for continued increases in employment.

TABLE 2. AVERAGE ANNUAL RATES OF OUTPUT PER EMPLOYEE, OUTPUT, AND EMPLOYMENT, 1957-66

[In percent]

Major carrier groups	Output per employee	Output	Employment
Certificated industry ¹	8.2	12.4	3.9
Big Four system.....	6.0	10.8	4.5
Other domestic trunks system.....	10.7	16.5	5.2
Local service carriers.....	8.1	18.4	9.5
International and territorial carriers.....	13.1	15.6	2.2
All-cargo carriers.....	14.4	16.6	1.9

¹ The industry rate also reflects the movement of three small carrier groups not listed in this table.

Papers From the IRRA Annual Meeting

THERE WAS something of interest for nearly everybody concerned with the social sciences, in the discussions held in Washington, D.C., during the last week of the year. From December 26 through 30, various organizations of the Allied Social Science Associations held panel discussions on the economics of higher education, international liquidity, consumer behavior, family planning, and data analysis, to name a few.

At the 2-day meeting of the Industrial Relations Research Association, the overall topic was "The Development and Use of Manpower."

First to come under consideration were retraining programs and the benefits gained from these programs. Michael Borus found considerable gains in earnings by retrained workers in Connecticut, in the longrun as well as in the first years after training. In a later session, however, Nathan Caplan reported that in a project to teach skills to Chicago slum youths, the desire to control one's own destiny was too strong to allow the program to meet with much success. As the date of employment came closer, the probability that the trainee would remain in the program lessened.

If workers are willing to use the new skills once acquired, they are better able to compete for available jobs. Two papers on worker mobility were presented at a session held jointly with the American Economic Association. In one, Professors John E. Parker and John F. Burton reported a definite decline in voluntary mobility in the manufacturing sector over the past several decades, and called for further study to determine why this is so. Then, Herbert Northrup looked at the situation in the aerospace industry and discussed the possibilities for increased Negro employment. Primarily because of the nature of the job, skill requirements, and location of the industry, he does not think the proportion of Negro employment will increase to more than 10 percent in the foreseeable future.

A critical look at this Nation's antipoverty programs was taken by Sar Levitan; later, Solomon Barkin chaired a session that discussed manpower programs in other countries and what can be learned from their experiences.

On the following pages the Review presents portions of three of the many papers delivered at the meeting. Titles and subtitles have been added, as well as necessary transitions. Cuts have not been indicated. Another group of excerpts will appear in a later issue.

The Peripheral Worker in the Affluent Society

DEAN W. MORSE*

WHEN THE Conservation of Human Resources Project first undertook an investigation of the "peripheral worker," it was decided that the conceptual framework of the analysis, and the definition of the peripheral worker, would be closely related to the framework in which the BLS work experience data is cast. Rather than concentrate our attention entirely upon those individuals whose work experience is most fragmentary and episodic, or upon clearly disadvantaged groups such as the physically or mentally incapacitated, we decided that our working definition of the peripheral worker population would be all those individuals whose work experience was less than full time full year.

To use a metaphor, the periphery of an egg may from one point of view be considered to be the outer side of the shell. However, it is also reasonable to say that from the point of view of the yolk, the white of the egg and the shell are both peripheral. We have taken the yolk of our metaphoric egg to be made up of those with full-time full-year work experience, our justification being that this is a fairly stable mass, not only during the course of the year, but also over longer time periods. These are the workers who are most attached to the world of work. We have concentrated our attention upon those individuals whose attachment or commitment to work is not as complete and we have, partly

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for lack of a better term, decided to label them peripheral workers.

A Fact of Economic Life

The striking fact [is] that about 4 out of 5 white men age 25-44 are full-time full-year workers. If we were to consider white men age 25-54, the same general statement could be made. Let us look at this group, white men age 25-54, from the other extreme of work experience. Only 2 percent of white men age 25-54 are part-time workers, and less than 3 percent fall into the group that works full time a half year or less. Although this demographic group accounts for more than one-third of all those with work experience during the year, only about 1 out of 25 part-time workers is a white man age 25-54. Only about 1 out of 10 intermittent workers (those who work full time a half year or less) is a white man in this age group. What this amounts to as an economic and sociological fact can be summed up as follows: Part-time and intermittent full-time work experience is largely a phenomenon that is confined to other demographic groups of the population than the white male in the prime age groups.

There is nothing at all novel about these figures. Most of us would find it entirely natural that if the economy generates only a certain number of full-time full-year jobs, these jobs should go primarily to the men of our society between 25 and 54, a large proportion of whom are engaged in supporting families. We would be a bit disturbed to note that the white man of these age groups is a good deal more sure of having such a job, but we might draw whatever comfort our conscience gets from such a mental operation by pointing out that such differentials might be "explained" in part by reference to educational attainment, marital status, location, occupation, industry, and so forth. That these factors may in turn be explained by the peripheral work experience of the nonwhite population we might also accept, concluding that the entire matter is simply another instance of the in-frangible vicious circle.

In any case, it is a major economic and social fact of life in America in the 1960's that the white male worker more or less "has it made," if by "made" we mean continuity of full-time employ-

ment experience. The attainment of guaranteed annual incomes, in an economy that is operating near full employment, would be more or less extra frosting on the cake for this demographic group.

In the early decades of this century, there was a great deal more part-time work and a great deal more intermittent work than we are apt to take account of. Widely varied observers, both here and in other countries, seem to be united in emphasizing how intermittent was employment in the larger commercial and industrial cities of countries which led in economic development. Indeed, if we think for a moment of the actual day-to-day life of the great mass of Americans at the turn of the century, if we ask ourselves what tasks they were engaged upon, we cannot help being struck by how many people must have been involved in lines of activity, industries, and occupations which necessarily offered a good deal of part-day, part-week, and part-year employment. It was a common thing to hire laborers by the hour; the day laborer, farm and nonfarm, was by a wide margin the largest occupational group.

Years Preceding Affluence

If full credit could be given for all the short-time and part-year work experience of the time, it is my impression that the harsh outlines of the standard image of our ancestors—continually bent over grindingly hard work—would have to be somewhat softened. Hard work there was and in plenty, but it probably came much more in short bursts of effort than on long years of unremitting toil. A great deal of work was agricultural, and intermittency of effort is at the very heart of most agricultural activity. Construction of houses and railroads, bridges, and factories required a vast army, many of whom were employed for relatively short periods at a time. Transportation employed large numbers of porters and casual laborers. In the absence of precise scheduling and reliable delivery of raw material, short-time work-weeks because of shortages or the sudden emergence of unwanted inventories must have been a very common occurrence. The population in general must have had a good deal of leisure, if we take the work year as the reference period, even though much of it may have come in unwelcome forms.

The Immigrant Supply

But attention to the character and amount of peripheral work experience at the turn of the century is important not just because it may provide a corrective to exaggerated impressions of the length of the average workweek. Let us consider who the peripheral worker was in these years from 1880 to around 1914, when the American economy matured and when so many of our fundamental social attitudes took firm shape. These were the decades when a stream of immigrants flowed into the eastern ports of the country. The immigrant of these years, strange in language, in religion, in custom, in dress, arrived in America with inappropriate skills. Although some immigrants did find helping hands of family or friends, a very large proportion entered the job market on the most unfavorable terms. As year after year saw increasing numbers of immigrants pouring into the cities, the native-born population turned an ever harsher face against the "new immigrant."

The new immigrant was indeed an anomaly. He was, or could be, a citizen; his children would certainly be citizens. But he was socially excluded and condemned to occupy the lowest status. Low status in general, when translated into economic terms, meant low status occupations, occupations being one of the strongest symbols of social status. Low status occupations tended in turn to be the intermittent, unskilled, insecure manual occupations. The immigrant, therefore, was by and large confined to the most unstructured job markets. The costs of flexibility of output in the form of intermittency of employment, employment by the hour, employment by the day, fell very heavily upon him. With some conspicuous exceptions, the trade union movement of the time either ignored him or displayed active hostility.

This hostility took ever stronger political tones, so that the immigrant, instead of being protected against the hardships and hazards of his employment experience by an understanding and supportive government, was considered all too often to be an intruder, an inferior whose presence threatened to lead to a deterioration of the American Nation, [and] the way to insure that his presence would not lower the average quality of the American people was to make sure that he was forced to go through stern ordeals in which the weaker would fall by the way.

The immigrant peripheral worker at the turn of the century, therefore, is the "outsider," he is a member of a minority group, he is a threat. Above all, he is not a full-fledged member of society, and particularly of the society of work. He is not fully integrated into the economy. He exists on sufferance; he works on sufferance. His claims to equality of treatment are set at nothing, or covered by some empty phrase like "equality of opportunity."

One institution, it is true, can give him some status, can afford him some protection, the trade union. But all too often it, too, seems united against him. The trade unions as a group are leaders in the fight for restrictive immigration laws. They pass resolutions against the immigrant, condemn him for lowering standards of living.

Then a critical moment is reached. The Quota Law of 1921 is passed, and an essential element in the situation is permanently altered. It is no longer possible to recruit a new group of peripheral workers from a flow of immigrants. It is true that for a time the old situation will continue, but the new immigrants grow older, and it is necessary to replace them. And the new immigrants have children, brought up in American schools, their native tongue English, on the average more literate, because more urban, than the children of native-born Americans. For many of these children the brand of their fathers' social inferiority, the childhood traumas induced by the erratic character of their fathers' and mothers' work experience with its concomitant poverty, punctuated by times of dire need, will be sufficient reason to make them hold firmly to the idea that security of employment is the most important of goals, some status in the job market the only real insurance.

New "Outsiders"

But peripheral work must still be done, flexibility of output is still necessary in the face of random ups-and-downs of demand, seasonal changes in demand, and cyclical fluctuations. Peripheral work must still be performed where scheduling problems produce odd operating hours. Who is to fulfill these roles, now that the immigrant is no longer available?

One solution is to try to find new immigrants. The Mexican can be cast in this role. Another kind of immigrant, in this case native-born, is the

Negro farm worker of the South when he arrives in the northern cities. The important point, however, is that peripheral work, according to traditional and very deep-seated attitudes, should properly be performed by the outsider, by those who can be treated as, and regarded as, inferior and members of minority groups. In a sense, any group in society will do, if we can persuade ourselves that they have these characteristics.

According to this new structuring of the supply of labor, all adult white men, particularly those who are married, have a claim to full-time full-year employment. They may not achieve it, but it is right and proper that they should claim it, and that the major institutions of society, governments, business organizations, and trade unions should try to implement these claims. Full employment is their full employment.

The other major groups of potential workers—women, youth, older workers, nonwhites, and those immigrants who get past the quotas—are the proper sources of peripheral workers. This does not, it must be emphasized, mean that all workers from these groups are condemned to peripheral work. Quite the contrary. A large fraction of women workers, older workers, and nonwhite workers do indeed work full time the year round. What it does mean is that peripheral workers will be drawn primarily from these groups. It means also that, as a society, we still have great difficulty arriving at institutional means of affording the peripheral worker the kind of protection that is taken for granted with respect to the full-time full-year workers. In Marshall's sense of the term, the peripheral worker is still considered as a kind of residuum. He is there to mop up, figuratively and literally. He performs all the tasks and services that are hard to plan for in large-scale bureaucratic fashion. But he is also a member of an immense noncompeting group of workers. His wage rates, his conditions of work, his legal and extra-legal status are not determined by the immensely complicated apparatus of three-way bargaining between large-scale employer, large-scale union, and government that determines the fundamental conditions of life of the nucleus of our working population, the full-time full-year worker.

Do powerful, pervasive, although largely obscure barriers stand between the world of peripheral work and the status of full-time full-year employment? Do we take it for granted that peripheral work in general, and the most periph-

eral work in particular, should be performed by members of demographic groups whose status is lower than that of the adult white male group that provides the nucleus of the full-time full-year work force? Will the full-time full-year worker be increasingly found in those sectors of the economy where large-scale, bureaucratic, usually heavily capitalized firms are the rule? Do we make an over-investment in human capital in those workers who possess full-time full-year status and an underinvestment in human capital in peripheral workers? If so, does this in itself constitute one of the important barriers between the peripheral worker and employment in those sectors of the economy that can provide continuity of employment?

Costs of Flexibility

To some extent, peripheral work experience is unquestionably a manifestation of increasing options available to many individuals. To the extent that it does represent an enlargement of the area of choice of work experience, it is a positive aspect of the economy. On the other hand, to the extent that the peripheral worker is treated as if he were a second-class worker, peripheral work experience cannot but lead to waste, frustration, and angry despair.

The peripheral worker in our society provides the economy with a very important part of the flexibility which it must have if it is to be efficient and dynamic. Recognizing this function, we should try not to shift an undue share of the cost of this flexibility onto the peripheral workers themselves, many of whom are among the least able in our society to bear such costs. In the past, the immigrant provided much of the flexibility that a growing economy required, and he often paid too much of the costs. We should ask ourselves today whether new groups have taken the immigrant's place. If the answer is, even in part, yes, we should develop policies which will insure that the costs of flexibility are not shifted onto the peripheral workers and—in the longrun this is much more important—that the social and economic barriers to movement from peripheral work status to full-time full-year status are reduced to the point where we can truly affirm that part-time and intermittent work experience represents an enlargement of option and opportunity, not a contraction of life's possibilities.

Evaluating Manpower Programs

GARTH L. MANGUM*

THERE IS NO Federal manpower policy in the dictionary sense: "a definite course of action selected from among alternatives, and in light of given conditions, to guide and determine present and future decisions." However, there are programs and practices which can be analyzed in aggregate and from which policy emphases can be extracted.

Legislation in the 1950's such as the National Defense Education Act and practices of agencies such as the Atomic Energy Commission emphasized manpower as an economic resource, with particular concern for the development of scientific and technical manpower. Spending for such purposes increased during the 1960's and now totals over \$5 billion annually. However, the focus of public manpower efforts during the 1960's shifted in another direction.

The thrust of the manpower programs of the past 5 years has been to aid those who face various disadvantages in competing for jobs. This emphasis is attested to more by legislative and administrative efforts and public discussion than by expenditures of less than \$2 billion per year.

The Array of Programs

The relevant manpower programs which emphasize in varying degrees services for the competitively disadvantaged are the Manpower Development and Training Act, the Vocational Education Act of 1963, the Vocational Rehabilitation program, and the several manpower components of the Economic Opportunity Act. The EOA programs are not evaluated in this paper but they do figure in these generalizations about the state of manpower policy. In addition, the United States Employment Service is included, not as a program but as a major deliverer of services.

This array of programs did not emerge as part of any systematic effort to identify and provide each of the services needed by various disad-

vantaged groups or by all the disadvantaged. Instead individual acts were written, considered, and amended in rapid succession to meet current crises, real or imagined, with little attention to their interrelations. Although overall objectives are reasonably clear, the objectives of some of the individual programs are not.

The resources and enrollments in all of these programs are too small relative to the size of the labor force and the magnitude of needs to have had an appreciable impact on the problems they were intended to "solve." Remedial programs for the disadvantaged currently enroll an average of only 300,000 people at any point in time—this in an economy where in prosperous 1966, 2.5 million persons were unemployed 15 weeks or more, 850,000 were unemployed over half the year, 1.3 million looked for but did not find any work, 1.3 million males 25 to 64 years of age did not seek work, and more than 5 million persons worked for less than the Federal minimum wage.

A Season of Experimentation

The 1961-67 period is most appropriately viewed as an experimental one during which many things were tried with varying degrees of success and failure. A positive contribution of these efforts was the identification of a number of services which have proven useful in lowering the obstacles to employment and retention of the disadvantaged. A few of these are:

- (a) outreach to seek the discouraged and under-motivated and encourage them to partake of available services;
- (b) adult basic education, to remedy the obsolescence of earlier schooling, and prevocational orientation to expose those with limited experience to alternative occupational choices;
- (c) training for entry level skills, for those unprepared to profit from the normally more advanced training which assumes mastery of rudimentary education;
- (d) training allowances, to provide support and an incentive for those undergoing training, and residential facilities for youth whose home environment precludes successful rehabilitation;
- (e) work experience, for those unaccustomed to the discipline of the workplace;
- (f) job development, efforts to solicit job opportunities suited to the abilities of the disadvantaged jobseeker;

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- (g) relocation and transportation assistance to bring the workers to where the jobs are;
- (h) subsidization of private employment of the disadvantaged;
- (i) job coaching to work out supervisor-worker adjustments after a job is found; and
- (j) creation of public service jobs tailored to the needs of jobseekers not absorbed in the competitive market.

Essential as these services are, they are available through no one program, agency, or institution. The various programs are limited in the services they can offer. The budgetary commitments for the various services are not rationally related to need. For instance, there are currently more slots for work relief than for training, when training should probably stand above work relief in the hierarchy of remedial services.

Delivering the Services

The administrative capability to deliver these services has yet to be developed. At the local level, there is no single agency or combination of easily accessible institutions where those seeking help can find it. Neither has any community the resources to provide some type of service to all who need it. Multiplicity of Federal funding sources encourages interagency competition at the Federal level, and a proliferation at the local level, placing a premium on "grantsmanship." Coordination has been tried with little success and consolidation of programs has been limited. Existing agencies have changed their orientation and biases but slowly and only under considerable outside pressure. New agencies have yet to learn effective practices. Surprisingly little has been done, considering the number of programs and the level of expenditures, to develop or train capable staffs at any level of government.

For no program are there adequate valid data for evaluation of strengths and weaknesses and no program currently has a reporting system capable of producing such data. Data on the characteristics of enrollees are adequate in some but not all programs. Data on services provided are weak and followup data on program results are grossly inadequate and undependable. Ad hoc internal evaluations have been made of several programs, either in-house or by contract, but for the most part their coverage is limited, their data weak, and their investigations not probing.

In-Plant Movement of Negroes in the Aerospace Industry

HERBERT R. NORTHRUP*

THE MOVEMENT of Negroes within the plant or industrial organization is governed by a varied and complex set of factors. Of course, the same might be said for the intraorganizational shifts of any group of employees, white or colored. Race, however, adds problems and complexities all of its own which are occasionally obvious, but more often are intertwined with socioeconomic and industrial relations factors, and may therefore tend to be somewhat obscure. Studies of the racial policies of various industries, now under way as a result of a Ford Foundation grant to the Industrial Research Unit of the Wharton School, have progressed sufficiently to permit an advance report on Negro in-plant movement in the aerospace industry among others.

Seven months before the Japanese attack on Pearl Harbor, *Fortune* magazine reported that the aircraft industry had "an almost universal prejudice against Negroes . . . you almost never see Negroes in aircraft factories . . ." ¹ Today few industries are working more assiduously than aircraft and related aerospace companies to expand Negro employment opportunities.² Yet it is the unusual aerospace company which has been able to raise its percentage of Negroes to 8 or 10 percent of a particular facility. The reasons why this is so tell us a great deal about problems of Negro employment, upgrading and intraplant movement, and variations from industry to industry or plant to plant.

The aerospace industry employed an average of 1,298,000 persons in 1966, or 6.8 percent of total manufacturing payroll.³ Plants of this industry are located in all major regions of the country. Four-fifths of the product of these plants are pur-

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¹ "Half a Million Workers," *Fortune*, March 1943, pp. 98 and 163.

² The definition of just what is "aerospace" is not precise. Basically it includes aircraft, missiles, and related aero and space hardware manufacturing and research, but much of what is also electronics is inevitably included in the data.

³ Aerospace Industries Association of America, Inc., *Aerospace Facts and Figures, 1967* (Fallbrook, Calif., Aero Publishers, Inc., 1967), p. 19.

chased by the Department of Defense, the National Aeronautical and Space Agency, or other governmental bodies. Commencing in World War II, and especially strong since 1961, the pressure of these government agencies has been heavy on the industry, first to open jobs to Negroes, then by "affirmative action" to increase Negro participation in the better jobs. The progress has been great but disappointing to those who might expect a greater percentage of Negroes. The reasons are several.

Job Structure

First and foremost is the character of work in aerospace. Much of the work is of a high job-shop precision level. Jobs are not broken down to semi-skilled components when one builds a few Mercury capsules, a shortrun order of missiles, or one-half dozen experimental planes. Yet much of the industry does just this. Such work requires highly trained mechanics, and unfortunately the Negro community has few of these.

There is some longrun work, to be sure. Companies having such orders are able to break down jobs into semiskilled components, and train relatively unskilled personnel as sheet metal workers or machine tenders to handle the repetitive work. It is noteworthy that our research indicates that the more repetitive type operations which exist, the higher is likely to be the percentage of Negroes. But where high precision, job-shop skills are required, few Negroes make it up the occupational ladder.

A Negro production worker remarked to my son who is working in a chemical plant that "maintenance work was out of bounds." Finding either Negro craftsmen or apprenticeship candidates is a frustrating search. Past discriminatory practices, lack of Negro family connections to "pick up a trade," absence of a craft tradition in the Negro community, except in the southern trowel trades—and now the mores of the community pressing youngsters, white or black, to a mediocre college education instead of a more useful craft training—leaves high paid maintenance jobs with little Negro representation. Negro applicants from the South or from urban slums lack the necessary arithmetic or communications skills to qualify for apprenticeships. In aerospace, as in most industries, skilled maintenance work, except for a few

welders, carpenters, and trowel tradesmen, remains largely a white man's preserve.

Negro secretaries and other clerical help are much in demand in aerospace as in other industries. In the South, progress for women employees lags in the plants, but is somewhat better in the offices. In the North, many companies find Negro women sheet metal employees superior to men in diligence, productivity, and attendance. But there has been little upgrading of Negro women, and not too much of white women either, in this or other industries.

Aerospace companies have scoured the country looking for professional and technical employees. But Negroes have traditionally not been oriented to engineering as a profession. Bright Negroes seeking professional education and attainment have only recently gone into either engineering or work in industry. Considering this fact, the few who are found in the aerospace industry are a sizable percentage of those available. Several have very responsible positions, but many who graduated from segregated schools find their background insufficient for advancement, and probably would not even be employed were it not for governmental pressure.

The push to managerial jobs is slow. Negro supervisors are no longer rare, but not commonplace either. They now supervise mixed crews all over the country, but advancement beyond the first or second line is still relatively rare. Few Negroes have the modern "plumbers' license" for managerial development—the MBA from a prestigious graduate business school—and as those of us from such institutions know so regretfully, few are enrolled although our efforts to improve our position rival that of the aerospace industry.

Location

We have already noted that the aerospace industry is located in every major region of the country. It is, therefore, found near the great concentrations of the Negro population in both the South and in the major industrial centers of the North and West. This superficially would appear to make the industry accessible to the Negro, who desired employment in the industry. In actual fact, the locational problems are severe.

The very nature of the aerospace industry requires most plants to be located on the outside pe-

rimeters of cities, preferably near an airport. In some cases, the facility must be even more remote. Martin's Denver missile operations are actually 25 miles outside of the city in a semiarid pasture. Moreover, the need for remote test facilities draws plants away from cities. Again Martin's development of the Denver site, and United Aircraft's Florida plants located to be near Canaveral, are illustrations of expansion that would have been more helpful to Negro employment if they had occurred in Baltimore or Hartford, Conn. Similarly, when World War II ended, a number of southern California aircraft manufacturers abandoned facilities in older, heavily populated areas of Los Angeles and moved all their operations to those outside the city limits.

The significance of the plant location problem can be now well illustrated in the southern California industry. The few plants located either close to Watts or on direct public transportation routes generally have two or three times the proportion of Negroes that those have who are located in the outer county areas. The same companies and policies are involved. Interestingly enough, however, the outlying plants have a less skewed inplant distribution of Negroes. These outlying plants are either new, or newly integrated. The practice of confining Negroes to certain jobs never existed, and was easier to avoid than where it had become institutionalized. Moreover, the type of Negro who can find a home in the suburbs, or is willing to commute great distances for a job, is usually highly motivated as well as able, and therefore capable of accepting or gaining promotion and upgrading opportunities.

Despite some exceptions, however, the farther from center city is the aerospace plant, the fewer Negroes are found on its employment rolls. Workers who have had little experience, motivation, or assistance do not know enough to look for work at long commuting distance; superior workers usually do not have to commute long distances to obtain good jobs with promotion possibilities. Consequently, both employment and upward plant movement in the industry are restricted by the necessities of plant location in relation to the central city where Negroes are concentrated.

The seniority systems in the aerospace system are quite varied, but in general do not appear to restrict Negro advancement. In a few cases, the

lines are long and narrow, but mostly seniority districts tend to be broad with families of jobs clustered in one district. There are occasionally plantwide applications, and in some situations, transfers among plants of one company are part of the collective agreement. The volatility of employment as a result of government contract awards and cancellations insure maximum interest in job security and a general approach to a broad seniority policy.

In general the wider the seniority district, the greater the opportunity for Negroes for upgrading and advancement. As the most recently hired and the group which most likely has the fewest skills, Negroes profit substantially from broad opportunities for movement. But, of course, a wide seniority progression system has its corollary disadvantages, too. When employment turns downward, it provides the broadest opportunities for bumping. With Negroes both relatively new and still overly concentrated in the semiskilled and relatively unskilled jobs, they are then especially vulnerable.

Job bidding is widely used in the industry to fill higher jobs. Company officials have repeatedly complained that Negroes appear more reluctant to bid on jobs than whites and often require great encouragement if they are to bid. Lack of experience in industrial practices, fear of moving from a job situation which is acceptable to white fellow workers to one which is not, or lack of motivation are possible reasons for this.

At least one company in the industry does not apply straight seniority in either promotion or layoffs. One of this company's facilities is under considerable government pressure to increase its percentage and distribution of Negro employment. Recently employment declined in this facility, but the percentage of Negroes increased. Whether this resulted from "affirmative action" or discrimination in reverse, or whether these terms are distinctions without differences could not be ascertained.

Training

The aerospace industry is accustomed to training because of its sudden employment shifts. Vestibule training—teaching basic shop behavior, arithmetic, and English—is frequently done by the companies themselves or indirectly through support of school programs or those of such organizations as Opportunities Industrialization

Commission. Closely related are the programs for training on simple sheet metal assembly or other entry jobs which often continue as long as employment is expanding. Special efforts have been made by the industry to include Negroes in these classes since 1962. Their success is indicated by a steady increasing percentage of Negroes in most aerospace plants.

In addition, however, few industries offer so much training for advancement and upgrading. The rapidly evolving technology compels much of this if the work force and supervision are to be kept current. But this training also provides tremendous opportunities for those who wish to move up the occupational ladder. Negro involvement in such programs is substantial, but nowhere near the ratio one might hope or expect. Motivational factors appear very important. Willingness to contribute one's time to train for a better future depends on background, expectations, and genuine belief in opportunity. That all three are lacking to some degree in the Negro community is not difficult to understand. Until training opportunities are grasped, however, Negro upgrading will not achieve its potential in aerospace or in any other industry.

Other Factors

There are many other factors which determine upgrading and intraplant movement of Negroes in the aerospace industry. Company dedication to equal opportunity, of course, varies and plays a significant role. Union policy is also of importance, but is generally more passive than active in this industry.

Government policy has been already mentioned. It must be credited with a large role in motivating employers and keeping the significance of the problem in the forefront. But the government is not a single-dimensional pressure force. The government is also the customer, and it is the policeman. As customer, it demands, as it should, zero defect work. Life is involved and quality of workmanship cannot be compromised. The industry has to certify the capability of workmen on many jobs. Social programs are admirable, but there is no substitute for experience and ability. Affirmative action can go only so far, and educational, cultural, and attitudinal deficiencies cannot be either

glossed over or overcome quickly. The unfortunate plain fact is that the higher the qualifications which are required, the fewer Negroes are qualified and the more difficult it is to gain qualifications by shortrun training or educational programs.

Much of aerospace work is under tight security. Jail or arrest records at one time automatically meant clearance denials. Given the facts of city slums and Negro-police relations, this was a powerful bar to Negro advancement, or even employment, in the industry.

Now a more sophisticated approach is the rule. Arrest records are scrutinized and the minor infractions discounted. It appears government security and equal opportunity pressures are today more synchronized in approach than formerly.

Cyclical Aspects

As in most industries, Negroes have made their greatest gains in the aerospace industry in times of full employment, and by the very nature of the industry, this means in times of war. The barriers were broken during World War II; serious upgrading occurred during the Korean War; and now the impetus of Vietnam, on top of the space program, has further expanded opportunities for development and promotion. But this has not been a smooth transition. Huge layoffs occurred after World War II, after the Korean armistice, and again in 1958, affecting the whole industry. Depending on the ebb and flow of government procurement, one company expands, another contracts, a plant may be abandoned or opened up.

As the last hired and the most recently promoted, Negroes have found that their gains were washed out time and again. Yet in each cycle, further gains were made up the occupational ladder; today's have been the greatest. A longrun view can, therefore, tend to be optimistic. Yet the institutional factors affecting Negro employment and upgrading in the aerospace industry are formidably negative. The average Negro employment in the industry will surely remain below 10 percent in the foreseeable future, and upgrading of Negroes will move at a slower pace than employment because the educational and skill qualifications, which the industry cannot waive for the obvious reason of human safety, are still lacking in our Negro population.

Educational Attainment of Workers

Occupational Distributions Between Whites and Negroes Vary Despite Their Educational Upgrading

HARVEY R. HAMEL*

AS TECHNOLOGICAL ADVANCEMENT takes place in a nation, providing an increasing number of jobs which require a strong educational background, it is important that the educational attainment of the labor force continue to improve. According to a survey made in March 1967¹ the educational attainment of American workers has advanced greatly since 1940 so that the proportion of workers with a high school diploma or better (61 percent in 1967) has doubled during that time. Twelve percent had obtained college or advanced degrees at the time of the survey. One reason for this upgrading in education among American workers is that the supply of better educated workers is increasing as young workers with more schooling enter the labor force and replace older workers who have either retired or died. Also, the demand for better educated workers has risen as jobs become more specialized.

The current study reveals some interesting relationships between levels of education and other characteristics of workers such as age, sex, color, and employment status. For example, not only do white workers have higher educational attainment than Negro workers² at each level of schooling, but they differ significantly with respect to unemployment rates and occupational distributions. This article discusses the variations. It also includes a discussion of educational trends and the relationship of education to labor force participation, employment, and unemployment.

Educational Upgrading

The rise in the educational level of workers from year to year is gradual, but over the long term it amounts to a very substantial increase. For ex-

ample, although the median number of school years completed by workers has not changed significantly in the past few years, there has been a 35-percent increase in average attainment for 18- to 64-year-old workers since 1940. The increase in average attainment for men was much sharper than for women workers over the period (60 versus 13 percent). Perhaps a better indication of this difference is that while the proportion of men in the labor force with at least a high school education more than doubled from 1940 to 1967, the proportion of women workers with that much schooling rose to only 1½ times the 1940 level. The great difference in these proportions occurred primarily because many of the women entering the labor force during this time were in the older age groups where the average number of years of schooling is low, while the rise in the male labor force occurred mostly in the younger groups.

While the long-term educational rise was sharper for men than women in the labor force, the opposite was true for those not in the labor force, as can be seen in the following tabulation:

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¹The survey was conducted for the Bureau of Labor Statistics by the Bureau of the Census through its Current Population Survey. The data relate to the civilian noninstitutional population 18 years old and over (unless otherwise specified) in the week ending March 18, and were obtained from supplementary questions to the Census' monthly survey of the labor force for March 1967.

This report is the sixth in a series on this subject. The most recent was published in the *Monthly Labor Review*, June 1967, pp. 39-47, and reprinted with additional tabular data and explanatory notes as Special Labor Force Report No. 83, which also includes a complete listing of earlier reports and their coverage. Data on the educational attainment of the population are published by the Bureau of the Census, *Current Population Reports*, Series P-20.

²Data for nonwhites will be reported as data for Negroes since about 92 percent of all nonwhites 18 years and over in the United States are Negro.

	Median years of school completed		
	Population	Labor force	Not in the labor force
Men			
March 1967.....	12.1	12.2	9.0
March 1962.....	11.6	12.0	8.7
March 1957.....	10.7	11.1	8.5
October 1952.....	10.1	10.4	8.5
Women			
March 1967.....	12.1	12.3	11.9
March 1962.....	12.0	12.2	11.2
March 1957.....	11.4	12.1	10.7
October 1952.....	11.0	12.0	10.4

The upward educational trend of women not in the labor force mirrored the general educational gains of the population. On the other hand, the very slight gain in the educational level of men nonparticipants reflects the unique composition of this group. These men are a relatively small proportion of the male population comprising chiefly two age groups; teenagers who are still in school and older men (65 years and over) who attended school at a time when eighth grade was commonly the highest achievement.

As of 1967, the educational gap between young and old workers was very pronounced. Nearly 80 percent of the 20- to 24-year-old workers compared with only 43 percent of those 55 to 64 years old had completed 4 years of high school or more, and in each age group women were better educated than men.

American Negroes, both those in and those out of the labor force, have less formal education than whites. The average for the Negro population as a whole was only 2 years of high school as compared with better than a high school education for white persons; for persons in the labor force the gap was not as large. But even so, more than 6 out of 10 white workers compared with only 4 out of 10 Negro workers had completed 4 years of high school or more in March 1967. Moreover, the proportion of white workers who had obtained a college or advanced degree (13 percent) was more than twice as high as among Negro workers (6 percent).

Although they still lag behind, the educational upgrading of Negro workers has proceeded at a faster pace than that of whites (table 1). During the 15-year period from 1952 to 1967, the difference between the educational level of the average Negro and white worker was reduced by more than half as the percent of Negro workers with a high school education more than doubled and the proportion of white workers with that much education in-

creased 36 percent. Over the same period, the rise in the proportions of Negro and white workers with a college or advanced degree followed a similar pattern. Notwithstanding these educational gains, the proportion of Negro workers who completed no more than an elementary school education was about as high in 1967 as it was for white workers 15 years earlier.

Unemployment Rates and Education

An indication of the relationship between educational attainment and job acquisition can be shown by comparing the educational level of persons who have jobs with that of persons who are seeking work. As might be expected, employed persons have attained higher levels of schooling than unemployed workers. This difference was particularly sharp among men. The small proportion of men who were unemployed were over-represented among the least educated. (See table 2.) Many of these persons were jobless precisely because they did not have the skills or formal educational requirements needed for available jobs. For women, however, the difference between attainment levels for employed and unemployed workers was not as striking. One reason is that women at each level of educational attainment have a more tenuous attachment to the labor force than men and they are often unemployed for short periods of time as they leave and reenter the job market. Therefore, the educational distribution of unemployed women closely resembled that of all women workers.

But there is a direct relationship between unemployment and education. With few exceptions, unemployment tends to decline among men and women in the various age groups as the level of education rises. For example, among men 18 years old and over, jobless rates in March 1967 ranged from 5.7 percent for workers who had completed less than 5 years of elementary school to about 1 percent for college graduates.

The negative association between levels of schooling and unemployment rates holds true for working men in most age groups. (See chart 1.) However, the unemployment rate of men 18 years old and over with 1 to 3 years of high school was no lower than that of men with less schooling. This is largely attributable to the large number of recent high school dropouts (between 18 and

TABLE 1. EDUCATIONAL ATTAINMENT OF WORKERS 18 YEARS OLD AND OVER, SELECTED YEARS, 1952-67

Years of school completed and year	Both sexes			Men			Women		
	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite
Percent of civilian labor force completing specified years of school ¹									
Elementary—3 years or less: ²									
March 1967.....	21.0	19.1	35.9	23.3	21.4	40.3	16.8	14.9	30.0
March 1962.....	27.0	24.7	45.2	29.6	27.2	50.5	21.8	19.5	37.6
March 1957.....	33.4	30.5	57.6	36.3	33.7	61.5	27.1	23.6	51.4
October 1952.....	37.9	34.9	66.5	41.2	38.7	69.5	31.0	26.5	62.3
High school—4 years or more:									
March 1967.....	60.4	62.8	40.5	57.9	60.3	36.4	64.7	67.5	45.9
March 1962.....	53.8	56.6	31.5	50.8	53.5	27.3	59.4	62.7	37.6
March 1957.....	47.3	50.1	22.7	44.1	46.7	19.3	54.0	57.8	28.0
October 1952.....	43.3	46.1	17.4	39.9	42.1	15.1	50.6	55.1	20.4
College—4 years or more:									
March 1967.....	12.0	12.8	5.8	13.2	14.1	5.3	9.9	10.4	6.4
March 1962.....	11.0	11.8	4.8	11.7	12.6	3.6	9.5	10.0	6.7
March 1957.....	9.1	9.8	3.5	9.6	10.3	2.6	8.3	8.8	4.7
October 1952.....	8.0	8.6	2.6	8.1	8.6	1.9	7.7	8.3	3.6
Median years of school completed									
March 1967.....	12.3	12.3	10.8	12.2	12.3	10.2	12.3	12.4	11.5
March 1962.....	12.1	12.2	9.6	12.0	12.1	9.0	12.2	12.3	10.5
March 1957.....	11.6	12.1	8.4	11.1	11.5	8.0	12.1	12.2	8.9
October 1952.....	10.9	11.4	7.6	10.4	10.8	7.2	12.0	12.1	8.1

¹ Excludes persons completing 1 to 3 years of high school.

² Includes persons reporting no school years completed.

SOURCE: *Current Population Reports*, Series P-50, Nos. 49 and 78 for 1952 and 1957 data, respectively (U.S. Bureau of the Census).

24 years old) who find it more difficult to locate a job than do older persons with the same or less education, because they have not yet acquired the occupational skills that many employers look for in potential workers.

This seems to be particularly true for Negro workers. Jobless rates were sharply higher for all Negro men and women who left high school before graduating than for those who completed 8 years or less of schooling. But unemployment rates for white workers were no greater for high school dropouts than for those with less education. Although both Negro and white workers have benefited from the continued expansion of our economy since 1961, the unemployment rates in March 1967 of 18- to 24-year-old Negroes who had completed 1 to 3 years of high school remained very high (18 percent for men and 29 percent for women).

Negroes have faced a more serious unemployment problem than white workers throughout the postwar period; the jobless rate for Negro workers has remained at about twice that of white men and women since the early 1950's. This ratio generally persists at each level of educational attainment, with the rate differential even greater among workers with more schooling than among those with a minimal level of education. In March 1967, the unemployment rate for Negro men who were

high school graduates (4.7 percent) was 2½ times that of white male graduates, an even greater ratio than that for Negro and white men who had not completed a high school education.

Another striking indication of the disproportionate burden of unemployment which falls on Negro working men or women was that jobless rates were about as high for Negroes who had completed at least 1 year of college (4.1 percent) as for white workers with only an elementary school education (4.3 percent). Only among older Negro men and women did unemployment rates of college-educated workers approach the very low levels of white workers.

Underemployment

The association between educational levels and the utilization of the labor force is not confined to rates of unemployment. There is also a connection between educational attainment and the incidence of both long-term unemployment and involuntary part-time employment.

Jobless workers with less than a high school education were more likely to have undergone extended periods of unemployment than high school graduates. Twenty percent of the less educated compared with 16 percent of the better educated unemployed workers had been jobless for 15 weeks

TABLE 2. UNEMPLOYMENT RATES AND EDUCATION OF PERSONS 18 YEARS OLD AND OVER, MARCH 1967

Years of school completed	Male			Female		
	White	Non-white	Ratio ¹	White	Non-white	Ratio ¹
Total	2.7	6.5	2.4	4.0	8.4	2.1
Less than 4 years of high school	4.0	7.5	1.9	5.4	9.7	1.8
Elementary: 8 years or less	4.0	6.8	1.7	5.0	7.0	1.4
High school: 1 to 3 years	4.0	8.8	2.2	5.8	13.0	2.2
4 years of high school or more	1.8	4.7	2.6	3.2	6.9	2.2
High school: 4 years	2.3	5.4	2.3	3.7	7.7	2.1
College: 1 year or more	1.3	3.2	2.5	2.4	5.0	2.1

¹ Nonwhite unemployment rate divided by white unemployment rate.

or more in March 1967. Some of this difference results from the age composition of persons with low levels of schooling. This group includes a disproportionately large number of persons 45 years old and over, who are more likely than younger workers to be jobless for long periods.

The short-term jobless were better educated than those with long-term unemployment. The proportion who were high school graduates were 45 and 38 percent, respectively. The short-term jobless include relatively more new workers than those with long-term employment; also more prevalent in this group are job changers, who tend to be in the younger age groups.

Chart 2 shows that employed workers who had not completed high school were more likely than high school graduates to be working part time for economic reasons (because of slack work, material shortages, inability to find full-time work, and other reasons). Moreover, these involuntary part-time workers were not as well educated as voluntary part-time and full-time employees. Only 36 percent of those who worked part time for economic reasons were high school graduates, compared with 60 percent of those working part time for other reasons and 64 percent of the full-time workers. Involuntary part-time work is usually more prevalent among blue-collar workers, occupations which include a large proportion of less educated workers.

Labor Force Participation

Among women and older men, a higher level of schooling is associated with a greater likelihood of being in the work force. For example, in March 1967 labor force participation rates ranged from 27 percent for women with only an elementary school education to 57 percent for college grad-

uates. The low labor force participation of lesser educated women may reflect to some extent inability to find suitable work, as well as the fact that there is a concentration of older women who are less likely to work. The higher rates for women who are high school and college graduates reflect the growing demand for highly trained and educated women in the rapidly expanding white-collar and service occupations. This pattern generally prevailed for women in most age groups whether they were single or married. At the same time, single women (who are usually not burdened by family responsibilities) were more likely to be in the labor force than married women, at each level of schooling.

Labor force participation rates of women in all age groups except 65 years and over have been increasing for many years. Since 1957 the rise in

Chart 1. Unemployment Rates of Men 18 Years Old and Over, by Age and Years of School Completed, March 1967

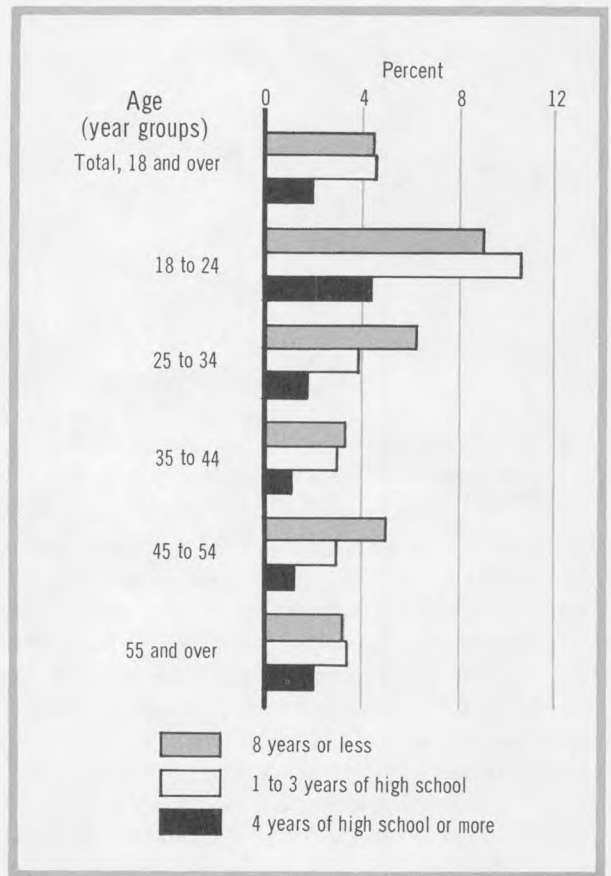
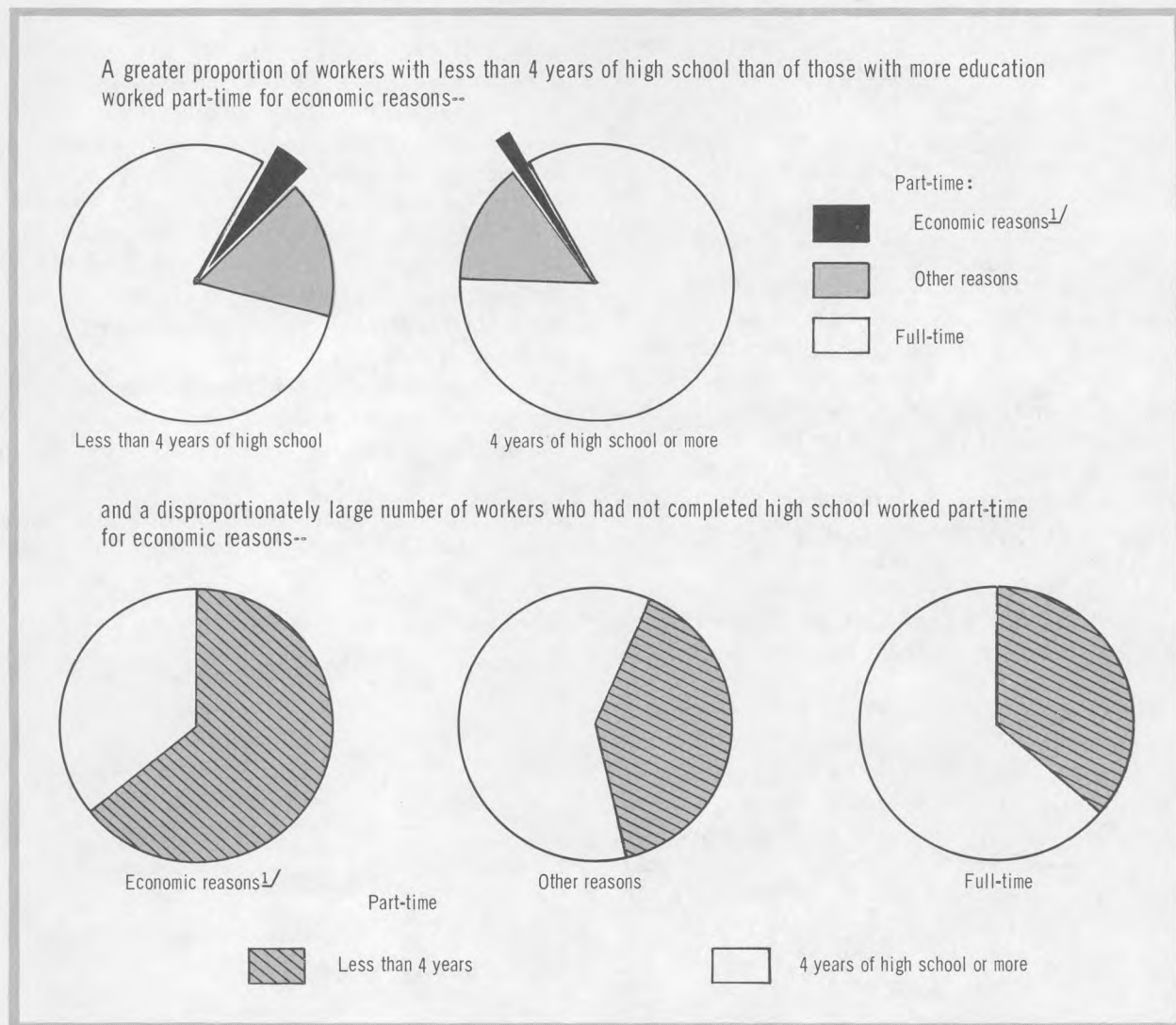


Chart 2. Full-Time and Part-Time Employment and Years of School Completed for Persons Employed in Nonagricultural Industries, March 1967



¹ Includes persons who worked less than 35 hours during the survey week because of slack work, material shortages, inability to find full-time work, or other similar reasons.

worker rates for women under 45 years was somewhat sharper for high school graduates than for women who did not gain a high school diploma.

Among women 45 to 64 years old, labor force participation rates have increased moderately for women with both high and low levels of educational attainment. This suggests that for older women, considerations other than formal educational levels are important factors leading to decisions to enter the work force. These considerations include financial as well as noneconomic factors such as household responsibilities. Labor

force participation rates among women 65 years old and over have been relatively stable at all levels of education attainment. However, in March 1967 better educated women 65 and over were still more likely to be in the labor force than women that age with lower levels of schooling.

Negro women had higher labor force participation rates than white women in each age-education category except for 18- to 24-year-olds who had graduated from high school, as shown in chart 3. These higher worker rates probably reflect the disadvantaged economic position of the Negro

workingman. His wife has a greater tendency to be in the labor force than a white man's because the Negro male is more likely to be unemployed or, if employed, to be earning less than his white counterpart.

There is little relationship between educational attainment and labor force participation for men in the 25- to 54-year-old group. Nearly all are in the labor force, since most are married and must work in order to support their families. On the other hand, there is a direct relationship between levels of schooling and participation in the labor force for both the 55- to 64-year-old group and for men 65 years old and over. Among 55- to 64-year-old men, the decline since 1962 has been sharpest among those who have not completed high school. This suggests that less educated older men, many of whom are in unskilled and physically more demanding jobs, are more likely to retire early than those workers with higher levels of schooling. Probably some of these men are withdrawing from the labor force because of their inability to retain or to find suitable employment.

The expansion of private pension plans and the extension and liberalization of the social security system, including changes since 1957 in its disability provisions, have undoubtedly facilitated the retirement of many workers in this age group.

Labor force participation among men 65 years old and over has been declining for the past two decades. Unlike 55- to 64-year-old men, the decline in labor force participation rates among men 65 and over has been apparent at all levels of education. The overall rate declined to 26 percent in 1967 from 43 percent in 1952. By March 1967 the participation rate for the least educated (less than 5 years of school) had dropped by one-half to 16 percent, but for those with 1 year of college or more the rate declined by only one-fourth to 42 percent.

Labor force participation rates in March 1967 were generally similar for white and Negro men 25 to 54 years old within each age and educational category. Among 18- to 24-year-olds, the rate was

lower for Negro than white workers with low levels of education, suggesting that lesser educated Negro young men drop out of the labor force in the face of poor job opportunities. On the other hand, a greater proportion of Negro than white high school graduates in that age group were in the labor force, probably because a relatively smaller number of young Negro men were attending college.

Occupational Composition

The general upgrading of the educational level of the population and the rising demand for better educated and more highly trained workers in various occupations have been accompanied by a substantial change in the occupational composition of employed persons since 1952:

Occupational distribution of employed persons 14 years old and over (annual averages)

	Men		Women	
	1966	1952	1966	1952
Total.....	100.0	100.0	100.0	100.0
White-collar workers.....	38.5	31.8	56.8	51.6
Professional workers.....	12.3	7.5	13.2	10.2
Managers and proprietors.....	13.1	12.2	4.4	5.4
Clerical workers.....	7.1	6.6	32.1	28.5
Sales workers.....	6.0	5.4	7.1	7.5
Blue-collar workers.....	47.7	49.1	16.8	21.4
Craftsmen and foremen.....	19.6	20.0	1.0	1.4
Operatives.....	20.6	20.6	15.4	19.4
Nonfarm laborers.....	7.5	8.5	.4	.6
Farm workers ¹	6.6	13.1	2.7	5.9
Service workers ²	7.2	6.0	23.7	21.1

¹ Includes farmers and farm managers, laborers, and foremen.

² Includes private household workers.

The proportion of professional and technical and service workers increased between 1952 and 1966. There was a corresponding decline over the 14-year period in the percent of employed persons with unskilled blue-collar and farm jobs.

Between October 1952 and March 1967 the proportion of employed persons working in farm occupations declined in each education group.³ Among the rapidly declining numbers and proportion of working men who have not completed even an elementary school education, the proportions working as craftsmen, operatives, and service workers increased. Relatively more men who had graduated from high school were working in professional and technical, semiskilled, and service occupations in 1967, and comparatively fewer had jobs in the managerial and proprietor groups. Among men who had graduated from college, the

³ Since data on the occupational structure of employed persons by level of educational attainment in 1952 are available only for the month of October, the estimate of employment in farm occupations between March and October would be affected by seasonal patterns. In 1967 this proportion changed from 4.3 percent in March to 5.0 percent in October, a relatively slight change compared with the long-term decline in farm employment since 1952.

movement into professional, technical, and managerial jobs has been accompanied by a corresponding decline in the proportion working in clerical and craftsmen occupations.

Generally, the occupational trends of women workers followed those of their male counterparts during this period. In all education categories, except college graduates, much larger proportions of women worked in service occupations in 1967 than in 1952; for college graduates, there was a sharp proportional increase in professional and technical occupations (up 13 points to 80 percent), partially offset by a decrease in clerical employment.

The educational level of workers has improved in virtually every occupation group since 1952. The sharpest rise occurred among service and blue-collar workers, while the attainment level of workers in white-collar occupations either remained about the same or increased slightly from their already high 1952 levels.

Educational gains have generally been greater for employed Negroes than for white men and women since 1959 when the average educational level of Negroes was very low. During the 8-year period, the average level of schooling of employed Negro men increased 2 full years compared with less than one-half year for white men. This rise is primarily attributable to the educational gains made by younger Negroes; also, a higher proportion of young workers (18 to 34 years) are in the Negro than the white work force, 41 and 36 percent, respectively. There was a similar difference in the educational upgrading of employed white and Negro women.

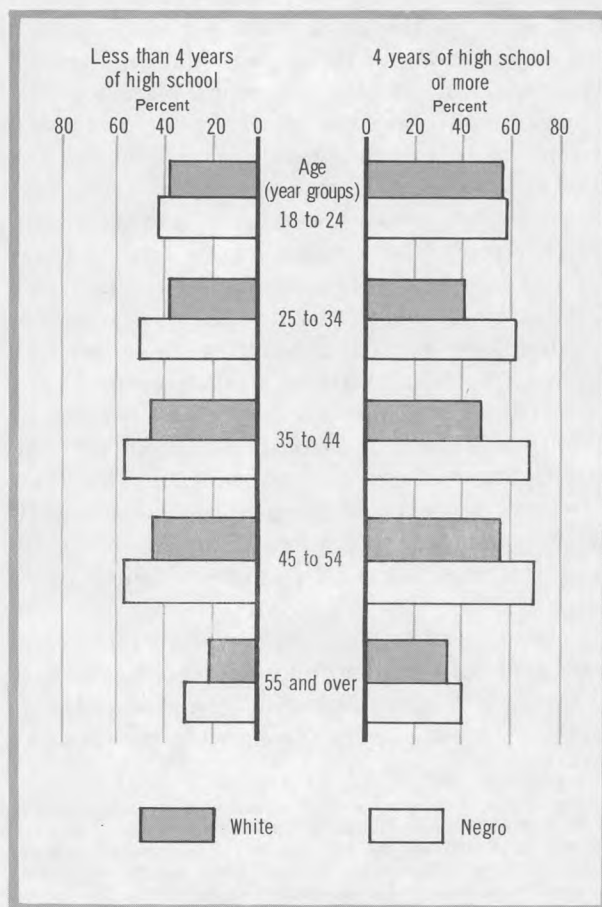
Among Negro men, the sharpest increase in the proportion of workers who were high school graduates was in the blue-collar occupations in which nearly 6 out of 10 Negro men are employed. There were more modest educational gains among Negro men working in white-collar, service, and farm occupations. For white men, the increase in the general educational level is evident in all broad occupation groups, but particularly among service workers. The proportion of white men with service jobs who were high school graduates rose to 50 from 36 percent. The proportion of both white and Negro women who completed 4 years of high school or more increased in all the broad occupation groups.

In spite of their educational gains, Negro workers had lower levels of educational attainment than white workers in nearly every occupation group. Substantially greater proportions of employed Negro men than white workers in blue-collar and service occupations had completed no more than an elementary school education.

Job Concentration

There are substantial differences in the occupational distribution of white and Negro workers. There is a greater representation of white workers in the more desirable occupations while Negro workers are overly concentrated in less preferable jobs. For example, in March 1967 one-half of the

Chart 3. Labor Force Participation Rates¹ of Women, by Age, Color, and Years of School Completed, March 1967



¹ Percent of civilian noninstitutional population in labor force.

employed white men compared with only one-fourth of employed Negro men had jobs as professional and technical workers, managers, officials, or proprietors, or as skilled craftsmen. On the other hand, Negro men were concentrated in semiskilled and unskilled blue-collar jobs and in service occupations.

These overall differences are due in large part to the variation in levels of educational attainment of white and Negro workers. In March 1967, 61 percent of employed white men compared with only 37 percent of employed Negro men had attained at least a high school education:

Distribution of employed men by education

	White	Negro
Total.....	100.0	100.0
Elementary: 8 years or less.....	21.2	40.3
High school: 1 to 3 years.....	18.0	22.6
4 years of high school or more.....	60.8	37.1
4 years of high school.....	34.0	24.8
1 year of college or more.....	26.8	12.3

However, variations in levels of educational attainment alone are not sufficient to explain the white-Negro occupational differential. Table 3 shows that this difference in occupational composition occurs for workers with both the highest and lowest levels of schooling completed. Among workingmen who were high school graduates but had not attended college, whites were concentrated in white-collar and skilled blue-collar jobs while the bulk of Negro men worked in semiskilled and unskilled blue-collar jobs and in service occupations. Even among those who had completed 1 year or more of college, Negroes were overrepresented in the least skilled occupations, notwithstanding the fact that the same proportion of white and Negro men with that much education were professional and technical workers in March 1967. There were similar variations in the occupational distribution of workers who did not have high school diplomas.

TABLE 3. OCCUPATIONAL DISTRIBUTION AND EDUCATION OF WHITE AND NONWHITE WORKERS 18 YEARS OLD AND OVER, MARCH 1967

Years of school completed, color, and sex	Total employed		Professional and technical workers	Managers and proprietors	Clerical workers	Sales workers	Craftsmen	Operatives	Non-farm laborers	Farmers and farm managers	Farm laborers	Service workers including private household
	Number	Per cent										
MEN												
Total employed:												
White.....	40,771	100.0	14.4	14.8	7.2	6.0	21.2	19.7	4.9	4.1	1.4	6.2
Nonwhite actual.....	4,359	100.0	7.0	3.6	6.9	1.4	12.9	28.2	17.7	2.5	4.5	15.2
Nonwhite expected ¹	4,359	100.0	8.0	12.0	6.1	4.7	23.7	24.0	6.6	5.6	2.2	7.2
Actual minus expected.....			-1.0	-8.4	+ .8	-3.3	-10.8	+4.2	+11.1	-3.1	+2.3	+8.0
Elementary—8 years or less:												
White.....	8,624	100.0	.9	7.2	3.2	2.2	24.8	29.2	9.9	9.4	4.1	9.1
Nonwhite.....	1,756	100.0	.6	2.6	1.8	.6	13.4	28.8	24.3	4.0	9.3	14.6
High school—1 to 3 years:												
White.....	7,359	100.0	2.4	10.8	6.5	4.3	28.7	28.9	6.9	3.3	1.2	7.0
Nonwhite.....	987	100.0	2.0	2.8	6.0	1.2	12.5	33.2	20.5	1.6	2.3	17.8
High school—4 years:												
White.....	13,868	100.0	8.0	15.3	9.7	6.9	25.2	20.5	3.8	3.4	.7	6.5
Nonwhite.....	1,079	100.0	4.6	3.9	12.8	2.6	15.0	29.9	11.4	1.8	.7	17.2
College—1 year or more:												
White.....	10,920	100.0	41.2	22.8	7.9	9.2	8.0	4.9	1.1	1.3	.4	3.1
Nonwhite.....	537	100.0	41.9	8.0	13.4	2.0	7.4	14.0	3.5	.6	.6	8.6
WOMEN												
Total employed:												
White.....	22,248	100.0	15.3	4.8	35.9	7.6	1.2	15.7	.3	.3	1.3	17.7
Nonwhite actual.....	3,186	100.0	8.7	1.3	15.5	2.1	.5	18.5	.8	.2	1.3	51.1
Nonwhite expected ¹	3,186	100.0	10.5	4.6	29.1	7.9	1.5	21.6	.4	.4	1.6	22.5
Actual minus expected.....			-1.8	-3.3	-13.6	-5.8	-1.0	-3.1	+ .4	-.2	-.3	+28.6
Elementary—8 years or less:												
White.....	3,266	100.0	.9	3.8	9.4	7.0	2.2	37.6	.5	.8	3.2	34.5
Nonwhite.....	972	100.0	.2	-1.1	.9	.5	.3	18.6	1.0	.3	2.6	74.4
High school—1 to 3 years:												
White.....	3,846	100.0	2.1	4.8	21.7	10.5	2.0	28.1	.6	.3	1.2	28.5
Nonwhite.....	730	100.0	1.5	.7	8.1	2.6	.8	22.3	1.0	-----	1.1	61.9
High school—4 years:												
White.....	9,964	100.0	7.1	5.0	52.6	8.2	1.0	10.8	.2	.2	1.0	13.7
Nonwhite.....	1,012	100.0	3.4	1.7	29.8	3.5	.7	20.8	.7	.2	.7	38.6
College—1 year or more:												
White.....	5,172	100.0	49.9	4.8	30.7	4.8	.4	2.0	(²)	.1	.5	6.6
Nonwhite.....	472	100.0	48.9	1.5	26.5	1.9	.2	7.6	-----	-----	-----	13.3

¹ The expected estimate was derived by distributing the actual number of nonwhite workers at a given level of educational attainment by the occu-

pational distribution of white workers at that level of education. ² Less than 0.05 percent.

The question arises then as to what part of the overall variation between the occupational distribution of white and Negro workers is due to differences in the level of education of the two groups and what part is due to other factors. A rough answer to this question can be developed by estimating what the overall differences between the occupational distributions of white and Negro workers would be if at each given educational level Negroes had the same opportunity for employment as white workers. Opportunity for employment was standardized by applying the occupational distribution of employed white men to the total number of employed Negro men at each level of education. Summing the resulting numbers for each occupational group yields an "expected" number of Negro men working in each occupation assuming full equality of employment opportunity. The difference between the white and this standardized or expected Negro occupational distribution reflects basically the lower levels of schooling of Negro workers.

Comparing the "expected" occupational distribution of Negro men to that of white men (table 3) reveals that the difference in the proportion of white and Negro men with white-collar and craftsmen jobs would have been only 9.1 percentage points if the difference was due solely to the lower levels of education attainment of Negroes. In actuality, there was a difference of 31.8 percentage points in proportions of white and Negro workingmen in those occupations. This suggests that the variation between them (22.7 percentage points) might be attributed not to an education

effect but to other factors such as employment discrimination, inferior quality of education, residence, lack of capital to enter business, or inability of Negro workingmen to obtain jobs commensurate with their education levels.⁴

Similar differences were observed in the occupational distributions of white and Negro working women. Of a total difference of 36 percentage points in the proportions of white and Negro women with white-collar jobs, only 11.5 percentage points were due to the inferior levels of education of Negro women and 24.5 percentage points reflected the effect of the other previously mentioned factors.

This analysis is admittedly very rough. It not only lacks an adjustment for age differential of white and Negro workers in each occupation at each level of educational attainment, but a second shortcoming is the absence of detailed occupational data. Within each broad occupation group, there are differences in the relative concentration of white and Negro workers in various occupational specialties. A greater proportion of white than Negro professional and technical workers are working as engineers, for example, while relatively greater numbers of Negro professionals are elementary school teachers. Thus the broad occupational distribution may actually understate the gap between the employment of white and Negro professional men.

⁴It should be noted that some of this variation can be attributed to age differentials. As a group, Negroes are younger than whites. Even at the same level of education, one would not expect younger persons to have reached the same occupational levels as older more experienced workers.

Service Industry Wage Changes and Fringe Benefits

MICHAEL E. SPARROUGH*

GENERAL WAGE INCREASES in 1966 were about as frequent in the service industries as they were in manufacturing, but the average increase was proportionately larger in services than in manufacturing. Introduction or liberalization of supplementary benefits was less common than in factories.

General wage increases were put into effect for about 3 out of 4 workers in both the service establishments surveyed and in manufacturing. The proportion of those instituting changes varied: About nine-tenths in hospitals, four-fifths in laundries, two-thirds in hotels and motels, and half in the remaining categories.

The larger wage changes that were put into effect in the service industries reflected increases in both hospitals and laundries (table 1). (Hospitals employ roughly 45 percent of the workers in all service establishments studied that had a policy of making general wage adjustments.) In hotels and in other types of service establishments,¹ wage changes were proportionately lower than they were in manufacturing.

This summary of wage changes in the service industries is, of necessity, limited to establishments that typically make general wage changes instead of adjusting pay on an individual basis. The initial survey (see table 2) excluded legal and other service industries in which few establishments make general wage or salary changes,² as well as service establishments with fewer than 20 workers. In addition to the industries and small establishments that were excluded completely, some establishments that received the inquiry on which this survey is based do not make general wage changes; these establishments are also omitted from this

summary. Because unionization is less common in the service industries, relatively fewer service establishments than factories adjust wages by means of general wage changes. Whereas only about 15 percent of the factory workers work for firms that adjust wages only on an individual basis, about a third of those in the service industries studied were employed in establishments that make only individual adjustments. About 45 percent of the employees of nonunion establishments in both the service industries and manufacturing work where general wage changes are usually not made.

Methods of adjusting wages varied among different types of service establishments in part because of differences in size. Practically all hospitals make general wage changes, but only about two-thirds of the hotel and motel and laundry workers work where general changes in wages are customary.

Size of Wage Changes

The median wage increase for those service employees whose pay was raised in 1966 was 6 percent compared with 3.9 percent in manufacturing. Considering all workers in establishments that usually make general wage changes, including those whose pay was not changed in 1966, the average adjustment was 4.2 percent in the service industries and 3.3 percent in manufacturing.³

Looking at union and nonunion establishments separately, percentage changes (both wage adjustments and increases) were also larger in service establishments than in manufacturing. In cents-per-hour terms, however, unionized factory workers received larger wage changes in 1966 than union service workers. (Wage levels are generally higher in manufacturing than in the service industries surveyed; hence, a given cents-per-hour change usually represents a higher percentage change in the service industries.)

The year was one of exceptional increases in hospital pay. The demand for hospital services

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¹For example, miscellaneous business services, miscellaneous repair services, recreation services, and professional associations.

²Industries that were omitted were medical and dental laboratories, health services, legal services, privately owned educational services, privately owned museums, and private households.

³"Wage increase" in this article is limited to those workers whose pay was raised; "wage adjustments" also included workers whose pay was not increased.

TABLE 1. EMPLOYEES AFFECTED BY GENERAL WAGE INCREASES AND MEDIAN WAGE CHANGES, 1966

[In percent]

Item	Wage decisions							Effective wage changes ¹						
	Manu- fac- turing	All service indus- tries studied ²	All service indus- tries studied exclud- ing hos- pitals	Hos- pitals	Hotels and motels	Laun- dries	Other service indus- tries	Manu- fac- turing	All service indus- tries studied ²	All service indus- tries studied exclud- ing hos- pitals	Hos- pitals	Hotels and motels	Laun- dries	Other service indus- tries
Percent of employees ³ receiving in- creases:														
All establishments.....	87.9	77.6	64.8	89.1	63.4	83.8	59.6	80.2	73.9	61.7	89.3	67.0	83.6	54.8
Union.....	96.1	93.3	91.1	100.0	87.6	99.6	88.3	80.9	76.3	72.1	100.0	85.7	93.1	61.7
Nonunion.....	77.8	72.5	47.8	87.7	40.9	63.4	46.4	77.8	72.6	48.4	87.7	41.0	64.5	46.9
IN PERCENT														
Median adjustments: ⁴														
All establishments.....	4.0	5.0	2.6	7.6	2.3	5.7	1.7	3.3	4.2	2.3	7.6	2.8	3.8	1.1
Union.....	4.0	4.7	4.0	8.1	3.7	6.0	4.0	3.2	3.5	3.0	7.9	3.7	3.9	2.2
Nonunion.....	3.7	5.0	0.0	7.4	0.0	3.2	0.0	3.9	5.0	0.0	7.5	0.0	3.2	0.0
Median increases: ⁵														
All establishments.....	4.2	6.6	4.5	8.1	3.7	6.5	4.2	3.9	6.0	4.1	8.1	3.7	5.0	4.1
Union.....	4.1	5.0	4.3	8.1	3.7	6.0	4.1	3.8	4.5	4.0	7.9	3.7	4.3	4.0
Nonunion.....	4.4	7.5	5.0	8.1	3.8	6.9	4.8	4.5	7.5	5.0	8.1	3.9	6.9	4.3
IN CENTS														
Median adjustments: ⁴														
All establishments.....	9.7	9.2	5.0	13.7	2.9	9.0	3.1	8.5	7.8	4.1	13.7	4.0	6.0	3.0
Union.....	10.0	9.8	8.0	16.6	6.7	10.0	8.5	8.7	6.7	5.2	16.4	5.5	6.1	5.0
Nonunion.....	8.0	9.0	0.0	13.2	0.0	5.0	0.0	8.0	9.0	0.0	13.2	0.0	5.0	0.0
Median increases: ⁵														
All establishments.....	10.0	12.0	8.5	15.3	6.7	10.0	9.8	10.0	11.0	8.1	15.3	6.4	8.0	9.3
Union.....	10.0	10.0	8.5	16.6	6.7	10.0	10.0	10.0	9.1	8.0	16.4	6.7	7.2	9.1
Nonunion.....	9.3	13.0	8.3	14.9	4.9	10.0	9.3	9.6	13.1	8.7	14.9	4.9	10.0	9.5

¹ Includes cost-of-living escalator increases, and deferred wage changes resulting from decisions reached in earlier years and those decided on in the current year.

² Service industries studied in this survey were hotels and motels, rooming and boarding houses, trailer parks and camps, organization hotels and lodging houses on a membership basis, laundries, photographic studios, miscellaneous business services, automobile repair, automobile services, and garages, miscellaneous repair services, motion pictures, amusement and recreation services, nongovernment hospitals, business associations, professional mem-

bership associations, civic, social, and fraternal associations, and labor unions and similar organizations.

³ In manufacturing, "employees" refers to production and related workers; in services, "employees" refers to nonsupervisory employees.

⁴ Includes employees in establishments in which wage rates were not changed.

⁵ Limited to establishments in which wage rates were increased.

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

continued to grow. Among the events that presumably affected developments, but also reflected demand pressures, was the first national bargaining goal to be set by the American Nurses Association—an annual starting salary of \$6,500. During the year, 90 percent of all hospital employees were working where pay scales were increased, with the average increase for those whose pay was raised amounting to 8.1 percent. For all hospital employees, including those whose pay was not changed, the average adjustment was 7.6 percent. About one-third of all hospital employees were in hospitals where general pay increases averaged 10 percent or more, and almost 15 percent worked where the increases averaged 15 percent or more. Increases of 10 percent or more were effective for fewer than 1 percent of factory production workers.

About two-thirds of the hotel employees and more than 4 out of 5 laundry workers also received

general wage increases, but the average change was smaller than in hospitals. For those hotel workers whose pay was increased, the average advance was 3.7 percent, and for laundry employees it was 5 percent. Considering all employees, including those whose pay was not changed, the average adjustment was 2.8 percent in hotels and 3.8 percent in laundries.

Pay increases were larger in cents-per-hour terms in union than in nonunion firms, where pay levels typically are lower. In hospitals, hotels and motels, and laundries, percentage wage increases for those whose pay was raised were at least equal, and almost always larger, in nonunion than in union establishments, but the proportion of nonunion workers who received increases was smaller. Hence, in each industry, percentage adjustments, which average the increases over all workers, were greater in union establishments. The fact that hospitals with their very large pay changes account

TABLE 2. TOTAL EFFECTIVE GENERAL WAGE CHANGES¹ IN MANUFACTURING AND SELECTED SERVICE INDUSTRIES,² BY TYPE OF ESTABLISHMENT, AS PERCENT OF EMPLOYEES,³ 1966

Type and amount of wage action in percent of average straight-time hourly earnings	Manufacturing			All service industries studied			All service industries studied, excluding hospitals			Hospitals		
	All	Union ⁴	Non-union	All	Union ⁴	Non-union	All	Union ⁴	Non-union	All	Union ⁴	Non-union
All establishments ⁵	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No wage changes ⁶	19.8	19.1	22.2	26.1	23.7	27.4	38.3	27.9	51.6	10.7	-----	12.3
Decreases in wages.....												
Increases in wages ⁷	80.2	80.9	77.8	73.9	76.3	72.6	61.7	72.1	48.4	89.3	100.0	87.7
Under 1.....	.9	.8	1.1	2.2	2.0	2.3	2.8	2.4	3.4	1.5	-----	1.7
1 and under 2.....	5.4	6.2	2.7	3.8	4.7	3.2	5.0	5.1	4.8	2.3	2.3	2.3
2 and under 3.....	16.7	19.4	7.8	7.1	10.3	5.2	9.2	11.2	6.3	4.4	3.7	4.5
3 and under 4.....	16.5	17.1	14.5	8.2	14.2	4.6	11.2	15.6	5.5	4.3	6.8	4.0
4 and under 5.....	12.7	11.7	16.0	6.9	11.1	4.5	7.3	10.7	3.0	6.4	13.0	5.5
5 and under 6.....	11.5	9.6	17.9	6.6	7.2	6.3	6.4	7.5	4.9	7.0	5.8	7.1
6 and under 7.....	10.3	11.5	6.1	6.3	6.0	6.5	5.4	6.3	4.3	7.4	3.9	7.9
7 and under 8.....	2.7	2.4	3.8	5.6	6.3	5.2	3.4	4.9	1.4	8.4	14.4	7.5
8 and under 9.....	1.2	1.2	1.0	4.1	2.9	4.9	1.6	1.1	2.1	7.4	12.7	6.6
9 and under 10.....	.4	.4	.6	2.7	2.6	2.7	1.8	1.8	1.8	3.8	7.2	3.3
10 and under 11.....	.1	.1	.3	4.6	2.7	5.8	2.1	1.3	3.1	7.8	10.6	7.4
11 and under 12.....	(⁸)	(⁸)	.1	2.6	1.2	3.5	.6	.1	1.3	5.1	7.1	4.9
12 and under 13.....	.1	(⁸)	.3	1.3	.4	1.8	.6	.1	1.2	2.1	2.0	2.1
13 and under 14.....	.2	(⁸)	.7	1.4	(⁸)	2.2	.2	.1	4.4	3.0	-----	3.4
14 and under 15.....	.1	.1	.1	1.1	.4	1.5	.7	.5	1.0	1.6	-----	1.8
15 and under 20.....	.1	-----	.5	3.5	.1	5.5	.6	.2	1.2	7.1	-----	8.2
20 and over.....	(⁸)	-----	.1	3.7	1.4	5.1	.7	.1	1.5	7.6	8.7	7.4
Not specified or not computed ⁹	1.4	.5	4.2	2.1	2.7	1.8	2.1	2.9	1.2	2.1	1.9	2.1
Average (median) adjustment.....	3.3	3.2	3.9	4.2	3.5	5.0	2.3	3.0	0.0	7.6	7.9	7.5
Average (median) increase.....	3.9	3.8	4.5	6.0	4.5	7.5	4.1	4.0	5.0	8.1	7.9	8.1
Total number of employees (in thousands).....	12,016	9,299	2,717	2,899	1,074	1,825	1,618	912	707	1,280	162	1,118
	Hotels and motels			Laundries			Other service industries					
	All	Union ⁴	Non-union	All	Union ⁴	Non-union	All	Union ⁴	Non-union			
All establishments ⁵	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
No wage changes ⁶	33.0	14.3	59.0	16.4	6.9	35.5	45.2	38.3	53.1			
Decreases in wages.....												
Increases in wages ⁷	67.0	85.7	41.0	83.6	93.1	64.5	54.8	61.7	46.9			
Under 1.....	3.3	1.7	5.5	1.4	1.8	.4	3.1	2.8	3.5			
1 and under 2.....	6.9	8.3	5.1	3.5	3.6	3.4	4.9	4.8	5.0			
2 and under 3.....	1.2	8.7	5.0	11.0	12.5	7.9	9.2	11.8	6.3			
3 and under 4.....	21.9	33.0	6.4	16.4	23.5	2.1	7.3	8.5	5.9			
4 and under 5.....	6.1	9.5	1.3	7.4	9.0	4.1	7.6	11.6	3.1			
5 and under 6.....	4.1	2.6	6.3	5.2	6.4	3.0	7.2	9.2	5.0			
6 and under 7.....	10.3	16.3	2.0	6.7	4.7	10.8	3.9	4.3	3.5			
7 and under 8.....	.6	1.1	-----	12.4	17.6	2.2	1.6	1.7	1.6			
8 and under 9.....	.2	-----	.5	1.8	1.8	1.8	1.8	1.2	2.5			
9 and under 10.....	1.5	.8	2.3	4.6	4.1	5.5	1.2	1.3	1.0			
10 and under 11.....	1.0	1.5	.3	2.0	.9	4.1	2.4	1.4	3.6			
11 and under 12.....	.9	-----	2.2	1.2	.2	3.2	.4	.1	.8			
12 and under 13.....	.3	-----	.8	.9	.4	1.9	.6	.1	1.1			
13 and under 14.....	-----	-----	-----	.6	-----	1.8	.2	.1	.2			
14 and under 15.....	.5	-----	1.1	2.1	2.3	1.9	.4	-----	.8			
15 and under 20.....	.6	.4	.9	1.3	.4	3.1	.4	(⁸)	.9			
20 and over.....	.7	.3	1.3	.9	-----	2.6	.6	(⁸)	1.3			
Not specified or not computed ⁹.....	.9	1.5	-----	4.2	3.9	4.7	1.9	2.9	.8			
Average (median) adjustment.....	2.8	3.7	0.0	3.8	3.9	3.2	1.1	2.2	0.0			
Average (median) increase.....	3.7	3.7	3.9	5.0	4.3	6.9	4.1	4.0	4.3			
Total number of employees (in thousands).....	257	149	108	282	188	94	1,080	575	505			

¹ Includes cost-of-living escalator increases and deferred wage increases resulting from decisions in earlier years, as well as increases decided upon in the current year.
² Service industries studied were hotels and motels, rooming and boarding houses, trailer parks and camps, organization hotels and lodging houses on a membership basis, laundries, photographic studios, miscellaneous business services, automobile repair, automobile services, and garages, miscellaneous repair services, motion pictures, amusement and recreation services, non-government hospitals, business associations, professional membership associations, civic, social, and fraternal associations, and labor unions and similar organizations.
³ In manufacturing, "employees" refers to production and related workers; in services, "employees" refers to nonsupervisory employees.
⁴ Establishments in which a majority of employees were covered by union agreements.
⁵ Excludes employees in establishments reporting that they never make general wage changes as well as those in establishments in which action on

wages during the year was not known.
⁶ Includes employees in union establishments in which there was either a decision not to change wages, no bargaining on wages during the year, or bargaining was not concluded. The numbers included 1,625,000 in manufacturing, 232,000 in services, 232,000 in services excluding hospitals, none in hospitals, 10,000 in hotels and motels, 11,000 in laundries, and 212,000 in other service industries.
⁷ In the case of union establishments, includes negotiated increases scheduled to go into effect during the 12-month period following the effective date of the agreement and other adjustments (deferred or cost-of-living escalator adjustments) effective during the calendar year. In other establishments, includes increases effective in the calendar year.
⁸ Less than 0.05 percent.
⁹ Insufficient information to compute amount of increase.

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

for 60 percent of the nonunion workers in the service industries studied but for fewer than 20 percent of the union workers resulted in higher percentage adjustments for nonunion than union service establishments considered as a group. In manufacturing, a somewhat similar pattern prevailed. In percent, nonunion wage changes were larger than union; in cents-per-hour, however, union wage changes were larger than nonunion.

Escalator Increases. Although changes in the CPI are a major factor in wage increases, especially in nonunion establishments, automatic cost-of-living escalator provisions were practically nonexistent in the service industries. Fewer than one-half of 1 percent of the workers in the establishments surveyed were covered by such provisions, compared with nearly one-fifth in manufacturing.

Nonuniform Changes. Nonuniform wage changes, with cents-per-hour adjustments varying among different workers within an establishment, were much more common in service industries than in manufacturing establishments. Moreover, factory increases differing among occupations most commonly consisted of skill level variations. About 80 percent of the workers in the service industries affected by general wage increases during 1966 received increases that varied in cents-per-hour terms, compared with about 50 percent in manufacturing.

The smaller degree of uniformity in wage changes in the service industries reflects in part the fact that fewer establishments are covered by union agreements. Unionized establishments are more likely than nonunion establishments to provide uniform cents-an-hour adjustments. Nine out of 10 employees in nonunion service establishments received increases that varied among groups within the same establishment. Even in unionized service establishments, however, changes for over two-thirds of the workers were not uniform in cents per hour. Hospitals typically require a variety of personnel, ranging from cleaners to nurses and medical technologists; hence, wage changes are likely to vary among occupations. Even in laundries, wage changes for 60 percent of the workers were not the same for all workers in one plant.

Supplementary Benefits

Compared with manufacturing, service industries in 1966 established or liberalized supplementary benefits for proportionately fewer workers, and typically fewer benefit changes were made by service establishments than by factories (see table 3). In both types of industries, the benefits most frequently changed affected health and welfare, pensions, paid vacations, and paid holidays.

Benefits were established or liberalized for about one-fourth of the service employees, compared with about one-third of those in manufacturing. On the average, about two benefits were added or liberal-

TABLE 3. CHANGES IN SUPPLEMENTARY PRACTICES IN MANUFACTURING AND SELECTED SERVICE INDUSTRIES, 1966

Classification	Total number of employees ¹ (in thousands)	Not changing supplementary practices	Reducing supplementary practices	Liberalizing or establishing 1 or more supplementary practices
Manufacturing, total ²	12,122	67.7	-----	32.3
Union ³	9,389	69.9	-----	30.1
Nonunion ²	2,733	60.0	-----	40.0
Services, total ²	2,899	75.3	0.2	24.5
Union ³	1,074	73.7	-----	26.3
Nonunion ²	1,825	76.3	.3	23.5
Services, excluding hospitals, total ²	1,618	82.1	.1	17.8
Union ³	912	76.9	-----	23.1
Nonunion ²	707	88.9	.2	10.9
Hospitals, total ²	1,280	66.6	.3	33.1
Union ³	162	55.4	-----	44.6
Nonunion ²	1,118	68.3	.3	31.4
Hotels and motels, total ²	257	76.9	.5	22.6
Union ³	149	65.3	-----	34.7
Nonunion ²	108	94.0	1.3	4.6
Laundries, total ²	282	79.2	-----	20.8
Union ³	188	77.8	-----	22.2
Nonunion ²	94	82.0	-----	18.0
Other services, total ²	1,080	84.2	-----	15.8
Union ³	575	79.8	-----	20.2
Nonunion ²	505	89.2	-----	10.8

¹ In manufacturing, "employees" refers to production and related workers; in services, "employees" refers to nonsupervisory employees.

² Includes employment in all establishments that have a policy of making general wage changes, including those in which the only general wage changes put into effect during the year were cost-of-living escalator adjustments or increases decided on in earlier years, as well as union establishments in which there was either no bargaining on wages during the year or bargaining was not concluded. Also included are employees in establishments in which action on wages or supplementary practices was not known. All employees in establishments in which general wage changes are not normally made are excluded.

³ Establishments in which a majority of the employees were covered by union agreements.

ized for those service workers for whom any benefits were changed, compared with about three in manufacturing. Benefit changes affected a larger proportion of union than nonunion service employees. This followed the pattern of most years in manufacturing, although in 1966 a larger proportion of nonunion than union factory workers received liberalized benefits. Benefit changes were somewhat more common in hospitals than in hotels and motels or in laundries.

Definitions

This report is limited to establishments where general wage changes are customary. Only establishments with 20 workers or more were studied.

The survey included general wage changes resulting from collective bargaining or, in the case of nonunion establishments, from unilateral management decision. (Nonunion establishments are those with fewer than half of the nonsupervisory workers covered by agreements.)

This article does not include data on the "package cost" of settlements, that is, it does not present data on the combined cost of changes in wages and supplementary benefits.

All nonsupervisory employees in any establishment or group of establishments were tabulated according to the mean wage change for these employees.⁴ Changes in wage structure, as opposed to changes in individual employee rates, affecting more than 10 percent of the employees were treated as general wage changes. Two concepts of wage changes are presented in the tables.

Total Effective Wage Changes. This measure includes all establishments that customarily make general wage changes and shows all changes actually effective during the year. It shows the combined effect of wage changes resulting from 1966 decisions and changes in 1966 resulting from

earlier decisions. For example, if employees received a 6-cent-an-hour increase in 1966 resulting from a 1965 decision (a deferred increase), the number of employees in the unit would be tabulated in the 6- to 7-cent interval.

Wage Decisions. This measure is intended to show the effect of current economic conditions on wage actions during the year. It is limited to establishments where there were wage decisions during 1966, either through collective bargaining or through unilateral management action. Changes are limited to those decided on in 1966 and going into effect within 1 year from the time of settlement; cost-of-living escalator adjustments and wage changes in 1966 resulting from earlier decisions were excluded. All nonunion establishments that change wages by means of general wage adjustments were included, since it is not possible to determine objectively whether or not a wage change was considered during the year. Since relatively few service establishments are organized, making the distinction between wage decisions and total effective changes a tenuous one, the article emphasizes effective wage changes.

The summary is based on information from about 1,500 reporting units with about 600,000 employees, out of a total of about 2.9 million employees within the scope of the survey. The reporting units included about 100 major collective bargaining situations⁵ for which the Bureau of Labor Statistics compiles information largely from secondary sources or from union agreements. The remainder (about 1,400) were nonunion or small union establishments.

About 3,900 nonunion or small union establishments were contacted by mail questionnaire or personal visit and about 2,900 replied. Over 2,400 provided usable information⁶ but of these over 1,000 customarily did not make general wage changes.

Establishments included in the survey were selected from unemployment insurance lists of all establishments in the service industries studied, with the exception of those having fewer than 20 employees. The proportion of establishments selected for the survey increased with size but in combining information for establishments of various size each was weighted to account for other establishments of similar size in the industry.

⁴ Changes are expressed as a percent of average hourly earnings adjusted to exclude the effect of premium pay for overtime.

⁵ Major collective bargaining consisted of union agreements affecting 1,000 workers or more. Included are not only agreements affecting firms that individually have an employment of 1,000 or more, but multiplant or multifirm agreements affecting a total of at least 1,000 workers or more, even though each individual unit is smaller.

⁶ The balance either were out of business, employed no supervisory personnel, were not in the service industries, or refused to cooperate.

Pattern of Wage and Benefit Changes in Manufacturing

WILLIAM DAVIS AND LILY MARY DAVID*

EACH YEAR from 1959 to 1966, at least 2 out of 3 factory-production workers in the United States received general wage increases, and at least a third had some supplementary benefits liberalized. For those whose pay was raised, the average increase has varied from year to year within relatively narrow limits—between about 3 and 4 percent.

In the later years of the period (chart 1), there was a relatively close relationship between the size and frequency of wage changes, on the one hand, and the rate of unemployment at the beginning of the year and the Consumer Price Index on the other. The effect of fluctuations in such factors as the rate of unemployment and changes in the CPI has not been the same for union and nonunion establishments. In general, nonunion factories have responded more sharply to changes in the economic climate than union plants. The nonunion response has primarily taken the form of changes in the frequency of wage and benefit adjustments; except when the rate of unemployment declines to low levels and the CPI rises relatively rapid, nonunion factory workers ordinarily do not receive wage increases each year. By contrast, most union factory workers have received annual increases, and the economic outlook affects the size more than the frequency of their wage changes (charts 2 and 3).

Although nonunion workers, when their wages are changed, typically receive somewhat larger percentage raises than do unionized workers, the fact that their pay is adjusted less frequently than that of union workers results in their receiving somewhat smaller total adjustments over a period of years.

Nonunion establishments usually revise benefits less often than do union establishments, and

respond more often than union establishments to changes in economic conditions by increasing the frequency of their changes in supplementary benefits.

The years covered by this survey were marked by the highest level of economic activity since such developments have been measured.¹ The upturn extended for 5 years after a recession in 1960–61. The expansion of the economy, however, was combined with a relatively high rate of unemployment; during each year from 1959 to 1964, the unemployment rate was at least 5 percent.

The boom was sustained without any sharp increase in consumer prices until 1965. From 1959 through 1964, the Consumer Price Index (CPI) rose an average of about 1.3 percent a year, compared with an increase of 1.9 percent in 1965 and 3.3 percent in 1966.

Minimum Wage Increases

The period was also one in which the minimum wage under the FLSA was increased from \$1.00 to \$1.25 (to \$1.15 on September 3, 1961, and to \$1.25 on September 3, 1963), and in which legislation was enacted to increase it early in 1967 to \$1.40 and in 1968 to \$1.60. This was the largest dollar increase in the FLSA rates, although not the highest percentage increase, in any period of comparable length. Both the 1961 and 1966 legislation also substantially expanded coverage of the act.

There was also continued growth in the prevalence of long-term collective bargaining contracts, although, despite this, there was a decline in the popularity of cost-of-living escalator clauses. The growth of long-term contracts has presumably reduced the sensitivity of negotiated wage and benefit changes to business conditions and unemployment rates.

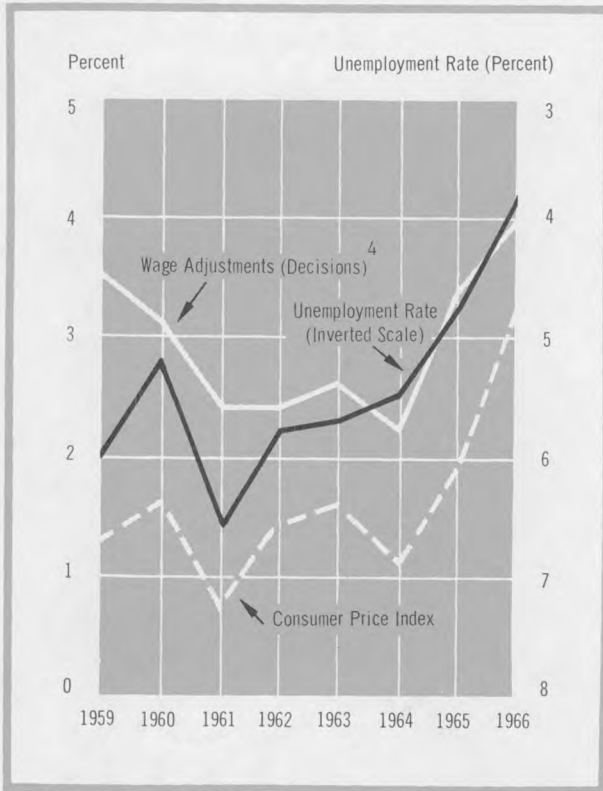
Types of Measures

Because many collective bargaining agreements are negotiated for periods of 2 years or more, two general concepts of wage change are discussed. Essentially, the difference is limited to unionized establishments since there is no information that

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¹ Summaries of changes in major collective bargaining establishments in manufacturing and in selected nonmanufacturing industries have been prepared since 1954, but collection of information on changes in nonunion and small union factories was inaugurated only in 1959.

Chart 1. Wage Adjustments in Manufacturing,¹ the Unemployment Rate,² and Changes in Consumer Price Index,³ 1959-66



¹ Median percent wage adjustments where wage decisions were reached, i.e., includes only changes in wage rates decided upon during the year. Changes decided upon in earlier years and cost-of-living escalator adjustments are excluded.

² January of each year.

³ Percent change during the year (January to January) in the Consumer Price Index (1957-59=100).

⁴ Percent of estimated straight time average hourly earnings.

permits making a similar distinction for nonunion establishments.²

Wage Decisions. Measures of wage decisions are intended to show the effect of current economic conditions on wage changes in the year. Decisions in union factories are limited to those reached through collective bargaining during the year and providing wage changes to go into effect within 12 months of the agreement. Cost-of-living escalator adjustments and wage changes resulting from

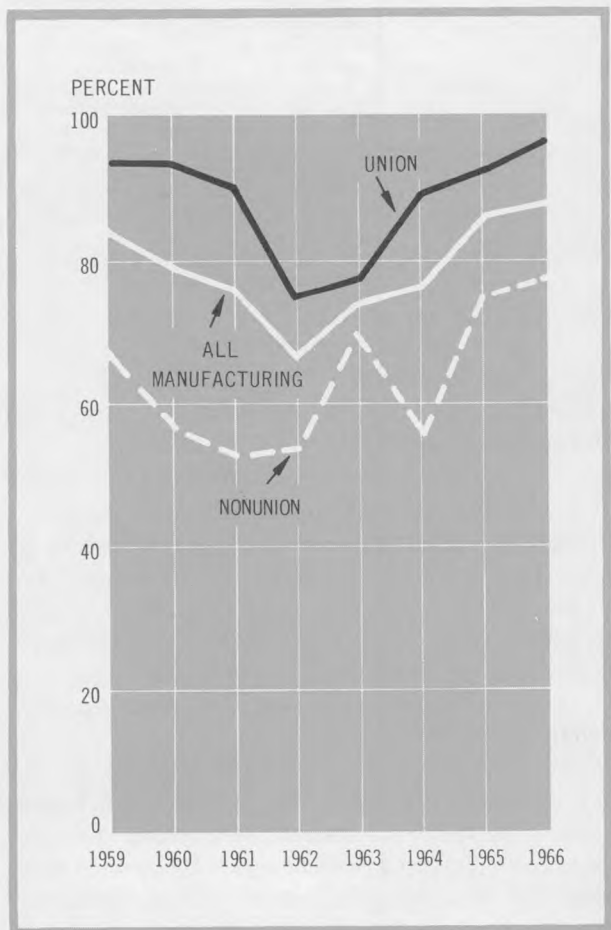
² This article is limited to production and related workers in manufacturing. General wage increases are defined as those affecting 10 percent or more of the production and related workers in an establishment or in a group of establishments that bargains as a unit.

³ Data exclude establishments where general wage changes are customarily not made, i.e., those that make adjustments only on an individual employee basis.

decisions in earlier years are excluded. Practically all nonunion establishments are included, since it is not possible to determine objectively whether or not a wage change was considered by a nonunion firm during the year. The rare instances where nonunion employees receive deferred increases which were announced earlier constitute the only exception.

Total Effective Wage Changes. These measures are intended to show what actually happened to wages during the year, whether as a result of decisions reached during the year or as a result of earlier decisions. They refer to all factories that customarily make general wage changes.³ They show the combined effect of wage changes resulting

Chart 2. Workers Receiving Wage Increases Where Wage Decisions¹ Were Reached, 1959-66



¹ Includes only changes in wage rates negotiated or decided upon during the year. Changes decided upon in earlier years and cost-of-living escalator adjustments are excluded.

from decisions reached during the year, deferred increases resulting from earlier decisions, and cost-of-living escalator adjustments. Workers receiving a 6-cent wage increase in 1966 resulting from a 1965 decision would be tabulated in the 6- to 7-cent interval. If they also received 2 cents in cost-of-living escalator adjustments during 1966, they would be tabulated at 8 but less than 9 cents.

For both wage decisions and total effective wage changes, two medians are presented. One is limited to establishments in which wages were increased. The second adds establishments in which wages were decreased or left unchanged.

The following summarizes the types of medians that are compiled:

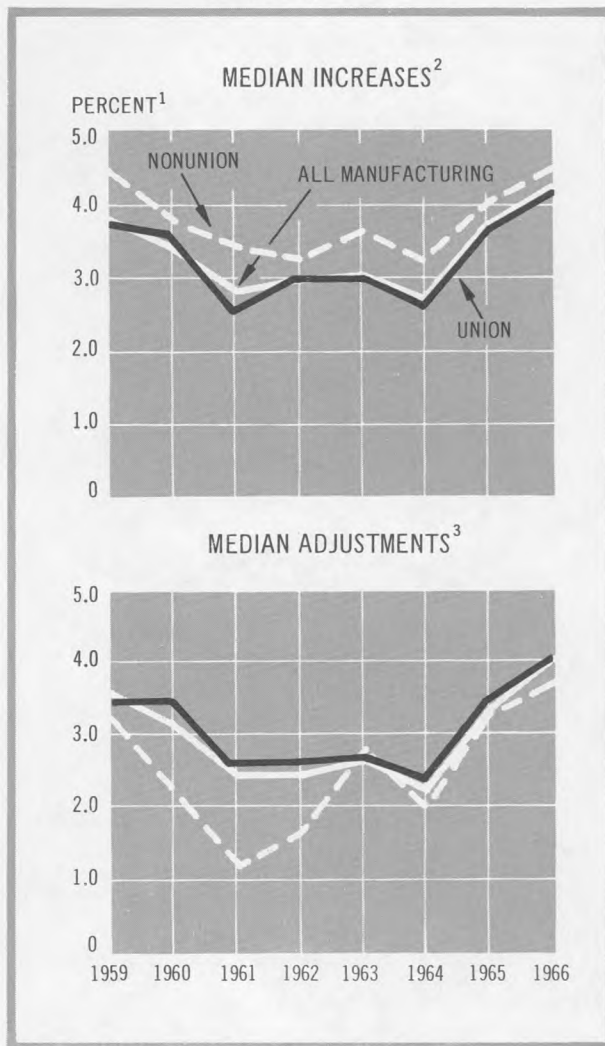
Item	Median	
	Increase includes	Adjustment includes
Wage decisions:		
Union establishments.....	All increases negotiated during the year and going into effect within 12 months.	All establishments with new contracts, including those that specified no change.
Nonunion establishments.....	All increases going into effect during the year (except those announced more than 12 months prior to the effective date).	All establishments, except those that announced a wage change more than 12 months before the effective date.
Effective changes.....	All increases going into effect during the year, including deferred and cost-of-living escalator increases.	All establishments.

Wage Decisions

From 1959 to 1966, median general wage increases decided upon varied from 2.7 percent to slightly more than 4 percent; they averaged between 2.7 and 3 percent in each year from 1961 to 1964. (See tables 1 and 2.) For the 8 years, there was proportionately even less variation in the percent of workers whose pay was increased—from almost 70 to 90 percent.

The median adjustment (which shows the average wage change for all workers, including those whose pay was not changed) ranged from 2.2 percent in 1964 to 4 percent in 1966. It varied more than did the average increase for those whose pay was changed during the year, because there were small fluctuations in the number of workers whose pay was raised.

Chart 3. Median Increases and Adjustments, in Wage Decisions, 1959-66



¹ Percent of estimated straight time average hourly earnings.

² Limited to employees in establishments in which wage rates were increased.

³ Includes employees in all establishments in which wage decisions were made, whether wage rates were increased, decreased, or left unchanged.

Year-to-year variations in the size and frequency of wage changes follow the pattern in union establishments since slightly more than 3 out of 4 factory production workers within the scope of this survey are in union plants. For nonunion establishments considered separately, the principal adjustment of wages to varying economic conditions has taken the form primarily of changes in the proportion of workers who receive increases rather than changes in the size of the wage increases. In other words, the size of wage increases fluctuated less from year to year in nonunion than in union establishments.

TABLE 1. FACTORY PRODUCTION WORKERS AFFECTED BY GENERAL WAGE INCREASES AND AVERAGE (MEDIAN) WAGE CHANGES, 1959-66

Item	Wage decisions reached in—								Wage changes effective ¹ in—							
	1966	1965	1964	1963	1962	1961	1960	1959	1966	1965	1964	1963	1962	1961	1960	1959
Percent of workers receiving wage increases:																
All factories.....	87.9	86.1	76.0	74.0	66.8	76.0	79.6	84.0	80.2	84.6	71.4	75.8	68.1	76.1	80.1	82.7
All union.....	96.1	92.5	89.3	77.3	74.4	89.5	93.1	93.7	80.9	87.3	76.1	77.8	72.8	83.3	87.1	87.0
Major union ²	99.3	94.2	90.5	70.7	65.4	89.5	93.0	95.1	75.5	89.8	71.6	74.4	68.2	83.0	86.2	87.6
Nonunion.....	77.8	75.3	55.5	69.2	53.2	52.8	56.8	66.5	77.8	75.4	56.2	69.6	52.9	54.0	59.0	68.6
Median adjustments ³ (in percent):																
All factories.....	4.0	3.3	2.2	2.6	2.4	2.4	3.1	3.5	3.3	3.0	2.1	2.7	2.5	2.5	3.2	3.5
All union.....	4.0	3.4	2.3	2.6	2.5	2.5	4.3	4.4	3.2	2.9	2.2	2.6	2.6	2.7	4.3	4.4
Major union ²	4.2	4.0	2.0	2.5	2.4	2.4	3.2	3.5	3.3	3.4	2.0	2.7	2.6	2.7	3.2	3.5
Nonunion.....	3.7	3.2	2.0	2.8	1.6	1.2	4.2	4.2	3.9	3.2	2.0	2.8	1.6	1.0	4.2	4.3
Median increases ⁵ (in percent):																
All factories.....	4.2	3.7	2.7	3.0	2.9	2.8	3.4	3.8	3.9	3.3	2.7	3.1	3.0	3.0	3.6	3.8
All union.....	4.1	3.6	2.5	2.9	2.9	2.5	4.3	4.7	3.8	3.2	2.6	3.0	3.0	3.0	4.3	4.6
Major union ²	4.2	4.1	2.2	3.0	2.9	2.5	3.2	3.7	4.2	3.7	2.6	3.2	3.0	3.0	3.7	3.7
Nonunion.....	4.4	4.0	3.2	3.6	3.2	3.4	4.3	4.4	4.5	4.0	3.2	3.7	3.2	3.3	4.3	4.3
Median adjustments: ³																
All factories.....	\$.097	\$.08	\$.05	\$.062	\$.05	\$.05	\$.072	\$.075	\$.085	\$.075	\$.055	\$.065	\$.054	\$.06	\$.076	\$.075
All union.....	.10	.09	.06	.065	.056	.06	.081	.08	.087	.08	.055	.07	.06	.058	.084	.079
Major union ².....	.102	.10	.057	.068	.05	.06	.087	.073	.099	.10	.055	.075	.065	.069	.09	.084
Nonunion.....	.08	.063	.045	.062	.036	.019	.048	.059	.08	.063	.046	.06	.03	.02	.05	.061
Median increases: ⁵																
All factories.....	.10	.088	.066	.074	.066	.065	.079	.08	.10	.084	.07	.078	.071	.07	.086	.084
All union.....	.10	.095	.062	.075	.068	.065	.083	.082	.10	.087	.069	.079	.075	.07	.089	.086
Major union ².....	.103	.10	.06	.08	.068	.065	.089	.074	.12	.10	.07	.09	.08	.08	.094	.091
Nonunion.....	.093	.08	.071	.073	.065	.07	.071	.078	.096	.08	.07	.075	.066	.07	.072	.075

¹ Includes cost-of-living escalator increases and deferred wage changes resulting from decisions reached in earlier years, as well as changes decided on in the current year.

² Agreements affecting 1,000 workers or more.

³ Includes employees in establishments in which wage rates were not changed or were reduced.

⁴ Estimated.

⁵ Limited to establishments in which wage rates were increased.

Because nonunion establishments adapt to changes in economic conditions more by the frequency than by the size of their wage increases, there was greater variation from year to year in the average adjustment (that is, the measure reflecting the number of workers whose wages were increased) for nonunion than for union establishments. The median adjustment in union establishments ranged from 2.3 percent in 1964 to 4 percent in 1966; in nonunion firms, the range was from 1.2 percent in 1961, when only about half the nonunion workers received pay increases, to 3.7 percent in 1966, when almost 80 percent had their pay raised. (See chart 3.)

A worker in a union factory is likely to receive, in any one year, a smaller percent, but larger cents-per-hour pay raise; and since he receives increases more frequently than a nonunion worker, over a period of years he gains proportionately more than a worker not covered by a union agreement. Over the period from 1959 to 1966, general wage adjustments totaled approximately 25.8 percent in union establishments, compared with about 23.6 percent in nonunion factories.⁴

⁴ These are based on mean adjustments rather than the median changes presented in table 1.

Differences between union and nonunion factories in the size and frequency of changes can be summarized as follows: (1) Nonunion establishments change wage rates less frequently than do union firms; in some years, only about half the nonunion factory workers receive a general wage increase. (2) When nonunion factories do increase wage rates, the average increase is somewhat lower in cents but higher in percent than that negotiated in union establishments. Pay levels are generally lower in nonunion factories, so that the same cents-per-hour increase represents a higher proportionate increase for nonunion workers than for those covered by a collective bargaining agreement. (3) Because nonunion establishments typically make less frequent increases than union factories, the average adjustment, which is affected by both the size of the increases and the proportion of workers receiving them is usually smaller in nonunion than in union establishments. (4) Nonunion factories respond more sharply than union to fluctuations in the economic climate. They adapt to changes in such factors as the unemployment rate and the CPI more by the frequency than by the size of wage increases, whereas union firms react more often by increasing the amount of their changes.

Effective Changes

Until 1964, the average change in wage rates actually put into effect in each year—i.e., the net effect of collective bargaining and other wage decisions during the year plus deferred and cost-of-living escalator increases—was as large as or larger

than the average change decided on during the year. In 1965 and 1966, however, as settlements became larger, wage decisions resulted in increases that exceeded the average for all changes actually effective during the year. In 1964, also, wage adjustments (as contrasted with wage increases considered separately) resulting from wage deci-

TABLE 2. DISTRIBUTION OF MANUFACTURING PRODUCTION WORKERS BY TYPE AND AMOUNT OF WAGE CHANGE, 1959-66

Type and amount of wage action	1966		1965		1964		1963		1962		1961		1960		1959	
	Percent of production and related workers by type and amount of wage change—															
	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²	Total effective wage changes ¹	Wage decisions ²
Total ³	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	100.0
No wage changes.....	4 19.8	12.1	4 15.4	13.8	4 28.6	23.9	4 24.1	25.7	4 31.8	33.2	4 23.7	23.8	4 19.8	20.3	4 17.2	15.9
Decreases in wages.....			(⁵)	.1	(⁵)	.1	.2	.3	.1	(⁵)	.2	.2	.1	.1	(⁵)	(⁵)
Increases in wages.....	80.2	87.9	84.6	86.1	71.4	76.0	75.8	74.0	68.1	66.8	76.1	76.0	80.1	79.6	82.7	84.0
IN CENTS PER HOUR																
Under 3.....	1.2	1.3	1.8	1.3	3.0	13.1	2.1	1.7	2.0	2.0	5.3	4.7	2.6	2.9	9.9	3.6
3 and under 5.....	3.8	2.4	5.5	4.8	9.2	6.2	7.0	7.0	5.9	6.1	6.8	15.9	5.6	5.6	3.6	5.0
5 and under 6.....	6.0	5.6	10.4	9.6	13.4	9.9	8.6	9.3	12.3	16.3	13.4	10.4	9.1	10.9	7.9	9.8
6 and under 7.....	6.5	5.5	9.4	7.1	9.8	10.4	9.8	11.8	8.8	11.8	9.1	9.5	5.9	8.2	6.2	8.6
7 and under 8.....	6.3	6.2	9.7	9.6	10.3	11.0	11.2	12.3	10.4	10.8	8.5	9.8	10.7	12.8	10.8	14.6
8 and under 9.....	7.5	8.4	8.3	11.3	7.7	8.7	8.3	9.5	7.4	5.4	7.4	6.3	9.7	10.9	7.6	11.1
9 and under 10.....	6.0	8.6	3.8	5.5	4.0	3.4	7.6	3.2	8.4	1.6	5.1	4.0	10.4	11.1	12.5	5.3
10 and under 11.....	10.7	17.7	10.5	11.1	7.1	5.6	10.7	6.1	6.9	5.7	9.9	4.4	14.4	6.5	11.4	11.7
11 and under 13.....	7.8	11.1	13.9	9.7	3.7	4.1	2.7	2.6	2.5	2.4	4.8	3.8	4.8	3.3	6.2	5.1
13 and under 15.....	5.3	6.7	6.8	9.3	1.2	1.8	1.9	3.0	1.3	1.8	2.3	3.2	2.6	2.7	3.1	5.2
15 and under 17.....	3.3	3.8	1.8	2.8	.9	.4	2.0	2.4	1.4	1.9	2.1	2.3	1.8	1.9	1.5	2.0
17 and under 19.....	2.7	1.6	.8	1.2	.2	.3	2.5	3.6	.2	.3	.4	.4	1.6	2.0	.9	.5
19 and over.....	11.7	6.3	1.9	2.8	.6	.6	1.3	1.6	.5	.6	.4	.5	.8	.9	.9	1.1
Not specified or not computed ⁶	1.3	2.6			.2	.4			.1	.2	.6	.8	.1	.1	.3	.4
Average (median) increase.....	10.0	10.0	8.4	8.8	7.0	6.6	7.8	7.4	7.1	6.6	7.0	6.5	7 8.6	7 7.9	7 8.4	7 8.0
Average (median) adjustment.....	8.5	9.7	7.5	8.0	5.5	5.0	6.5	6.2	5.4	5.0	6.0	5.0	7 7.6	7 7.2	7 7.5	7 7.5
IN PERCENT																
Under 1.....	.9	1.0	1.2	.9	2.2	12.0	1.3	1.1	1.3	1.1	3.7	2.7	1.4	1.5	8.7	1.9
1 and under 2.....	5.4	3.2	7.3	5.6	14.8	8.0	7.2	6.7	6.9	7.2	7.1	16.0	5.6	5.3	3.2	4.7
2 and under 2½.....	6.7	3.6	12.4	9.5	12.3	10.9	10.2	10.5	8.9	11.1	12.4	9.3	4.1	4.7	3.8	4.3
2½ and under 3.....	10.0	8.9	12.8	12.5	10.5	10.1	14.6	15.2	15.7	16.2	10.5	11.1	8.3	10.4	6.0	8.2
3 and under 3½.....	9.2	10.2	11.4	10.7	12.0	11.2	17.2	10.4	17.1	11.4	16.5	11.2	16.6	20.1	11.0	13.8
3½ and under 4.....	7.3	9.4	12.9	6.8	7.5	7.0	5.9	4.4	7.6	6.8	8.7	6.5	13.0	11.0	17.7	13.2
4 and under 4½.....	7.7	11.9	8.7	13.4	3.9	5.1	3.9	4.0	3.2	3.4	5.5	4.0	14.5	7.3	9.3	8.2
4½ and under 5.....	5.0	6.8	5.2	7.3	1.6	2.2	2.1	2.8	2.6	3.2	2.2	2.4	3.9	3.6	6.3	5.7
5 and under 5½.....	7.0	10.9	5.1	7.7	4.0	6.0	4.8	7.3	2.0	2.5	2.3	2.9	6.0	7.0	5.9	8.9
5½ and under 6.....	4.5	5.5	2.2	3.3	.8	1.0	1.1	1.4	.9	1.3	2.9	4.1	1.3	1.3	2.7	4.3
6 and under 7.....	10.3	6.2	2.3	3.6	.6	.8	3.0	2.8	1.0	1.1	1.4	1.5	1.8	2.1	3.7	4.3
7 and under 8.....	2.7	4.2	1.0	1.5	.6	.7	1.2	1.9	.5	.7	.4	.6	1.0	1.1	2.6	3.7
8 and under 9.....	1.2	2.0	.7	1.1	.2	.3	1.0	2.2	.1	.2	.3	.3	.7	.8	.7	.9
9 and under 10.....	.4	.5	.3	.5	(⁵)	.1	1.7	2.1	(⁵)	.1	.1	.1	.2	.1	.4	.6
10 and over.....	.6	1.2	1.0	1.6	.1	.2	.7	1.1	.2	.4	1.6	2.5	1.6	2.4	.6	.9
Not specified or not computed ⁶	1.4	2.7	.1	.2	.2	.4			.1	.2	.6	.8	.1	.1	.3	.4
Average (median) increase.....	3.9	4.2	3.3	3.7	2.7	2.7	3.1	3.0	3.0	2.9	3.0	2.8	3.6	3.4	3.8	3.8
Average (median) adjustment.....	3.3	4.0	3.0	3.3	2.1	2.2	2.7	2.6	2.5	2.4	2.5	2.4	3.2	3.1	3.5	3.5
Total number of workers (thousands).....	12,016	5,889	11,422	6,745	10,944	6,389	10,941	6,597	10,902	6,685	10,512	6,662	11,355	7,355	10,504	6,678

¹ Includes cost-of-living escalator increases and deferred wage increases resulting from decisions reached in earlier years, as well as increases decided upon in the current year.

² Excludes changes decided upon in earlier years, cost-of-living escalator adjustments, and changes effective in future years.

³ Excludes workers in establishments reporting that they never make general wage changes (ranging from 1.2 million in both 1959 and 1961 to 2.1 million in 1966) as well as those in establishments in which action on wages during the year was not known (ranging from 19,000 in 1960 to 160,000 in 1965).

⁴ Includes workers in union establishments in which there was either no bargaining on wages during the year or bargaining was not concluded. The numbers included, in millions, were 1.6 in 1966, .9 in 1965, 1.7 in 1964, 1.0 in 1963, 1.2 in 1962, and .9 in 1961, 1960, and 1959.

⁵ Less than 0.05 percent.

⁶ Insufficient information to compute amount of increase.

⁷ Estimated.

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

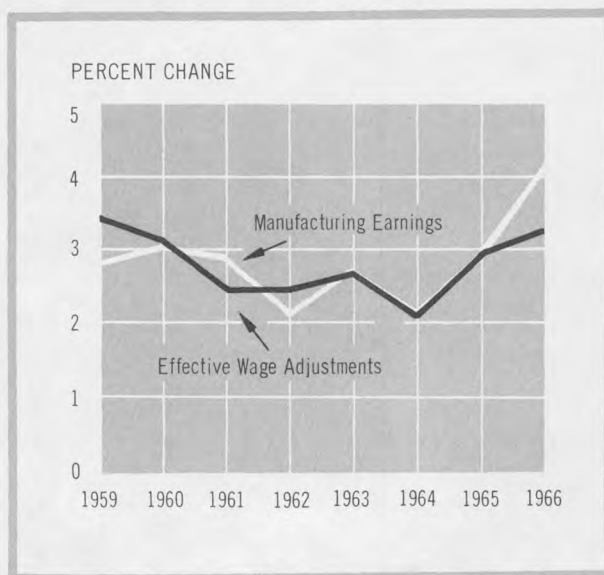
sions were also slightly higher than effective adjustments.

In most years effective changes exceeded changes due to the year's decisions because negotiated changes declined in size from 1959 until 1962 and then remained fairly stable through 1964. Consequently, the combination of increases negotiated in prior years, when settlements tended to be somewhat more liberal, with those negotiated in the current year resulted in an average that often exceeded an average limited to current negotiations. This was true even though deferred wage increases are often smaller than increases put into effect in the first year of new contracts.

As in the case of wage decisions, the proportion of workers receiving increases tended to vary less from year to year in union than in nonunion plants, as did the average wage adjustment, which is affected by the proportion of workers receiving increases. Percent increases also were higher in nonunion establishments. In contrast to wage decisions, however, median wage changes for those receiving increases varied from year to year about as much in union as in nonunion plants.

In most years, general wage changes effective during the year were close, on the average, to the change in actual hourly earnings excluding the effects of interindustry shifts and premium pay for overtime. (See chart 4.) The major exceptions were in 1961 and 1966, when average hourly earnings rose faster. In 1959 and in 1962, the change in average hourly earnings was somewhat smaller than general wage changes in manufacturing. It is possible that in 1966, anticipation of increases in the FLSA minimum, plus the rapid increase in the CPI and the reduction in the rate of unemployment, had a greater effect on small manufacturing

Chart 4. Effective Wage Adjustments¹ and Change in Earnings Levels,² 1959-66



¹ Median percent wage adjustments, including cost-of-living escalator and deferred wage changes resulting from decisions reached in earlier years as well as changes decided upon in the current year.

² Percent change (January to January) in the Manufacturing Earnings Index (1957-59=100) excluding effects of premium pay for overtime and interindustry shifts.

establishments that normally do not make general wage changes than on establishments that do. Increases in the minimum wage effective in September 1961 may have contributed to the larger rise in earnings for all factories than for those in which general wage changes are typically put into effect. A decline in manufacturing employment in 1961 also contributed to a rise in hourly earnings; in periods of declining employment, the proportion of workers at entrance rates decreases and, hence, average hourly earnings rise even though there is no change in wage levels for the same type of work and experience.

TABLE 3. TYPICAL COST-OF-LIVING ESCALATOR INCREASES IN SELECTED MANUFACTURING INDUSTRIES, IN CENTS PER HOUR, 1959-66

Industry	Increases effective in—							
	1966	1965	1964	1963	1962	1961	1960	1959
Automobiles.....	11	4	3	3	3	1 2	4	3
Farm and construction equipment.....	11	4	3	2 3 or 4	3	2 1 or 2	4	3
Aerospace.....	2 5-10	4	4	2 3 or 4	3	3	2 1 or 2	2 2 or 3
Meatpacking.....	8	4	4	3	2	2	3	3
Steel.....					(3)	4 3	5 3	1
Aluminum.....					(3)	3	3	1
Containers (cans).....					(3)	3	3	1
Average (mean) increase.....	10.5	4.0	3.3	3.0	2.9	2.5	3.3	2.0

¹ Includes 1 cent diverted for pension improvements.

² Varying by company.

³ Escalation discontinued during the year.

⁴ Includes 1.5 cents diverted toward a projected increase in the cost of insurance.

⁵ A 3-cent increase was diverted toward a projected increase in the cost of insurance.

NOTE: Dashes indicate no escalator in effect during the year. Increases are shown only where escalation was in effect during the entire year.

TABLE 4. CHANGES IN SUPPLEMENTARY PRACTICES IN MANUFACTURING, BY TYPE OF ESTABLISHMENT, 1959-66

Benefit changes	1966			1965			1964					
	Percent of production and related workers in—											
	All establishments ¹	Union establishments ²		Non-union establishments ¹	All establishments ¹	Union establishments ²		Non-union establishments ¹	All establishments ¹	Union establishments ²		Non-union establishments ¹
All ¹		Making wage decisions ³	All ¹			Making wage decisions ³	All ¹			Making wage decisions ³		
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Not changing supplementary practices.....	67.7	69.9	13.1	60.0	57.3	58.6	12.7	52.8	63.6	60.3	74.3	
Reducing supplementary practices.....				(4)				.1	.1	.1	.2	
Liberalizing or establishing one supplementary practice or more ⁵	32.3	30.1	86.9	40.0	42.7	41.4	87.3	47.1	36.3	39.7	25.4	
Premium pay.....	3.6	2.8	8.2	6.1	3.2	3.5	7.3	2.4	7.0	8.8	19.2	
Shift differentials.....	7.4	8.2	23.6	4.6	4.4	4.8	10.1	3.0	4.1	5.0	10.8	
Paid holidays.....	14.3	15.2	43.8	11.1	18.1	18.7	39.4	16.0	17.3	20.7	45.0	
Paid vacations.....	14.7	16.2	46.8	9.7	23.9	26.7	56.3	14.4	18.9	22.2	48.4	
Pensions ⁶	14.5	16.0	46.1	9.3	22.4	25.1	52.8	13.3	18.0	22.4	48.7	
Health and welfare plans ⁶	21.8	22.3	64.2	20.3	30.9	32.7	68.8	24.8	25.9	29.5	64.1	
Severance pay.....	2.8	3.2	9.2	1.5	3.8	4.5	9.4	1.5	8.1	10.5	22.9	
Supplemental unemployment benefits ⁶.....	.7	.7	2.2	.4	2.6	3.3	7.0	1.1	7.0	9.0	19.7
Jury duty pay.....	2.1	2.3	6.7	1.2	4.3	5.3	11.2	1.1	7.3	9.4	20.5	
Paid funeral leave.....	3.5	4.2	12.2	1.0	4.2	5.2	11.0	.5	8.1	10.5	22.7	
Paid sick leave.....	1.5	1.7	4.9	.8	2.3	2.9	6.2	.4	.6	.7	1.6	
Other practices.....	2.4	2.2	6.3	3.0	7.5	8.8	18.6	2.7	9.8	12.1	26.4	
Approximate number of workers (in thousands).....	12,122	9,389	3,253	2,733	11,582	8,951	4,247	2,631	11,083	8,431	3,875	
	1963			1962			1961					
Benefit changes	Percent of production and related workers in—											
	All establishments ¹	Union establishments ²		Non-union establishments ¹	All establishments ¹	Union establishments ²		Non-union establishments ¹	All establishments ¹	Union establishments ²		Non-union establishments ¹
		All ¹	Making wage decisions ³			All ¹	Making wage decisions ³			All ¹	Making wage decisions ³	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Not changing supplementary practices.....	64.7	61.3	18.1	74.8	64.0	60.5	22.4	75.4	64.4	59.0	80.8	
Reducing supplementary practices.....	.1	.1	.2	.2	1.0	.3	6.6	3.3	.3	.2	.4	
Liberalizing or establishing one supplementary practice or more ⁵	35.2	38.6	81.7	25.0	35.0	39.1	77.0	21.4	35.3	40.7	18.7	
Premium pay.....	2.0	2.1	4.5	1.6	1.5	1.8	3.5	.7	2.0	2.3	4.4	
Shift differentials.....	3.5	4.0	8.4	2.1	3.6	4.4	8.6	1.1	3.5	4.1	7.7	
Paid holidays.....	7.4	8.9	18.9	2.9	8.2	9.5	18.8	3.7	8.8	10.7	20.3	
Paid vacations.....	13.7	15.8	33.5	7.3	15.5	19.1	37.6	3.8	13.8	16.5	31.1	
Pensions ⁶	10.2	11.9	25.1	5.2	14.2	17.4	34.3	3.5	15.7	19.8	37.4	
Health and welfare plans ⁶	24.9	28.3	59.8	14.7	20.6	22.1	43.6	15.6	24.0	28.1	53.1	
Severance pay.....	3.0	3.8	8.1	.4	2.8	3.3	6.6	.8	8.8	11.3	21.4	
Supplemental unemployment benefits ⁶	1.6	2.0	4.3	.3	7.2	9.0	17.7	1.4	7.6	9.9	18.8	
Jury duty pay.....	1.4	1.8	3.8	.3	1.5	1.8	3.6	.2	7.9	10.2	19.2	
Paid funeral leave.....	3.3	3.8	8.0	1.7	2.3	3.0	5.9	.2	2.6	3.3	6.2	
Paid sick leave.....	1.0	1.3	2.7	.3	1.6	2.0	4.0	.1	.8	1.1	2.0	
Other practices.....	8.6	10.6	22.4	2.5	8.2	10.3	20.3	1.3	9.1	11.5	21.7	
Approximate number of workers (in thousands).....	11,024	8,260	3,904	2,765	10,943	8,393	4,268	2,549	10,539	7,953	4,209	

See footnotes at end of table.

In both 1959 and 1962, by contrast, there was a substantial gain in employment of production workers in manufacturing. This increase, with the resultant gain in the proportion of new workers, tended to hold down the rise in average hourly earnings.

In each year since 1959, only a minority of factory workers receiving general wage changes received raises that were the same in cents-per-

hour terms for all production and related workers in the establishment. From half to three-fifths received adjustments that varied among workers. Extra increases for skilled workers, either in the form of percentage or bracket increases or flat cents-per-hour increases combined with additional amounts for skilled workers, were the most frequent nonuniform adjustments. Additional classification or inequity adjustments were made for

TABLE 4. CHANGES IN SUPPLEMENTARY PRACTICES IN MANUFACTURING, BY TYPE OF ESTABLISHMENT, 1959-66—Continued

Benefit changes	1960				1959			
	Percent of production and related workers in—							
	All establishments ¹	Union establishments ²		Nonunion establishments ¹	All establishments ¹	Union establishments ²		Nonunion establishments ¹
		All ¹	Making wage decisions ³			All ¹	Making wage decisions ³	
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Not changing supplementary practices.....	63.3	57.8	22.1	79.9	65.2	61.8	76.7	
Reducing supplementary practices.....	.2	.1	.1	.7	.2	.1	.7	
Liberalizing or establishing one supplementary or more practice ⁴	36.5	42.1	77.8	19.5	34.6	38.1	22.7	
Premium pay.....	2.3	3.0	5.6	.2	3.7	4.4	1.1	
Shift differentials.....	3.2	3.9	7.1	1.0	4.0	4.9	1.1	
Paid holidays.....	8.9	11.0	20.3	2.6	12.4	14.9	4.4	
Paid vacations.....	9.5	11.4	21.0	3.7	12.1	13.9	6.1	
Pensions ⁵	15.6	19.2	35.5	4.5	11.6	13.9	4.2	
Health and welfare plans ⁶	27.2	31.1	57.4	15.3	21.5	24.0	13.4	
Severance pay.....	5.2	6.3	11.6	.8	2.2	2.8	.4	
Supplemental unemployment benefits ⁶.....	.4	.4	.8	.2	1.0	1.2	.1
Jury duty pay.....	1.3	1.8	3.2	.1	1.2	1.5	.2	
Paid funeral leave.....	1.7	2.1	3.9	.5	1.8	2.3	.1	
Paid sick leave.....	1.2	1.4	2.6	.8	.8	.9	.5	
Other practices.....	3.1	3.9	7.2	.8	2.5	2.9	1.1	
Approximate number of workers (in thousands).....	11,355	8,537	4,623	2,818	10,504	8,071	4,301	

¹ Includes employment in all establishments that have a policy of making general wage changes, including those in which the only general wage changes put into effect during the year were cost-of-living escalator adjustments or increases decided upon in earlier years, as well as union establishments in which there was either no bargaining on wages during the year or bargaining was not concluded. Also included are workers in establishments in which action on wages or supplementary practices was not known. All workers in establishments in which general wage changes are not normally made are excluded.

² Establishments in which a majority of the production and related workers were covered by union agreements.

³ Excludes employment in establishments in which the only wage change put into effect during the year had been decided upon earlier—for example, deferred or improvement factor increases, as well as automatic cost-of-living adjustments—or in which there was no bargaining on wages during the year or bargaining was not concluded.

⁴ Less than 0.05 percent.

⁵ These totals are smaller than the sum of individual items since some actions affect more than 1 item. Includes workers in establishments in which some supplementary practices were liberalized and others were reduced.

⁶ Includes actions in which contributions were increased to maintain existing benefits and excludes actions increasing benefits without increased employer contributions.

fewer than 10 percent of the workers in most years.

In every year except 1961, percentage or bracket increases were granted to a higher proportion of nonunion than union workers. (This was the only year since 1959 in which wage increases were not put into effect for nonunion textile workers in the South—textile increases usually are given in percentage terms.)

Generally, wage differentials between plants or between men and women were reduced or eliminated in companies with fewer than 2 percent of the workers whose wages were increased as a result of decisions during the year. Most of the changing differentials occurred in major collective bargaining agreements, many of which apply to more than one plant of the same company.

In both 1961 and 1963 the minimum wage under the FLSA was increased. Of the workers covered by this study, only about 3 percent in 1961 and 3½ percent in 1963 received wage increases that were stated by employers to be directly related to the new minimums. Considering only nonunion establishments, however, the proportions affected

were substantially higher—about 12 percent in 1961 and 10 percent in 1963.

Escalator Provisions

From 1959 to 1966, cost-of-living escalator provisions declined in importance; moreover, some of the contracts that continued such provisions incorporated a maximum limit on the size of the adjustment that could be made in any given year. Until 1965-66 the CPI was relatively stable and, hence, cost-of-living allowances did not change very rapidly. The number of production workers in manufacturing covered by escalation declined from about 29 percent in 1959 to 15 percent in 1965. (The decline in coverage resulted from discontinuance in 1962 in the steel, aluminum, and can industries, employing about 675,000 workers.) Then the proportion increased slightly, to 17½ percent in 1966. In that year, provision for cost-of-living escalators was adopted for approximately 275,000 workers. The number of workers covered varied from 3 million in 1959 to a low of 1.7 million in 1963.

Escalator clauses in manufacturing are now concentrated in the automobile, automotive parts, farm and construction equipment, electrical, aerospace, and meatpacking industries. Of the workers involved, from 90 to 97 percent are in union plants.

Cost-of-living increases put into effect for most workers varied from 3 cents in 6 of the 8 years to 11 cents in 1966. They were 4 cents or less in all years except 1966. (See table 3.)

Supplementary Benefits

Not only do a large majority of factory production workers receive general wage changes each year, but about 1 out of 3 work at establishments where one or more (usually two or three) supplementary benefits are introduced or liberalized during the year.⁵ The peak was recorded in 1965, when more than 2 out of 5 workers were employed in factories that liberalized or introduced benefits. In that year, the large southern textile mills improved supplementary benefits in addition to increasing wages. (In a number of other years southern textile mills increased wage rates but did not revise benefits.) Also in 1965, the steel, aluminum, aerospace, and rubber industries liberalized benefits for organized workers.

The proportion of nonunion workers affected by changes in benefits exceeded that for union workers only in 1965 and 1966. (See table 4.) Generally, in each year two-fifths of the union workers (including those under contracts negotiated in earlier years as well as those covered by new contracts) were employed where benefits were liberalized or introduced, compared with one-fifth to one-fourth of the nonunion workers.

In every year, the number of benefits changed for union workers was greater than for nonunion employees. Of the firms that changed benefits, nonunion establishments revised or added an average of about 1.5 to 1.6 benefits while union plants revised or added about three benefits. The number for union establishments varied from about 2.3 in 1959 and 1960 to 4.1 in 1964, when the auto contracts changed a wide variety of benefits.

The large majority of new union contracts liberalize some benefits. In every year from 1959 through 1964, benefits were improved for at least 7 out of 10 workers covered by new contracts.

The proportion whose contracts improve benefits has tended to increase somewhat since 1959, as has the average number of benefits that have been changed. In each year since 1963, benefits have been liberalized for at least four-fifths of the workers covered by the year's contract negotiations.

Benefit changes are even more common under major agreements than under smaller ones. In each year, benefits were liberalized for about four-fifths to nine-tenths of the workers covered by major agreements negotiated during the year.

Nonunion factories' decisions to liberalize benefits seem to be made in response to changes in the unemployment rate more than those of union factories. From 1959 through 1964 about one-fourth to one-fifth of the nonunion workers were employed where benefits were increased or established, but this proportion jumped to almost 50 percent in 1965 and was about 40 percent in 1966. Union contracts are likely to change both wages and benefits each time they are renegotiated, but if they leave wages unchanged they almost always liberalize benefits or add new ones.

There was no correlation between the size of wage increases and the percent of workers receiving benefit changes. The percent of workers whose benefits were improved or introduced was about the same at all levels of wage change.

For both union and nonunion workers, health and welfare benefits were those most frequently improved or established. In each year, from 20 to 30 percent of all workers (22 to 33 percent of union and 11 to 25 percent of nonunion workers) had their health and welfare benefits improved or new benefits introduced. Next in importance were paid vacations, pensions, and holidays. There was little variation in the number of nonunion workers for whom these provisions were changed, the range being 3 to 16 percent. Of the union workers, 11 to 27 percent were employed where vacations were liberalized, and 12 to 25 percent were affected by new or improved pension plans. The proportion of workers covered by union agreements that improved holiday provisions ranged from 9 to 21 percent.

⁵ Reductions in supplementary benefits are rare. Only in 1962 did they affect as many as $\frac{1}{2}$ of 1 percent of the workers. Among the workers in 1962 whose benefits were reduced were some 23,000 workers in the ladies' apparel industry whose contracts specified a reduction in company payments to the supplemental unemployment severance-benefit fund.

Technology and Labor In the Textile Industry

THE TEXTILE INDUSTRY is undergoing technological, managerial, and marketing changes that will significantly affect its utilization of manpower in the 1970's. These developments are being stimulated by competitive pressures and sustained by relatively high profit rates of the last few years, the emergence of larger, vertically integrated companies, and substantial investments in plant and equipment. The changes, however, are spearheaded by large companies with necessary financial means while thousands of small firms are only moderately involved in modernization. Consequently the gap in unit costs and productivity between the industry's leading and marginal mills may widen, placing the smaller plants under increasing competitive pressure.

This article describes the general economic setting and major technological developments in the textile industry, as well as their impact on productivity, employment, and skill requirements; and discusses industry provisions for adjustments to these changes.¹

The Setting for Change

Textile producers faced several critical postwar readjustment problems which brought about a severe contraction of employment that lasted until 1963. As textile capacity of the war-torn and the developing countries expanded, the U.S. textile export markets were cut back and the volume of imports increased substantially. At home, textile products encountered increasing competition from paper and plastics, particularly in industrial markets, and traditional cotton and wool products from manmade fiber products. Having been geared to peak wartime output and large postwar markets, the industry found itself in the 1950's with overexpanded capacity, obsolete equipment, and high unit costs. Many hundreds of high-cost mills, unable to compete in the smaller postwar market, were closed, or merged with, or were acquired by, financially stronger companies. Low levels of production and prices, small profits and investment in plant and equipment, and sharp declines in employment characterized the decade of the 1950's.

Early in the 1960's, the Federal Government, after extensive congressional hearings, instituted a seven-point program of aid to the textile industry. Among the measures adopted were the 1962 Long Term Arrangement with leading textile nations to provide for the orderly growth of cotton imports over a 5-year period; more liberal depreciation allowances to encourage investment; elimination of the two-price cotton system which had handicapped domestic textile producers;² and an expanded program of government-sponsored research. These provisions, and subsequent favorable economic conditions of the 1960's, created a new climate in the industry.

Expansion in the 1960's

The industry's growth in the first half of the 1960's, reflecting increased demand for civilian and defense purposes, encouraged optimism and investment. From 1961 to 1966, according to Federal Reserve Board data, textile output grew at an average annual rate of 5.9 percent. Although this was still below the rate for manufacturing as a whole, it was considerably above the average textile rate of 1.3 percent for the 1947-57 period and 2.6 percent for the 1957-61 years.

The financial position of the industry also improved considerably in the 1960's, although relative to all manufacturing, rates of return remained substantially lower. Internal funds from undistributed corporate profits and corporate capital consumption allowances (depreciation charges and accidental damage to fixed capital) increased from an average \$420 million in the 1950-59 period to \$695 million in 1960-66, an increase of 65 percent.³

Demand for textiles is expected to grow at a high rate in the 1970's (but below the peak rate of 1962-66) because of larger proportions of teen-

¹ This article summarizes the findings of a study based on mill visits, industry and labor consultations, and secondary sources. The full study, including the citations of sources used, will be presented in a forthcoming BLS Bulletin, *Technology and Manpower in the Textile Industry of the 1970's*.

² Under the Government's program, raw cotton could be exported at 8½ cents per pound below the domestic price. Foreign textile manufacturers could buy raw cotton at the lower price and sell the finished cloth in the United States.

³ *The National Income and Product Accounts of the United States, 1929-1965* (U.S. Department of Commerce, Office of Business Economics). The 1966 data are preliminary and unpublished.

agers and family-formation age groups (major textile consumers), increased disposable income, and greater promotional activities.

The volume of imports, a strategic and uncertain factor in the outlook, has been sharply increasing. The multilateral Long Term Arrangement for cotton textiles has recently been extended for a 3-year period. Wood and manmade fiber textile imports are unregulated. In 1966 imports of semimanufactured and manufactured cotton products constituted 10 percent of domestic consumption compared with 2 percent in 1955. Corresponding percentages in these 2 years for apparel wool were 22 and 7, and manmade fibers, 3 and 0.4, respectively.

The anticipation of future growth and the need to reduce unit costs in the textile industry are currently reflected in greater investment in new plants and equipment. Between 1962 and 1966, expenditures for these purposes were, on the average, more than double those of the 1950-59 period, and reached \$1.13 billion in 1966. But the bulk of these expenditures are being made by large companies. In 1963, establishments of multiplant companies, which constituted about one-fourth of all establishments in the industry, spent about three-fourths of the industry's total capital expenditures in that year, as shown in the following tabulation:

Percent of textile establishments and capital expenditures in 1963, by—

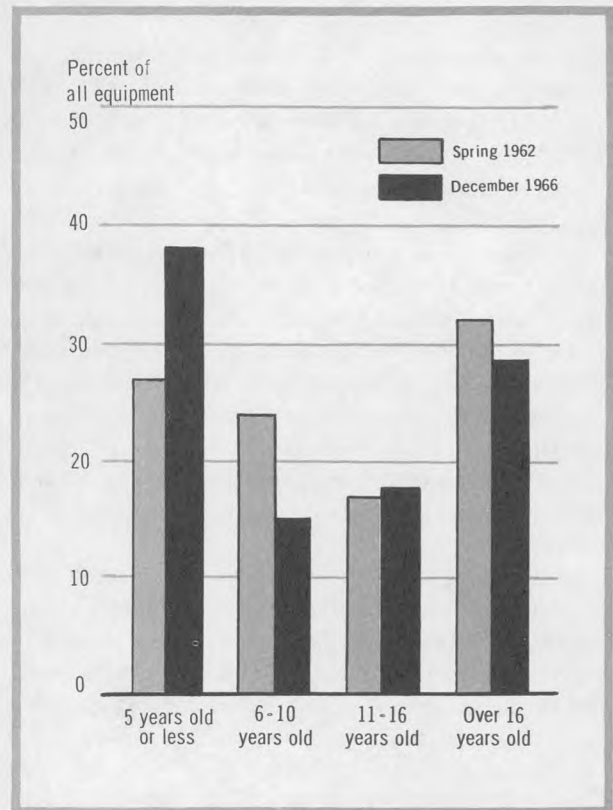
	All companies	Multiunit companies	Single unit companies
Establishments.....	100.0	25.7	74.3
Capital expenditures.....	100.0	77.1	22.9

SOURCE: *Census of Manufactures, 1963* (U.S. Bureau of the Census).

The industry's capacity increased by 23 percent between 1962 and 1966. A survey of large companies shows the change in the age composition of equipment over this period. The proportion of their equipment installed during the preceding 5 years was 38 percent in December 1966 as compared with 27 percent in the spring of 1962.⁴ (See chart.) However, the proportion of new equipment maintained by smaller companies is probably considerably less than that by larger companies.

An important factor in the changes taking place in the textile industry is the development of larger companies, through mergers and acquisitions, with emphasis on vertical integration and professional rather than family management. Traditionally, production and marketing operations have been

Age of Equipment of Large Textile Companies, 1962, 1966



highly fragmented, discouraging innovation. Although the small independent mill may be more flexible and responsive to fashion changes, it is often too far removed from the sources of supply and demand and, usually, is financially unable to initiate major technological changes.

An increasing proportion of the textile industry's output is being concentrated in the largest textile firms, although compared to many other large industries, concentration ratios are relatively low. In the cotton broadwoven sector, the value of shipments by the four largest companies rose from 18 percent of that sector's total shipments in 1954 to 30 percent in 1963; comparable data for the manmade fiber broadwoven sector was 30 and 39 percent over this period. There is, however, considerably less concentration in other textile sectors. In the knit outerwear industry, for example, the four largest companies accounted for 11 percent of total shipments in 1963, compared with the 1954

⁴ *How Modern is American Industry* (McGraw-Hill, Inc.), November 25, 1966. The survey covers only large companies.

ratio of 6 percent. Industry experts expect the trend toward greater concentration to continue.⁵

Technology in the 1970's

Three general types of technological changes are taking place in the textile industry. One involves improvements of conventional machines and installation of auxiliary equipment to increase machine productivity and improve product quality. Many of these are commonplace in larger modernized mills and are being adopted by smaller mills. Another line of development includes radically new methods of production which often require costly equipment and, in some instances, the building of a new mill. The third development is the increasing use of manmade fibers.

Faster, larger capacity machines, and automatic or highly mechanized machine cleaning and lubricating devices sharply reduce unit labor requirements and cut downtime, i.e., the time the machine is not operating. Automatic or highly mechanized transfer of goods between stages of production, reducing unskilled labor requirements, is being widely adopted. Increased use of stop motion devices and continuous automatic inspection and recording instruments are improving quality control and data management techniques.

Consolidation of two processes or more—such as attaching automatic winding to the loom—saves several steps in manufacture and reduces unit labor requirements substantially. Recently developed automatic loading and unloading machinery, such as the bobbin doffing machine in spinning, may also significantly affect labor requirements.

New principles and methods of manufacture are challenging conventional processes. The shuttleless loom compared with the conventional loom operates at much higher speeds, requires less maintenance work, and requires fewer preparatory processes. Fabric-forming machines, which have recently been made available in the United States, stitch together fiber layers at 10 to 50 times the output of conventional looms and bypass conventional spinning processes. A revolutionary technique, still in the developmental stage, is open-end spinning which may lead to greater mill automation.

Manufacturing of new products such as the so-called nonwovens (bonded web of fibers), texturized and stretch yarns, foam laminates, and coated fabrics involves new techniques, new skills, and new machines. Some of these, like nonwoven fabrics, require fewer man-hours per unit of output than do conventional fabrics; others, such as stretch fabrics, may require additional labor.

The goal of continuous automatic manufacture is becoming technically feasible in some branches of textile production. A relatively new system of yarn manufacture is capable of integrating several of the processes (bale opening through carding) which conventionally are discrete operations, and linking together the remaining processes through automatic transfer of material between machines. Installed so far in only one or two mills, such systems are initially expensive and require greater product uniformity, but output per man-hour, reportedly, ranges from 70 to 100 percent above conventional mills.

In finishing mills, continuous automated systems, in which pressure, speed, temperature, and other aspects of production are controlled from a central console, are replacing older discontinuous operations. The first computer-directed system for use in a textile production process was recently installed in a large finishing plant to control a complex dyeing procedure.

One of the major developments is the modern layout and design of the plant itself. Most of the 7,000 plants in the industry, built more than 25 years ago, are multistory mills, poorly adapted to modern continuous-flow methods. New mills usually have only one floor, with machines located close to each other so that materials handling is minimized. Moreover, faster and larger-capacity machines, fewer processes, and three-shift operations have reduced the number of machines required for a given output.

Manmade fiber (cellulosic and noncellulosic) is, perhaps, the most important and far-reaching technological factor to have affected the textile industry. The particularly rapid growth of noncellulosics (nylon, polyester, acrylic, spandex, olefin, and other fibers) reflects the chemical industry's outlays for R and D, and for promotion, and the advantages to some processors of lower unit labor requirements, relatively stable prices, and less waste. As shown in table 1, manmade fibers accounted for 57 percent of mill fiber consumption

⁵ Kurt Salmon Associates, "Managing Technological Change," *Textile Industries*, August 1967, p. 87.

in 1966 (cotton-equivalent basis), compared with 39 percent in 1957 and 23 percent in 1947. Despite considerable research in and promotion of natural fibers, manmade fibers may nevertheless account for as much as 65 percent of all fibers consumed by 1975, with major growth in noncellulosics.

The Rate of Change

Definitive figures on productivity (i.e. output per man-hour) which measure the rate of improvement in manpower utilization are not available because of special technical statistical problems.⁶ Some rough indication of overall improvement in recent years, however, is suggested by the sharp rise in output between 1960 and 1965. Various measures of textile output indicate that it rose from 30-35 percent during this period. Estimated all employee man-hours rose by only 4 percent. These changes for the textile industry as a whole reflect substantial variation among individual sectors of the industry.

Productivity in the hosiery industry has been increasing rapidly, according to the BLS official index⁷ constructed with appropriate weights. Output per man-hour for all employees rose at an average annual rate of 2.9 percent from 1947 to 1957, but at a rate of 6.6 percent from 1957 to 1965. From 1960 to 1965, the rate was 7.3 percent. The sharp increase in productivity is associated with a rapid rise in output and a major change from full-fashioned to seamless hosiery.

Cotton and manmade fiber broad-woven production, for example, was 25 percent greater in 1965 than in 1948, but there were 22 percent fewer looms in place and 2 percent fewer loom hours worked in 1965. Engineering studies of future technology suggest a continuation in the reduction of equipment per unit of output.

Increasing and more intensive use of modernized equipment are reflected in the doubling of the industry's electric consumption over the postwar period, despite a significant decline in real fixed capital. Per production worker, consumption of electric energy increased two and one-half times from 1947 to 1965, rising at the average annual rate of 4.4 percent. Compared with all manufacturing, however, the rate of electrification of textile mills per worker remains relatively low.

TABLE 1. PERCENT DISTRIBUTION OF MILL FIBER CONSUMPTION, BASED ON COTTON EQUIVALENTS, 1947, 1957, AND 1966

Type of fiber	Cotton-Equivalent Basis ¹ (percent)		
	1947	1957	1966
Total ²	100.0	100.0	100.0
Manmade fiber.....	23.1	39.2	56.6
Rayon and acetate.....	21.8	24.2	19.6
Noncellulosic.....	1.2	12.7	32.2
Glass.....	0.1	2.3	4.8
Cotton.....	71.0	57.9	41.6
Wool.....	5.8	2.9	1.8

¹ Converted by the Department of Agriculture to enable fiber comparison on the basis of the quantity of material realized. Adjustment was made for differences in the waste involved in manufacturing fabric from various fibers, and for differences in the average weight of generally comparable end products made from the different fibers.

² Does not include silk.

SOURCE: Unpublished data, U.S. Department of Agriculture.

Lower capital requirements in relation to capacity or output is another partial indicator of technological change, reflecting improvements in textile machinery and more intensive utilization. Real fixed capital in the textile industry declined almost 40 percent from 1948 to 1963, while textile mill capacity increased 13 percent, according to the National Industrial Conference Board. Data on selected types of machinery tend to confirm this trend to a lower capital-output ratio.

Performance Potential. The potential for "efficiency" increase can be assessed from the Commerce Department's approximations of interplant differences in performance. Measures of value added per production worker (an approximate indicator of "efficiency" for the "more efficient", "less efficient", and average mill of 1958 indicate a wide variance.⁸ Scattered data for 1963 appear to indicate roughly similar differences.

The difference in average value added per production worker man-hour between the "more efficient" and the average mill ranged from 40 percent

⁶ In addition to the usual problems of determining the best measure of output for individual products, assigning appropriate weights and achieving reasonable comparability between man-hours and output, there are especially complex problems of changes in quality and product mix and changes in the degree of integration of production facilities.

⁷ *Indexes of Output Per Man-Hour, Selected Industries, 1939 and 1947-66*, (BLS Bulletin No. 1572, 1967).

⁸ This efficiency concept, developed by the U.S. Department of Commerce, is based on the ratio of payrolls to value added. The plant with the lowest ratio of payrolls to value added would be the most efficient mill. See *U.S. Industrial Outlook, 1967* (U.S. Department of Commerce, Business and Defense Services Administration), pp. 206-210.

TABLE 2. THE RATIOS OF MORE EFFICIENT TO LESS EFFICIENT PLANTS AND TO AVERAGE PLANTS IN VALUE ADDED PER PRODUCTION WORKER MAN-HOUR, 1958

Industry sector	Ratios of--	
	More efficient to less efficient plants ¹	More efficient to average plants ¹
Weaving mills, cotton.....	2.4	1.5
Weaving mills, synthetics.....	2.9	1.7
Weaving finishing mills, wool.....	2.7	1.6
Narrow fabric mills.....	2.2	1.4
Hosiery mills.....	3.0	1.6
Knit outerwear mills.....	4.4	2.4
Knit fabric mills.....	3.4	1.8
Finishing plants, cotton.....	2.4	1.7
Tufted carpets and rugs.....	3.1	1.8
Yarn mills, excluding wool.....	2.5	1.6

¹ Plants in each industry sector were ranked by the ratio of payrolls to value added. The plants in the lowest quartile of this ranking were considered the "more efficient," those in the highest quartile, the "less efficient." Value added is used as the measure of output or the net contribution of the manufacturing process in the industry. No adjustments is made for product mix, degree of integration, or other variations among plants.

SOURCE: U.S. Department of Commerce, Business and Defense Services Administration, *U.S. Industrial Outlook, 1967*.

in the narrow fabric sector to 140 percent in the knit outerwear sector. In the "more efficient" cotton and synthetic weaving mills, the ratio was 50 and 70 percent, respectively, greater than in the average mill. (See table 2.) As would be expected, differences between the "more efficient" and "less efficient" mills were considerably greater—from double in the narrow fabric sector to four and a half times the ratio in the knit outerwear sector.

Study of hypothetical or model plants designed by engineers also provides an indication of the industry's potential "efficiency". Comparisons of such model mills⁹ over time trace the progress made in developing technological improvements, without reference to the extent of their actual application in the industry.

Output per man-hour in a model cotton-print-cloth mill of 1910 was 3.1 pounds; in 1935 it was 4.6 pounds. By 1956, it had risen to 10.5 pounds, and by 1966, to 14.6 pounds. The average annual rate of technological progress was 1.6 percent between 1910 and 1935, 4.1 percent between 1935 and 1956, and 3.4 percent between 1956 and 1966. Although model cotton-print-cloth mill's performance cannot be taken as representative of the industry, it is nevertheless a useful indicator of the technological progress in the broadwoven sector.

⁹ See "Mechanical Changes in the Cotton Textile Industry, 1910 to 1936," *Monthly Labor Review*, August 1937, pp. 316-341; and "The Modern Print Cloth Mill, A Survey," *The Whittin Review*, June 1957, December 1961. See also American Textile Machinery Association. "The Modern Print Cloth Mill, Ten-Year Comparison," February 28, 1967.

The "productivity" potential can be derived from a comparison of the level in the model print-cloth mill in 1966 of 14.6 pounds per man-hour, and the actual level of production in such mills which was estimated by industry experts to average about 10 pounds per man-hour. The 46-percent gap between the average and the model plant may be taken to represent the approximate potential growth that might occur if all plant and machinery were replaced by the most modern equipment.

More realistically, should it take the average mill 10 years to attain the level of the model mill, the average annual rate of increase in the print-cloth industry would be about 4 percent from 1966 to 1976. Should the catching-up period be less than 10 years, because of a continuation of today's high investment or extensive closing of less efficient mills, the rate would exceed 4 percent a year.

Little Promise for Employment

Following its 1948 peak of 1,332,000, textile employment began the sharpest long-term decline in its history. By 1963, the year of its postwar low, employment had fallen 33.5 percent, or 2.7 percent annually.

Although production increased in the early 1960's, employment did not develop commensurately. At first, the additional man-hours required were made up by lengthening the workweek. But as production continued sharply upward in the mid-1960's, both employment and man-hours rose significantly. From 1963 to 1966, employment moved up at the average annual rate of 2.8 percent—the first postwar employment increase of more than 1 year's duration. Overall, an average of about 960,000 employees were working in the textile industry in 1966—about 370,000 fewer than in 1948, a decline of 27.8 percent.

Available monthly data for 1967 indicate some reduction in employment associated with a cut-back in production. But sizable decreases in overtime and total weekly hours appeared to be cushioning the employment decline.

The decline in employment in the postwar period was accompanied by a relatively high rate of unemployment among textile workers, particularly in areas where mills were shut down. While closures were more common in the sharp decline

of the 1950's they continued to occur in the 1960's, particularly in the New England area.

The outlook is for a continuation of the long-term decline, but at a slower rate. Because of the continued prevalence of many small mills with obsolete equipment, the industry will remain vulnerable to mass layoffs as plants are shut down during short-term periods of slackening demand.

Jobs for Women

The textile industry has long been a source of abundant job opportunities for women. More than 425,000 women were employed in mills in 1966, about 45 percent of the industry's employees, compared with a ratio of 27 percent in all manufacturing.

Job opportunities for women are being affected by technological changes in winding, drawing, and packaging which may reduce unit labor requirements. On the other hand, as jobs previously considered too arduous are more highly mechanized, they become available to women workers.

Negro employment in the industry increased from a total of 25,000 in 1940 to 44,000 in 1960, despite the substantial decrease in overall textile employment. The proportion rose from 2.1 to 4.6 percent of total textile employment. In some southern centers, however, the ratio of Negro employment remained fairly stable until the mid-1960's. In South Carolina, one of the most important textile States, the average ratio of Negro textile employment for the last 30 years was less than 5 percent with little variation from year to year. In 1965, the proportion rose to slightly over 6 percent (still below the 1925 ratio), but in 1966 it jumped to 10 percent.

Although the generally low ratio of Negroes in southern textile mills reflects social and economic factors, there is evidence that some of these conditions are changing. Generally, white men and women sought jobs in southern textile mills because wages were higher than in many other low-paying local industries. Moreover, since many leading southern industries employed only a small proportion of women workers, the textile industry stood out as an important source of jobs for white women. When white male labor was not available, as in the 1940-45 period, white women capable of holding textile jobs were hired rather than Negro men. (See table 3.)

TABLE 3. EMPLOYMENT CHANGES IN TEXTILE INDUSTRY OF SOUTH CAROLINA, BY SEX AND COLOR, 1940-65
[In thousands]

Period	Change in textile employment			
	Total	White men	White women	Negroes
1940-45.....	16.8	-0.8	15.7	1.8
1945-50.....	15.0	15.2	-0.6	.5
1950-55.....	2.6	1.9	0.9	-0.1
1955-60.....	-4.3	0.6	-4.8	-0.2
1960-65.....	10.4	3.6	4.4	2.5

SOURCE: Annual Reports of the Department of Labor of South Carolina, 1940-65.

In recent years, the textile industry has had to compete for male labor with higher paying industries which have moved into the South. Moreover, employment opportunities, other than in textile mills, have become available to white women. Between 1960 and 1965, only 25 percent of the net increase in female employment in South Carolina went into textile mills; between 1940 and 1945, about 80 percent had gone into textile mills. The shortage of white women workers may be one reason for the increase in Negro employment in South Carolina in the mid-1960's.

Another factor in the improvement of the Negroes' position in textile employment of the South is that the community-work relationship is changing. The isolation from large urban centers of the socially cohesive mill communities and their dependence on the mill is lessening. These factors have tended to restrict Negro mill employment. Greater mechanization, on the other hand, tends to reduce demand for the unskilled workers (the major Negro occupational group today) and may adversely affect opportunities for Negro workers in the future.

Changes in Job Content

Technological developments are altering job content and skill requirements for many occupations in the modern mill. One or more of the operative's traditional manual duties (e.g., creeling [loading] and doffing [unloading], repairing breaks, cleaning, and materials handling) are being entirely eliminated or significantly reduced as a result of transferral to a machine. Consequently, while the operative's manual skills are still required, the relative time allotted to these skills is being greatly reduced. It is expected, for example, that technological changes will reduce the spinner's tradi-

tional manual duties from an average of about three-quarters of his total time in the 1960's to about half in the 1970's, and will increase the time spent in patrolling the machines from about 25 to 50 percent. In the most advanced mills, where several textile processes are very highly mechanized or automatic, patrolling longer lines of machines and watching for problems is the operative's major job requirement.

It is difficult to generalize about the effect on the worker of increased mechanization. Physically arduous jobs are being mechanized and temperature and humidity conditions are greatly improved in modernized mills. The increase in patrolling reduces time spent on repetitive manipulative jobs, but it may be more tiring generally. On faster, more automatic machinery, downtime is more costly and the worker has a greater responsibility to monitor the machines closely. This may result in pressure on the worker and greater anxiety. Some automatic devices, on the other hand, may lessen certain time stresses, but may require the worker to be more alert to malfunctions.

Adjustments to Change

Working conditions in the industry remain largely a matter of management discretion. Only about a fourth of all textile workers are in mills covered by collective bargaining, compared with over 60 percent in all manufacturing industries.

Contraction of the Northern textile industry, where union organization is strongest, seriously depleted union ranks. Attempts to organize Southern mills have been relatively unsuccessful. Nearly seven-eighths of New England cotton workers and only one-eighth of those in the Southeast were employed in mills having collective bargaining agreements in 1965. In synthetic textile mills, three-fifths of the workers were covered in New England, two-fifths in the Middle Atlantic States and 1 percent in the Southeast.

Earnings are low in textiles relative to other industries, in spite of sizable increases in the post-war period. From 1947 to 1966, average weekly earnings in textile mills rose 3.7 percent annually

compared with 4.4 percent in manufacturing. In 1966, average hourly and weekly earnings totaled \$1.96 and \$82.12, respectively, compared with averages of \$2.71 and \$112.19 in manufacturing. Supplements to wages and salaries (including such items as employer contributions to social insurance, private pension, and welfare funds) as a percent of total compensation are also low in the textile industry relative to those in manufacturing.

Formal provisions for worker adjustment to technological change are found primarily in plants with union agreements and even these are few in number. Contracts usually provide for the principle of seniority as a measure of protection for the employee displaced by technological developments, or other reasons, but limitations may be included. Some contracts contain provisions which require advance notice to the union, union consultation, or a trial period for a proposed technological change.

Machine changes which affect the pace of work—"speedup" (i.e., installing faster machines or speeding up old ones) and "stretchout" (i.e., increasing the number of machines assigned to the worker)—are a major topic of labor-management discussion. In some contracts, workload assignments are subject to review by the union and may be submitted to arbitration.

Contract provisions designed to financially assist the worker who is laid off as a result of a technological change are very limited. Provisions for severance pay were included in 11 of the 28 contracts studied by BLS,¹⁰ but only a few specified technological displacement as a condition for payment. Several contracts required retirement as the only condition for severance pay. Moreover, supplemental unemployment benefits (SUB) intended to supplement unemployment compensation during temporary layoffs are nonexistent in the industry.

In view of the limited scope of formal industry arrangements for adjustment to technological changes, Government institutions for unemployment insurance, placement, and retraining may play a major role in assisting the textile worker in the event of plant closings and mass layoffs.

—ROSE N. ZEISEL

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¹⁰ *Major Collective Bargaining Agreements, Severance Pay and Layoff Benefit Plans* (BLS Bulletin 1425-2, 1965). These data are from 1963 collective bargaining agreements.

Changing Manpower Needs in Telephone Offices

THE SUCCESS of a firm's planning for introducing technological change with a minimum of worker displacement depends not only on social and economic factors that affect the plant's fortunes but also on constraints on the individual worker's ability to take full advantage of protective options offered. This facet of adjustment is highlighted in a study of manpower adjustments to technological change in telephone offices.¹

Since technical innovations in the telephone industry are made as part of long-term plans for expansion, such offices are in a better position to minimize adverse effects on employees than plants which are primarily concerned with self defense in a contracting market. Telephone companies of the Bell System have long followed carefully formulated procedures for projecting the effect of change on its office employees, for informing unions and employees, and for developing appropriate measures to transfer, retrain, or retire employees whose jobs are eliminated. This article describes how manpower adjustments were made in four cases of shifts (cutovers) from manual to automatic dialing for long distance and local service combined and highlights the importance of a diversity of measures to minimize the dislocation of workers. For women telephone operators who could not take advantage of interplant transfer and retraining provisions, the most effective mechanism for adjustment proved to be severance pay or early retirement.

Three of the offices affected (A, B, and C) were located in towns of 40,000 to 50,000 inhabitants in the Appalachian region. Unemployment was relatively high, ranging from 5 to 13 percent, during the cutover period. The fourth (D) was the last manual central office in a large Eastern city which had several other offices to which employees could be transferred.

The offices were units of three companies in the Bell System. The operators in two offices (B and C) were represented by the Communications Workers of America; in the other two offices (A and D), by a statewide independent union. Collective bargaining had been going on for at least a decade prior to the conversion.

Labor requirements were reduced drastically: in office A, by 40 percent; office B, by 47 percent; of-

office C, by 85 percent; and office D was closed down. The employees directly affected were operators, service assistants, assistant chief operators, and chief operators, all of whom were women.

A formal systemwide policy for coordinating technical and manpower changes in dial conversions had existed for several decades. The objectives were to retain as many employees as possible, to provide suitable transfer, to avoid downgrading employees, and to avoid a surplus force after the changeover. In practice, local management had to adapt these systemwide policy guidelines to fit the particular circumstances of the individual town or office.

Advance planning of both the technology and personnel adjustments began several years before the cutover in all four cases. Planning in office C, for example, began 3½ years in advance. A specific management official was put in full charge of coordinating cutover arrangements, both personnel and technical.

Looking Forward

Forecasting employment requirements was an important phase of planning. Twenty-one months before cutover, office C estimated turnover, retirements, and work force required for each month over the following 2 years. The number of employees who would have to transfer or be laid off after the change was estimated and revised periodically to take account of changes in turnover and in employee decisions to transfer. These quantitative estimates provided a basis for planning the use of attrition to phase out jobs.

The unions and employees were notified far in advance of the change. The company favors informing the union in advance of employees or the public "so that there will be no misunderstanding and so that questions or discussions among employees if taken to the union may be given answers in accordance with the facts." The union and employees in office A were informed and formal union-management meetings were begun about 20 months prior to conversion. Meetings began in office D a year prior to cutover; in office C, 17 months

¹ This article is a partial summary of a forthcoming BLS Bulletin, *Manpower Planning for Technological Change: The Case of Telephone Operators*, which is based on one of 29 case reports prepared for the Organization for Economic Cooperation and Development. For another OECD manpower study see "Adjusting Manpower Requirements to Constant Change," *Monthly Labor Review*, October 1967, pp. 36-41.

prior to cutover. Office B manager notified the local of cutover plans 2 years prior to the date of conversion.

Interviews were held with the employees to inform them of the choice in transfers, training, or other adjustments. Since women are not expected to put job or career above family convenience or preference, even if they support the family (as was the case for many of the women operators in these case studies), this advance discussion was particularly helpful in preparing for the change.

In order to reduce employment as much as possible through attrition rather than by means of layoff, strict control over hiring was instituted at an early date. Regular employees who left during the year preceding the cutover were replaced with temporary workers. Former telephone operators who did not need training were preferred. Also, temporary workers were hired to fill vacancies resulting from transfers during the few months prior to cutover. As a result, temporary employees accounted for over a third of the total operator force in offices C and D, and nearly a fourth of the operating force of office B, by cutover time.

Union contracts in all four offices required that the company notify the union of "an occasion for the adoption of a program of mass or general layoffs or part-timing (less than a normal workweek) or both" of regular employees. They also provided that, within 30 days of such notice, either (1) a special layoff or part-timing arrangement shall have been negotiated, or (2) contract provisions shall apply which require that inverse order of seniority be observed in layoffs.

At the time of notification, planning in all four offices had progressed to the point where management was able to give the union the approximate cutover date, the number of employees who would be retained, and who would be transferred. Early notice served to allay anxiety about job security and to maintain employee morale during a transition period.

Bargaining for Change

Union and management representatives met often to consider the application of contract provisions. Management in office A proposed, as an alternative to the contract provision regarding layoff, that about half of the regular employees be given part-time work—about 2½ days a week, that they also be offered transfers, and that some

special temporary clerical projects be brought into office A to absorb the surplus force immediately after cutover. The union counterproposed that the workday for all regular operators should be cut 1 hour, at no cut in pay; that employees should be offered expense-paid transfers anywhere in the system, by seniority; and that pensions be provided to all employees with 20 years of service. The union was firmly opposed to part-timing, partly because it would halve the operators' income while preventing them from obtaining unemployment compensation. After three negotiating sessions, the management agreed to pay transportation and moving expenses to transferees. Finally, since the union was firmly opposed, management withdrew its proposal for part-time work and agreed to use the contract's layoff procedure.

Union-management meetings at office D, which was to be closed, dealt with transfer provisions at length. Instead of giving employees their choice of office to which they would like to be transferred in order of strict seniority, management proposed that the seniority list be split into four groups and the limited number of transfer openings in each office be apportioned among the four groups. Within the groups, choice would be by seniority. The union proposed six groups, rather than four groups, since it was concerned that the relative position on the seniority roster of operators in the offices receiving the transferred employees would be lowered by an influx of more senior employees from office D. This would adversely affect the receiving office operators' choice of hours and vacations. The union's proposal was ultimately accepted.

Overtime was scheduled in all four offices to add operator man-hours. Usually, operators were scheduled for a 6-day week, rather than a longer day. About one quarter of the total man-hours required to operate office B were obtained through use of temporary employees and overtime scheduling. Also, the cutover was planned for the seasonal traffic peak which would require extra operator man-hours and therefore would result in fewer layoffs immediately after cutover.

Offices B and C postponed vacations until after the cutover. In office C, this measure added the man-hour equivalent of five workers to the operating force, during the 3 months prior to conversion. Office C had estimated its turnover during the year of conversion as 35 percent; during the year pre-

ceding conversion, as 20 percent. It began filling the vacancies created by attrition with temporary employees 2 years before cutover.

Transfers and Severance Pay

Transfers of some operators to other telephone offices were arranged by the converting office. In offices A, B, and C, a few jobs in other towns, mostly within the State, were available; for office D employees jobs were available within the city. Nearly all of these jobs were in related types of traffic work (usually toll, information, or intercept operating). Only five employees were moved into another department in the same town. To facilitate transfers, the company paid moving or transportation costs of some of the employees who were required to transfer.

Employees who moved to other offices retained their seniority within the Bell System for purposes of job security, vacation length, and pension rights. They may temporarily lose rights based on seniority to choose tours of duty and vacation.

In nearly all cases, transfers were arranged to towns with the same wage scale for operators; only a few transfers were to larger cities with a higher wage scale. In office C, downgrading took place primarily because the position "Service Assistant" was no longer required after cutover. Eleven service assistants and one assistant chief operator were downgraded to operator positions at lower pay rates. One assistant chief operator was moved to another department to prevent her being downgraded to operator.

Transfers to other cities and offices were not effective immediately at the cutover, but were spread out over a period of months preceding cutover, in order to lessen the training load on the receiving office. Office C, for example, shifted 14 operators to a single small town, where they had to be trained for toll operations. These moves were spread out therefore over several months to prevent a sudden influx of untrained operators into one office. Similarly, office D shifted 132 operators to other offices in the same city over a period of several weeks, all of whom had to be retrained for toll work. In both offices, as regular operators were transferred, their duties were performed either by hiring additional temporary employees or by scheduling overtime. Two offices in the same State also created openings for 26 operators of office C by planning their hiring during the 3 months prior

to cutover. In office A, nonoperating departments of the company (in the same town) restricted hiring in certain occupations for 1 year preceding cutover. These measures, however, produced only one opening.

Although all regular employees had the option of transferring, but not always to the city of their choice, some layoffs took place because of the inability of some operators to move. Family responsibilities and homeownership precluded most of these regular employees from relocating. Uncertainty about the new location was also a factor. Transfers were rejected by 142 of the 222 regular employees who would be laid off. Twenty-eight of the 142 were able to retire, because of their length of service or because of a decision by the Benefit Committee. Eighteen took a leave of absence. The remaining 96 operators who could not transfer were laid off; all but 17 received layoff pay. In offices A and C, about a third of the laid-off regular employees were rehired within a year or two of cutover, due to increased business and turnover.

Some older workers found retraining particularly difficult. Older operators who had trouble adjusting to toll practices were given more time to learn or were trained for the somewhat less rigorous intercept or information positions. A 54-year-old operator, with 31 years of service, was not interested in relocating or retiring but wanted to work to finish paying for her house. She was fearful, however, of the training for the position of toll operator and of her efficiency on the new job. Although this individual was finally able to adjust to the change, others resigned or retired because of inability to learn toll work.

Public Agencies

Although one office attempted to obtain jobs in one other plant for some laid off employees, none of the offices notified or worked with public agencies in advance or during the changeover. The offices tried to minimize employee adjustment problems through internal planning, but their greatly reduced operator requirements cut back job opportunities in each community for young, unskilled, female high school graduates. To this extent, the problems of vocational guidance, placement, counseling, and job creation were intensified for public agencies in these communities.

—AUDREY FREEDMAN AND EDGAR WEINBERG
Office of Productivity, Technology, and Growth

Technical Note

Problems of Gathering Occupational Data by Mail

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THE BUREAU OF LABOR STATISTICS is developing a program to provide current estimates of employment by occupation, in response to recommendations made by the President's Committee to appraise Employment and Unemployment Statistics in 1962. The two objectives of the program are to publish annual estimates of employment in the United States in a selected list of important occupations, and to study the changing occupational composition of industries.

To aid in solving the many problems and questions that it was anticipated would arise in developing the program, a series of experimental studies was instituted in fiscal year 1966. This note briefly describes the first of these experimental studies and presents the major results of an analysis of responses received in the experiment.

The Problem

To collect data on employment by occupation from industry at a reasonable cost, it must be done, to the greatest extent possible, by mail rather than personal visit. But occupational terminology is not uniform in American industry, and in the industry wage survey program—to make sure that the data refer to the same occupations for all plants in a survey—it has been necessary to send trained agents to visit each plant and get wage data for each occupation as defined in a standard manual.

In the Bureau's community wage program, wage surveys in all except a few large metropolitan areas involve personal visits every second year with partial collection by mail in intervening years. In the mail process, the plant is sent a form on which has been entered the information collected from that plant a year earlier, so that the respond-

ent can identify exactly which occupations in his own terminology fit each occupational category defined by the Bureau. Personal visits are made to establishments not responding to the mail request and to those reporting unusual changes from year-earlier data.

Community wage data are used, so far as possible, in the occupational employment statistics program. It is necessary, however, to collect data on additional occupations and industries, in larger samples, and in plants not located in the cities included in the community wage survey program. The experimental surveys were made to see what problems would arise in collecting occupational data by mail.

The Study

The first experimental study to test the feasibility of collecting reliable occupational employment statistics from employers by mail was conducted in the Computing and Accounting Machines Industry for its clerical and blue-collar occupations. (It has already been demonstrated, through the Bureau's annual surveys of scientific and technical personnel, that it is feasible to collect reliable data on these professional and technical occupations by mail.) The Computing and Accounting Machines Industry was chosen because in this industry (1) the experiment could be conducted with a moderate expenditure of resources, and (2) the occupational composition was undergoing marked changes.

Employers were asked to report the total number of workers employed in the establishment and those employed in each of 48 occupations or occupational groups:

- (1) the major group heading, *Total Clerical Workers*, which was followed by nine detailed clerical occupations and the residual category, *Other Clerical Workers*;
- (2) the occupation, *Office Machine Salesman*;
- (3) the major group heading, *Total Skilled Trades and Other Manual Occupations*, which was followed by 33 detailed blue-collar occupations and the residual category, *Other Skilled Trades and Manual Occupations*; and
- (4) the major group heading, *Service Workers*, which was not followed by any detailed service occupations.

*Formerly, of the Division of Occupational Employment Statistics, Bureau of Labor Statistics.

A booklet of definitions accompanied the questionnaires, which were mailed in August 1966 to 50 establishments. Replies were received from 38.

Major objectives of the response analysis effort were to obtain information on company record-keeping practices, to measure the deviations from the requirements of the survey in the data reported, and to determine the reasons for the deviations discovered.

Twenty reporting units for which reports were submitted were included in the response analysis survey subsample. These 20 reporting units represented 79,578 workers, or almost 48 percent of the 166,100 employed in the industry in August 1966.

Nineteen units maintained records from which counts of employment by detailed occupation could be compiled. Records of the 20th establishment, which employed 47 workers, showed only total employment in each department; in this establishment the interviewee had based the detailed occupational employment counts furnished by mail on his personal knowledge.

Typically, employer records are set up for such purposes as conducting cost studies or preparing payrolls. Nevertheless, the response analysis interviews point to the conclusion that employers have the capability to furnish current occupational employment statistics.

The Results

Detailed assessments of the accuracy of the data reported were made for 19 units. All 19 required quantitative adjustments to bring the data reported into line with the instructions on the questionnaire, or with the occupational definitions that accompanied the questionnaire.

Moreover, it should be kept in mind that the quantitative adjustments were in some cases only partial because of unavailability of necessary data. Second, no adjustments were made for deviations from the standard reference period. Last, no adjustments were made for differences in the coverage of a filed report from the scope of the reporting unit for which a report had been requested.

While the results have to be interpreted with caution, they appear to suggest that: (1) for certain occupations the titles, definitions, instructions, and techniques used in the experimental sur-

vey may be satisfactory as they now stand; (2) for others they may have to be modified; and (3) for still others, additional survey work is needed to evaluate their adequacy.

Specifically, occupational totals compiled from employer's original reports for 21 of the 49 occupations on the questionnaire underwent a net change of less than 5 percent due to the response analysis work:

Percentage revision in number reported, as result of response analysis	Occupational categories in which revisions of specified amounts were made	
	Number	Cumulative percent
0-4.9.....	21	42.9
5.0-9.9.....	7	57.2
10.0-19.9.....	7	71.5
20.0-29.9.....	4	79.7
30.0-49.9.....	6	91.9
50.0-69.9.....	3	98.0
70.0-100.0.....	1	100.0
Total categories.....	49	

The median change needed in the occupational totals as a result of the response analysis work was 6.3 percent.

The only occupational total to change 100 percent was office machine serviceman. In the two cases involved, workers classified as office machine servicemen were electronic computer servicemen, an occupation which both BLS interviewers and employer representatives believed to be better classified as technician.

The reasons for the deviations discovered included: (1) a tendency of employers to report difficult classification cases in the residual ("All other . . .") categories; (2) "Forcing," or the tendency for employers to classify all employees, including managerial, professional, and technical personnel, within the occupational classifications that appeared on the schedule; (3) clerical errors; (4) conditioning caused by past reporting of similar statistics for other surveys with different concepts and objectives; (5) faulty titles and definitions; (6) use of more general job descriptions within establishments than were used in the survey experiment; (7) inadequate understanding of the objectives of the survey; and (8) misinterpretation of titles, definitions, and instructions, and failure to read titles, definitions, and instructions carefully.

In sum then, preliminary results suggest strongly that for certain occupations the Bureau can expect to obtain reliable data by this method, but a great deal of additional survey and response anal-

ysis work must be undertaken to determine which and how many detailed occupations can be included in surveys of other industries. To aid in

¹ A comprehensive table or Matrix, with 156 specific occupations or groupings of occupations cross-classified with 137 industries, which makes it possible to see what proportion each occupation is of total employment in an industry, and how total employment in an occupation is distributed by industry. See *Handbook of Methods for Surveys and Studies* (BLS Bulletin 1458, 1967), for a detailed description of the Matrix and how it can be used to develop estimates of employment by occupation for later periods.

the solution of these problems, the Bureau is planning to begin within the next several months an occupational employment survey in all of the metalworking industries, except primary metals.

The planned survey of the metalworking industries will also yield industry-occupational relationships that can be of immediate use in the industry-occupational Matrix,¹ by providing more current information than the 1960 census data now used as a basis for the Matrix.

Errata

The following corrections should be made in "The Wage Calendar for 1968," *Monthly Labor Review*, January 1968: In the last sentence of paragraph 3 on page 20, about 1.4 (instead of 1.2) million workers are under agreements that neither are subject to reopening nor provide a wage increase in 1968.

The last sentence of paragraph 2 on page 21 should read, "Most operating unions and the clerks have already served notice of wage demands for about 275,000 workers."

The number of workers covered by cost-of-living escalator provisions for 1968 (tabulation at the bottom of page 25) should be 2.25, instead of 2.5 million.

Foreign Labor Briefs*

MANY OF THE DEVELOPMENTS affecting labor throughout the world during November were tied to the battle against inflation. The British Government devalued the pound and a number of other countries devalued their currencies. In one of these, Uruguay, trade union pressures had been increasing in the face of an almost 93-percent rise in the cost of living in the first 10 months of 1967, unaccompanied by a parallel increase in wages. In another, Denmark, to offset inflationary pressures related to the devaluation of the kroner, the Government asked the Federation of Danish Trade Unions to forego wage raises tied to the cost of living, and the Federation provisionally agreed, on condition that other segments of the population also make sacrifices.

Compulsory savings plans came to the fore in Nigeria, the Sudan, and Chile. Nigeria's plan became operative December 1. In the Sudan, the Government's plan was defeated in the Congress. In Chile, a general strike was conducted in opposition to proposed legislation for compulsory saving that called for part of a scheduled wage increase to be paid in bonds of a national workers' capitalization fund which will be used to finance economic development of the country.

Canada—*Job Vacancies*

A periodic survey to measure the demand for labor and to pinpoint job vacancies on a nationwide scale was launched by the Dominion Bureau of Statistics in September 1967. Contacts will be made, through mailed questionnaires and personal interviews, with a sample of 5,000 large firms every month and 30,000 smaller ones every quarter. The survey is expected to yield data on not only the number and kinds of vacancies, including job titles, but also on pay offered. The findings will be available for use by the Federal Department of Manpower and Immigration and its regional manpower centers in connection with training and retraining programs, vocational counseling, and immigration policy; by industry for implementation of training plans, capital expansion projects,

and long-term recruitment policies; and by individuals in choosing a career or a training course, or in moving to another part of the country.

United Kingdom—*International Labor*

An Overseas Labor Consultative Committee, consisting of representatives of the Government, management, and labor, has been established at the suggestion of the Foreign Secretary. It is to advise the Government on foreign aid programs in the labor field, labor policy in dependent territories, and the work of the labor attachés in British embassies around the world. The Confederation of British Industry and the Trades Union Congress have nominated prominent members to serve on the Committee, which is scheduled to meet every 3 months.

Common Market—*Public Employees*

State-owned enterprises of the six-member countries of the European Economic Community (EEC) employ 4.5 million persons, or 10 percent of the total industrial and commercial employment in those countries. A recent survey showed that Italy had the highest proportion of industrial and commercial labor force in the public sector—11.6 percent, or 950,000 workers—followed by France with 11 percent, or 1.4 million; West Germany with 8.7 percent, or 1.8 million; the Netherlands and Belgium each with 8 percent, or 252,000 and 177,000, respectively; and Luxembourg with 6 percent, or 6,000. Of the total public sector employment in the EEC countries, more than half is in transportation (including railroads and airlines) and telecommunications (including telephone and telegraph services). The second largest group of public employees is in finance, banking, and insurance: 38 percent in France, 37 percent in Italy, 34 percent in Germany, and 12 percent in Belgium.

Eastern Europe—*Employment Agreements*

East Germany and Hungary recently signed agreements providing for employment of some 100,000 Hungarian workers in East Germany for periods of up to 3 years. The agreements appear to have been stimulated by the labor shortage in

*Prepared in the Office of Foreign Labor and Trade, Bureau of Labor Statistics, on the basis of information available in early December 1967.

East Germany, which is caused primarily by the flight of millions to West Germany, and by anticipation of increased unemployment in Hungary as a result of the economic reform there. At the time of these agreements, some 3,000 Hungarian physicians and technicians were already reportedly working in East Germany.

Yugoslavia—Hours of Work

A new system of working hours for Government workers (civil servants) was to go into effect on January 1, 1968. It changed the working schedule (42 hours a week) from the 6-day week of 7 hours (7 a.m. to 2 p.m.) daily to a 5-day week of 8½ hours (8:30 a.m. to 5 p.m. Monday through Thursday and 8 hours on Friday). Although workers now start at a later hour, they have to forego eating the main meal of the day at home in the afternoon with the entire family.

Ghana—Manpower Board

General dissatisfaction with the rate at which Africans are attaining managerial positions in the private sector, along with other factors, led the Government to establish a National Manpower Board to advise the Government on the development of manpower resources. The Board will include representatives from both the private and public sectors. According to the Commissioner for Economic Affairs, the Government's aim is to direct future scholarship awards toward the training of high-level manpower for private firms.

Japan—Labor Organization

A new national labor organization is being planned by the Clean Government Party (*Komeito*), the political arm of the Sokka Gokkai movement (a form of Buddhism with nationalist overtones, whose membership is currently estimated at 10 to 14 million and rapidly rising). The new organization is expected to come into being

after the elections to the Diet early in 1968. In addition, a committee will look into the possibility of forming Sokka Gokkai groups within established trade unions.

El Salvador—Pension Plan

The country's first pension plan negotiated through collective bargaining was included in a contract between the Electric Light Co. of El Salvador and the Electrical Industry Union of El Salvador. The company agreed to establish and administer a retirement fund to which both the employer and employees will contribute 6 and 2 percent, respectively, of basic wages and salaries.

The arrangement provides for two alternative plans of retirement at age 65 after a minimum of 20 years of continuous service. Under Plan A, a monthly pension is paid at the rate of 1.25 percent of the average monthly pay earned during the last 5 years of work multiplied by the number of years of service. Plan B provides a lump sum payment of 1 month's pay for each year of service plus a reduced monthly pension. Under both plans, the pension is payable until the death of the retired employee. Should he die within 5 years of his retirement, the pension will be paid to his heirs until the completion of the 5-year period.

Chile—Joint Investment Fund

President Eduardo Frei in November submitted to the Congress a plan for a "capitalization fund for national development" in which both business firms and workers would make regular investments. Under the plan, any firm issuing stock in Chile would be required to invest 66 percent of its earnings either in the fund or in the expansion of its own enterprise, and workers would invest in the fund through deductions from pay increases. The fund would be devoted initially to housing development. Both business firms and labor organizations opposed the plan, characterizing it as a system of forced savings.

Research in Progress

THIS MONTH the Review initiates a new department, to offer some indication of the scope of Government research in labor- and manpower-related fields. Unless otherwise indicated, items refer to research by the Bureau of Labor Statistics.

Projections—1980

Research is underway in the Division of Economic Growth on projections to 1980 of gross national product (GNP), the major components of GNP, input-output relationships, and employment under selected alternative assumptions about distribution of GNP. In making these projections, a wide range of factors will be explored, such as the effect of age-group population changes on State and local spending for education, the effect of changing technology on technical input-output coefficients, and the effect of varying industry growth rates on an industry's rate of change in labor productivity.

Unpriced Items

A study by the Division of Prices and Price Indexes aims at improving the estimates for unpriced items in the Wholesale Price Index (WPI) and the Industrial Sector Price Indexes (ISPI). The research takes two forms: (1) development of improved techniques of making estimates included with preliminary WPI as an advance indicator of the WPI, and (2) development of better methods for estimating prices of unsampled items in the WPI and ISPI themselves, including studies of price relationships at the same stage of processing or by material composition (type of metal, species of wood, etc.).

Getting the Worker to His Job

Financed by the U.S. Department of Housing and Urban Development (HUD), the California-directed Transportation-Employment Project is now entering its third and final phase. Funded with a \$2.7 million grant under HUD's Urban

Mass Transportation Program, it is expected to measure the relationship between the public transportation system and employment opportunities of the urban poor in Los Angeles. The Phase Three operational tests will emphasize community participation in meeting local transportation needs through the formation of nonprofit, tax-exempt, community based operations which will operate large-scale motor pools to carry workers to jobs formerly out of reach by public transportation. These tests are expected to demonstrate how a community can manage and operate a much-needed public facility which is not economically feasible for the transit industry.

Computer Process Control

Implications of the use of electronic computers for control of industrial processes are being weighed by the Division of Technological Studies. Based on a survey of 12 plants, the inquiry will explore the effect of computer process control on productivity, employment, occupations, skills, training, and labor-management relations. The project will supplement earlier reports on the use of the electronic computer for office business data processing.

Minority Employment Distribution

An effort jointly sponsored by the Equal Employment Opportunity Commission and the Department of Labor will analyze 1966 minority group employment distribution by industry, geographic area, and sex. The analysis will proceed from a review of information reports (EEO-1) filed by employers subject to Title VII of the 1964 Civil Rights Act, and information supplied by some Federal Government contractors and members of Plans for Progress.

Effects of the Devaluation

The Research Division of the Office of Prices will study results of the devaluation of the British pound. The basis for the project will be data obtained from U.S. importers and other sources, including some in London. The full effects of the devaluation are not yet reflected in U.S. import and domestic prices, since a large proportion of imports from the United Kingdom consists of producer goods for which prices were negotiated prior to the devaluation.

Summaries of Recent Studies

WHERE AVAILABLE, dates of publication are given for the studies described briefly here. Additional information may be obtained from the agencies concerned.

Debt Adjustment

The widespread use of consumer credit has resulted in the over-indebtedness of a great number of wage earners, and many have turned to debt-pooling firms for help in extricating themselves from debt and the harassment of creditors. These firms (also known as debt adjusters) neither lend money nor use their own funds to assist the debtor. Instead, after arranging a repayment schedule with his creditors, they set up a plan for regular payments from the debtor to the firm, which in turn transmits the money to the creditors. The debtor is charged a fee, usually based on a percentage of his reported indebtedness.

Many believe the practice of commercial debt-pooling should be prohibited, and 22 States have outlawed it. On the other hand, 13 State laws provide for regulation. A 13-page report by the Wage and Labor Standards Administration's Bureau of Labor Standards presents the approach of various States. Copies of *Summary of State Laws Prohibiting or Regulating the Business of Debt Pooling, July 1967* are available upon request to the Bureau of Labor Standards, U.S. Department of Labor.

International Comparison

A study by the Office of Foreign Labor and Trade compares unit labor cost in the iron and steel industry in the United States during 1964 with those in France, Germany, and the United Kingdom. Foreign output, expressed in tons, was converted to U.S. composite tons in obtaining labor cost per unit of output and output per man-hour. Results for the three European countries are presented as ranges (high and low estimates) in order to account for gaps in available data.

Unit labor cost in each of the three European countries was approximately two-thirds that in the United States, and hourly labor cost was

roughly one-third the U.S. level. Output per man-hour was about one-half the U.S. level in France and the United Kingdom, and somewhat higher than one-half in Germany.

A BLS Bulletin on the study will be available in early spring.

Wages in Men's Suit and Coat Industry

Straight-time earnings of the 98,354 production and related workers covered by a BLS survey¹ in men's and boys' suit and coat manufacturing establishments averaged \$2.28 an hour in April 1967. This was 7½ percent above the average (\$2.12) in October 1963 when a similar study was made.² Much of the increase was due to a general wage adjustment granted under the terms of a collective bargaining agreement between the Amalgamated Clothing Workers of America (ACWA) and the Clothing Manufacturers Association of the U.S.A., which covered a large majority of the industry's production workers. Effective June 1, 1965, workers on a 40-hour week received an increase of 12.5 cents an hour and those on a 36-hour week, an increase of 13.9 cents. (An additional wage increase effective June 5, 1967, is not reflected in the survey data: 10 cents an hour for workers on a 40-hour week and 11.1 cents for those on a 36-hour week.)

Establishments having collective bargaining agreements (nearly all were with ACWA) accounted for nine-tenths of the industry's work force. The proportions of workers in union establishments were two-fifths in the Southeast, nearly three-fifths in the Middle West, and nine-tenths or more in the other regions for which separate data were developed.

Workers in the Middle Atlantic region, slightly more than one-half of the industry's employment, averaged \$2.43 an hour in April 1967. Averages in the Great Lakes and Border States, the only other regions accounting for as much as a tenth of the

¹ The survey covered establishments with 5 workers or more, primarily engaged in manufacturing men's, youths', and boys' suits, coats, and overcoats. Earnings information excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

A more comprehensive account of the survey will be presented in a forthcoming BLS Bulletin.

An advance release, providing national and regional tabulations, was issued earlier, as well as separate releases for Kentucky and 10 areas of industry concentration. These are available from the Bureau or its regional offices.

² See "Earnings in Men's and Boys' Suit and Coat Industry," *Monthly Labor Review*, September 1964, pp. 1035-1038.

work force, were \$2.29 and \$2.11, respectively. Earnings levels also varied by size of community and type and size of shop, as well as among the 10 areas of industry concentration selected for separate study:

Area	Number of production workers	Average hourly earnings
Baltimore.....	5,916	\$2.24
Boston.....	1,563	2.53
Chicago.....	6,504	2.45
Cincinnati.....	1,522	2.30
Los Angeles-Long Beach.....	1,120	2.60
New York, N.Y.....	15,454	2.67
Philadelphia.....	14,187	2.49
Rochester.....	5,223	2.42
St. Louis.....	1,025	2.01
Southern New Jersey.....	3,461	2.20

Earnings of over nine-tenths of the workers covered by the survey were within a range of \$1.40 to \$3.50 an hour. The middle half of the workers in the array earned from \$1.71 to \$2.70. Contributing to this relatively wide dispersion of individual earnings was the extensive use of incentive wage systems (nearly three-fourths of the workers were paid individual piecework rates) and the wide range of skill requirements in the industry.

Sewing machine operators, mostly women and usually paid piece rates, accounted for two-fifths of the work force; they averaged \$2.31 an hour in coat fabrication, \$2.11 in trouser fabrication, and \$1.81 in vest fabrication. Within these three fabrication categories, earnings also varied according to the specific sewing operation performed. Cloth cutters and markers, nearly all men and typically paid time rates, averaged \$3.41 an hour, the highest average among the jobs studied separately. Lowest job averages were recorded for janitors (\$1.74) and work distributors (\$1.75), both usually staffed by men and paid time rates.

A large majority of the industry's workers were provided 7 paid holidays a year and paid summer and Christmas vacations. Life insurance, accident and health insurance, medical care and hospitalization, and retirement pension benefits were also widespread in the industry and were largely provided by the Amalgamated Social Insurance and Retirement Funds, to which employers contributed a specified percent of gross wages each pay period.

More on Early Retirement

The Social Security Administration is developing a new statistical series that will measure the movement into payment status of conditional and deferred awards under the old age, survivors, disability, and health insurance (OASDHI) program. Meanwhile, an approximate series has been created for each year beginning with 1956. (See *Monthly Labor Review*, December 1967, p. 48.)

No regular statistical series has measured this phenomenon—the movement from nonpayment into payment status—because before Medicare the number of conditional and deferred awards was relatively small and deferments were usually for brief periods, and it was believed that the number of these awards that moved to payment status was more or less in balance with the number of new awards coming into conditional and deferred status.

Overstatement of the number of persons seeking early retirement is possible unless the data take into account the actual retirement of persons who had earlier received conditional and deferred awards. Such an overstatement may be significant in future years because of the large number of persons who initially came on the rolls to obtain entitlement to hospital benefits under Medicare.

Significant Decisions in Labor Cases*

Union Affairs

Unauthorized Practice of Law. The Supreme Court held¹ that a longstanding union practice of retaining a salaried attorney to represent its members in State workmen's compensation cases was constitutionally protected. In so doing, the Court overruled a State court's decision that this activity was an unauthorized practice of law by the union.

In 1912, the union instituted the practice of hiring an attorney and making him available to its members if they wanted to use his services in personal injury proceedings before the State Industrial Commission. The practice arose as the result of frequently poor representation of mem-

*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.

¹ *United Mine Workers of America, District 12 v. Illinois Bar Association* (U.S. Sup. Ct., December 5, 1967). For the State court's decision in this case, see *Monthly Labor Review*, March 1967, pp. 54-55.

² The practice followed by the union is this:

The union provides injured members with forms entitled "Report to Attorney on Accidents," which are filled by the members and sent to the union's legal department. Nothing in the form specifically requests the union attorney to file with the State Industrial Commission an application for the adjustment of the workman's compensation claim, but the attorney presumes that the form constitutes such a request. The members may employ other counsel if they so desire, and the union attorney often suggests that they can do so. When that is done, the union attorney immediately turns the member's file over to the new attorney.

Applications for the adjustment of workmen's compensation claims are prepared in the union's offices, and are forwarded to the Industrial Commission. Following this, the union attorney prepares his case from the file, often without discussing the claim with the member involved. The attorney asserts the worth of the claim, presents his views to the attorney of the responding employer in prehearing negotiations, and attempts to reach a settlement. If an agreement is reached, the union attorney notifies the injured member who then decides, in the light of the attorney's advice, whether or not to accept the offer. If no agreement is reached, a hearing is held before the Industrial Commission, in which the union attorney represents the member.

³ 377 U.S. 1 (1964).

⁴ 371 U.S. 514 (1963).

⁵ *Nash v. Florida Industrial Commission* (U.S. Sup. Ct., December 5, 1967).

bers' interests before the commission and of the high fees charged by private attorneys. The attorney is specifically instructed by the union that his obligation is only to the person he represents; and since the attorney is salaried, the union member retains the full amount of any award.²

In rejecting the union's claim that the Constitution protected this practice, the State court held this arrangement was not within the Supreme Court's rulings—either in *Railroad Trainmen v. Virginia Bar*,³ where the union was recommending attorneys to union members, or in *NAACP v. Button*,⁴ where the organization's payment of fees to the recommended attorney was protected as a form of political activity.

The Supreme Court said that this reading of *Trainmen* and *Button* was too restrictive in that *Button* did not limit the freedom of association to that for political purposes, nor were there grounds for distinguishing the present case from *Trainmen*. The Court found the degree of difference, if any, between a union's steering of members to a particular attorney and retaining an attorney on its payroll was "virtually imperceptible." Moreover, there had been no showing of abuse under the union plan.

The Court readily recognized that the State had the power to supervise the practice of law before its courts. In this instance, however, State action had come into conflict with rights protected by the first and fourteenth amendments to the Constitution; and since no abuse had actually been shown and the possibility of prospective abuse was remote, the State decision could not stand.

Constitution—Supremacy Clause

Denial of Unemployment Benefits. In a unanimous opinion, the U.S. Supreme Court held⁵ that the supremacy clause of the Federal Constitution prohibits a State from denying a laid-off worker unemployment compensation solely on the ground that the applicant had filed with the National Labor Relations Board an unfair labor practice charge relative to the layoff. The Court invalidated Florida's unemployment compensation law that provided for such denial of benefits.

The plaintiff had been reemployed after engaging in a strike against her employer, but was laid off about 5 weeks later allegedly for economic reasons. She filed an unfair labor practice charge with the Board, claiming that she was illegally laid off because of her union activities, and seeking

reinstatement with backpay. Subsequently the company voluntarily called her back to work. She was allowed unemployment compensation from the date of discharge until the time she filed the unfair labor practice charge, but was denied benefits from the latter date to the time of reinstatement. The Industrial Commission of Florida ruled that the filing of the charge brought her within the provision of the State statute that disqualified individuals from receiving benefits when the unemployment was "due to a labor dispute." The State court of appeals affirmed without opinion.

In reversing, the Supreme Court held that the State's application of its law was invalid under the supremacy clause of the Constitution (article 6 section 2) because it frustrated enforcement of the National Labor Relations Act. The enforcement of the act, the Court pointed out, depends upon individuals' freedom to file unfair labor practice charges,⁶ and the law forbids coercive action against persons for filing such charges. The Court found that the State's imposition of the financial burden of loss of unemployment compensation on those who file unfair labor practice charges would "thwart congressional reliance on individual actions" and must, therefore, fall.

Labor Relations

NLRB Jurisdiction: Hospitals. In two cases⁷ involving unions' petitions for representation elections, the National Labor Relations Board asserted jurisdiction over proprietary hospitals with a yearly gross income of at least \$250,000, and proprietary nursing homes and related facilities with a yearly gross income of at least \$100,000. Previously,⁸ the Board had characterized proprietary

hospitals as local in nature and had declined to take jurisdiction.

In neither of the two cases did the employer seriously contend that it was beyond the Board's power to take jurisdiction. Rather, relying on its decision in *Flatbush*, they argued that their respective establishments and businesses did not have a sufficient impact on interstate commerce to warrant the Board's assertion of jurisdiction.

However, the Board found—in the *Butte* case—that a "marked" change had occurred during the intervening years since the *Flatbush* decision. While it did not question that hospitals are primarily humanitarian institutions, it found that "some aspects of their operations are essentially business in character;" i.e., hospitals are involved in a multibillion dollar industry and, as such, secure operational personnel, obtain substantial supplies, and engage in the receipt and transmission of large sums of money from private and public health plans—activities conducted through the use of interstate commerce. Therefore, the Board reasoned, unregulated labor disputes would inevitably affect commerce. The Board took note of the States' efforts to regulate proprietary hospitals, but found them inadequate from the standpoint of labor relations as "hav(ing) little, if anything, to do with matters of union representation, collective bargaining, the effective settlement of labor disputes, or the stabilization and maintenance of industrial peace." Due to the potential impact on commerce and the lack of adequate State regulation, the Board overruled the *Flatbush* decision and asserted jurisdiction over proprietary hospitals with a yearly gross income of at least \$250,000.

Similarly, the Board took jurisdiction over "proprietary nursing homes and related facilities providing skilled nursing, health care, and convalescent services, where the employer involved receives at least \$100,000 in gross revenues per annum," and ordered elections held in both cases.

Authorization Cards. Applying the principle that a check of union authorization cards is not a reliable indicator of employees' wishes regarding union representation, a Federal court of appeals refused⁹ to enforce a bargaining order of the NLRB despite the fact that the employer had committed unfair labor practices subsequent to the union's bargaining request based on such authorizations. The court held that the employer's

⁶ The Board can start a proceeding only when a charge is filed with it. See, e.g., *NLRB v. National Licorice Co.*, 104 F. 2d 655, 4 (C.A. 2), modified on other grounds 309 U.S. 350, 6; *Local 138, Operating Engineers (Skura)*, 148 NLRB 679, 681.

⁷ *Butte Medical Properties and Building Service Employees Union, Local 22*, 168 NLRB No. 52 (November 16, 1967); *University Nursing Home and Local 1, American Federation of State, County and Municipal Employees*, 168 NLRB No. 53 (November 20, 1967).

⁸ *Flatbush General Hospital*, 126 NLRB 144 (January 13, 1960). In this case, the Board noted that it had asserted jurisdiction over proprietary hospitals only where the hospital was located in the District of Columbia, or where the hospital vitally affected national defense or was an integral part of an establishment which met the Board's jurisdictional standards. With regard to other proprietary hospitals, the Board had characterized them as local in nature because "they service local residents" and "their operations are subject to close regulation by the States for the protection of the health and safety of their residents."

⁹ *NLRB v. S. S. Logan Packing Co.* (C.A. 4, October 27, 1967).

violations were "minimal" and were committed in the process of verifying the union's claim of majority status.

The union requested bargaining, claiming it represented a majority of the employees and offering to submit their authorization cards to a neutral party for a count. The employer refused to bargain and, instead, undertook interrogation and surveillance of workers relative to the organizational attempts. The Board found that the employer's conduct constituted an unfair labor practice, that the union represented a clear majority of the employees at the time of the refusal to bargain, and that the employer had no good-faith doubt about this fact. In consequence of its violation, the company was ordered to bargain with the union without any further verification of its status as the employees' representative.

The court found that the evidence, although minimal, supported the unfair labor practice finding but did not support the finding that the union represented a majority of the employees or that the employer had no good-faith doubt as to the union's claim. After a lengthy discussion on the subject of how the possibility of misrepresentation, threats, and the absence of secrecy prevent a card check from being a reliable indicator of employees' wishes, the court said that it was with the intention of verifying the union's claim of majority that the employer engaged in actions, such as interrogation of employees, which constituted minimal infractions of the law.

Regarding the effect of the unfair labor practices on the question of the employer's good-faith doubt, the court stated that the natural response of an employer with such doubt—investigation and inaction on the request for bargaining—may be some indication that he has no good-faith doubts. But, the court said "The doubting employer, seeking to inform himself, . . . technically has a right to interrogate for the purpose of resolving his doubts," although in doing so he runs a risk of violating the law.

The court found no need for a bargaining order to remedy unfair labor practice violations in this type of case because here, as in a great majority of cases, cease-and-desist orders and employers' notices will eliminate any undue influences upon an election. The opinion pointed out that the Taft-Hartley amendment restricts the Board to the use of secret ballots for the resolution of representa-

tion questions, and stated that bargaining orders may be used only in "extraordinary cases."

Hiring Hall Discrimination. The National Labor Relations Board held¹⁰ that a union and an employer association illegally maintained a hiring and job referral system that, in effect, created a "preferred class of white registrants and white union members" and discriminated against Negroes in union membership and employment because of their race.

An association of employers, by custom and practice, made the union's hiring hall the exclusive referral agent for employment by the association's members. For many years the union followed a policy of refusing to refer Negroes for work or to accept their applications for membership. When further exclusion of Negroes from the union became difficult, the union declared its membership "frozen," stating it would accept no new applications from Negroes or whites. Several Negro applicants who for years had attempted to obtain work through the hiring hall filed charges against the union and the association, alleging an unfair labor practice in violation of the Labor Management Relations Act.

The trial examiner found that the union and the association had discriminated against Negro applicants, and that the membership "freeze" was employed as a means of furthering that discrimination. But, he held, since the charges had been filed more than 6 months after the "freeze," the Board had no jurisdiction. (The act requires that the charges be filed not later than 6 months after the occurrence of an unfair labor practice.)

The Board held, on rehearing, that the union's discriminatory refusal to refer for employment was a continuing violation of the act's provision for equal representation, and that the date the "freeze" policy was initiated was not determinative of the violation. The union and employee association had discriminated both before and after that date.

So holding, the Board ordered the union to cease discriminating, and the employer association to take affirmative action to remove the effects of the past discrimination. Specifically, the association was ordered to accord the complainants seniority and compensatory pay dating back to 6 months prior to the filing of the charges.

¹⁰ *Houston Maritime Association, Inc. and Leon H. Phelps*, 168 NLRB No. 83, December 6, 1967.

Chronology of Recent Labor Events

December 5, 1967

THE SUPREME COURT held that a State cannot deny unemployment compensation solely because a worker also files a charge of unfair labor practice with the NLRB. The petitioner was laid off 5 weeks after reinstatement following a strike, and was unemployed from May 16 to October 5, 1965. The State allowed compensation from May 16 to June 17, but denied it thereafter on the grounds that with the filing of the unfair labor practice charge, her unemployment became "due to a labor dispute." The case was *Nash v. Florida Industrial Commission*. (See pp. 67-68, this issue.)

IN *United Mine Workers of America, District 12 v. Illinois State Bar Association*, the Supreme Court held that a union's right to employ an attorney to represent members and their dependents before the Illinois Workmen's Compensation Board is guaranteed by the First and Fourteenth Amendments covering freedom of speech, petition, and assembly. The Court remanded the case "for proceedings not inconsistent with this opinion." (See p. 67, this issue.)

December 11

VETERANS' reemployment rights, as defined in the Universal Military Training and Service Act, include not only protection of seniority rights, but any other benefit for which a veteran would ordinarily qualify, the Supreme Court ruled. The case, *Eagar v. Magma Copper Co.*, involved a returning veteran's eligibility for paid vacations and holidays. The Court held, in effect, that time in the service is considered employment without interruption rather than a leave of absence.

December 15

A BILL prohibiting job discrimination against those age 40 to 65 by unions, employers, and employment agencies was signed by President Lyndon B. Johnson. To be administered by the Wage and Hour Division of the Department of Labor, the act (Public Law 90-202) takes effect 180 days after signature, though the effective date can be delayed another 90 days if the Secretary of Labor determines extra time is needed for preparation. The maximum which can be appropriated in any fiscal year for administration of the law is \$3 million. The Government is required to try conciliation, conference, and persuasion before going into court for a cease-and-desist order.

December 16

PRESIDENT JOHNSON signed into law two bills giving raises to about 5.5 million Federal civilian and military personnel. The civilian authorization gives 3-step raises to all classified employees and postal workers (October 1967, and July 1 of 1968 and 1969). The military bill increased pay in 1967 and provides for further adjustments equivalent to the average of those of classified employees, should Congress fail to act before July 1 in either of the next 2 years. (See p. 77, this issue.)

December 18

NEW YORK CITY Mayor John V. Lindsay signed a bill requiring that companies pay their workers a minimum of \$1.75 an hour for all work performed under city contracts, effective January 1, 1968. Both State and Federal minimums will be \$1.60 effective February 1, 1968. (See p. 77, this issue.)

December 26

GOVERNOR RICHARD J. HUGHES of New Jersey signed a bill requiring that farmers provide improvements in camp housing and living conditions for migrant workers and that each of the State's 1,700 migrant camps be certified by State inspectors before it is opened next spring.

J. P. STEVENS Co. asked 69 dismissed workers to return to work, after the Supreme Court refused on December 11 to hear an appeal of a lower court order for their reinstatement. The NLRB had decided four cases against Stevens, finding the company guilty of unfair labor practice in all of them. The first NLRB order, issued March 22, 1966 (see MLR, April 1966, p. 419), was the one affected by the Court's denial of a rehearing. In that case, the Board found 71 employees were fired for their union activity, and ordered the company to reinstate them with back pay, and to mail copies of the Board's order to all its employees in 43 plants in North and South Carolina, in addition to posting the order on company bulletin boards and having it read aloud to employees by company officials. A Circuit Court upheld the NLRB on July 7, 1967, but modified the order by limiting it to the 20 plants where the Board actually found unfair labor practice, and allowing the order to be read by an NLRB official. (Of the original 71 workers, one man died and another could not be found.)

December 29

GENERAL MOTORS CORP. and the United Auto Workers agreed on a 3-year national contract covering about 387,000 workers. The settlement provides hourly wage increases of 20 cents for all workers and 50 cents for skilled workers, both retroactive to October 16, plus 3-percent increases in the second and third years. (See p. 72, this issue.)

Major Agreements Expiring in March

This is a listing of collective bargaining agreements ending during the month, and includes almost all agreements¹ covering 1,000 workers or more.

Copies of Major Collective Bargaining Agreement Expirations, covering the entire year, are available upon request to the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212, or to any of the Bureau's regional offices.

Company and location	Industry	Union ²	Number of workers
Associated General Contractors. (Idaho and Washington)	Construction	Laborers	2,600
Associated General Contractors (Anchorage, Alaska)	Construction	Carpenters	3,000
Associated General Contractors. (New Mexico)	Construction	Carpenters	2,000
Beaunit Corp., Beaunit Fibers Division. (Elizabethton, Tenn.)	Textiles	United Textile Workers	2,600
Brooklyn Union Gas Co. (Brooklyn, N.Y.)	Utilities	Transport Workers	2,500
Brown & Williamson Tobacco Co. (Virginia and North Carolina)	Tobacco manufactures.	Tobacco Workers	2,600
Brown & Williamson Tobacco Co. (Louisville, Ky.)	Tobacco manufactures.	Tobacco Workers	2,500
E. L. Bruce Co. (Interstate)	Lumber and Wood Products.	Carpenters	2,400
Budd Co. 4 agreements. (Interstate)	Transportation equipment; and fabricated metal products.	Auto Workers	13,600
California Metal Trades Assn. (San Francisco, Calif. area)	Fabricated metal products.	Machinists	6,000
Campbell Soup Co. (Camden, N.J.)	Food products	Packing house Workers	2,600
Carrier Corp., Elliott Division (Pennsylvania and Ohio)	Machinery	Steelworkers	1,000
Celanese Corp. of America, Fibers Division (Rock Hill, S.C.)	Chemicals	Textile Workers Union	1,800
Coal Producers Assn. of Illinois	Mining	Progressive Mine Workers (Ind.)	1,200
Continental Oil Co. (Ponca City, Okla.)	Petroleum	Independent Oil Workers' Union of Oklahoma (Ind.)	1,000
Cutler-Hammer Inc. (Milwaukee, Wis.)	Electrical products	Machinists	2,300
Dow Chemical Co. (Midland and Bay City, Mich.)	Chemicals	Mine Workers, District 50 (Ind.)	5,900
Edition Bookbinders of New York, Inc., 2 agreements (New York, N.Y. area)	Printing and publishing.	Bookbinders	3,450
Erwin Mills, Inc. (Coolemeec, N.C.)	Textiles	United Textile Workers	1,000
Ex-Cell-O Corp. (Detroit, Mich. area)	Machinery	Auto Workers	2,000
Food Store Operators (Alameda County, Calif.) ³	Retail trade	Retail Clerks	3,400
Food Industry Inc. (Washington)	Retail trade	Retail Clerks	2,500
Glass Container Manufacturers Institute, Inc. (West Coast)	Stone, clay, and glass products.	Glass Bottle Blowers	6,000
Grower-Shipper Vegetable Assn. (California)	Wholesale trade	Packinghouse Workers	1,200
Gulf Coast Piping Contractors Assn. and 1 other Assn. (Texas)	Construction	Plumbers and Pipefitters	1,500
Hayes International Corp. (Birmingham, Ala.)	Transportation equipment.	Auto Workers	3,500
Hercules Inc., Parlin Plant (Parlin, N.J.)	Chemicals	Chemical Workers	1,300
I-A ⁴ Detroit Breweries and Distributors. (Detroit, Mich.)	Food products	Brewery Workers	3,000
I-A ⁴ Retail Food and Liquor Stores. (California)	Retail trade	Retail Clerks	1,300
Kroehler Manufacturing Co. (Interstate)	Furniture	Upholsterers	3,350
Lenkurt Electric Co., Inc. (San Carlos, Calif.)	Electrical products	Electrical Workers (IBEW)	1,700
Miami Valley Foundrymens Assn. (Ohio and Kentucky)	Primary metals	Molders	1,300
Munsingwear Inc. (Minnesota and Wisconsin)	Textiles	Textile Workers Union	1,350
Narragansett Electric Co. (Rhode Island)	Utilities	Utility Workers of New England (Ind.)	1,400
Northern California Dairy Industry Labor Relations Assn. (California)	Food products	Teamsters (Ind.)	4,000
Outboard Marine Corp., Evinrude Motors Division (Milwaukee, Wis.)	Machinery	Steelworkers	1,100
Owens Illinois Inc., Closure Division (Illinois and New Jersey)	Primary metals	Glass Bottle Blowers	1,100
Painting and Decorating Contractors; and Northwest Drywall Contractors.	Construction	Painters and Paperhangers	3,000
Puget Sound Power and Light Co. (Seattle, Wash.)	Utilities	Electrical Workers (IBEW)	1,300
Retail Grocers Assn. (San Jose, Calif. area)	Retail trade	Retail Clerks	3,400
Santa Barbara Restaurant Assn.; and Ventura County Restaurant Owners (California)	Restaurants	Hotel and Restaurant Employees	2,000
Southern California Gas Co. (California)	Utilities	Utility Workers	3,250
Southern Counties Gas Co. of California	Utilities	Chemical Workers	1,800
Textron, Inc. (Muskegon, Mich.)	Primary metals	Auto Workers	2,500
Union Carbide Corp., Stellite Division (Kokomo, Ind.)	Primary metals	Steelworkers	2,000
United Metal Trades Assn., Shop Work (Oregon)	Primary metals	Metal Trades Council	1,800
United Parcel Service of New York, Inc. (New York and New Jersey)	Trucking	Teamsters (Ind.)	3,050
Washington Metal Trades, Inc., Repair Work (Seattle, Wash.)	Fabricated metal products.	Boilermakers	1,700
Washington Metal Trades, Inc. (Seattle, Wash.)	Machinery	Machinists	1,600
J. Weingarten, Inc. (Texas)	Retail trade	Retail Clerks	2,500
T. C. Wheaton Co. and Wheaton Glass Co. (Millville, N. J.)	Stone, clay, and glass products.	Glass Bottle Blowers	1,500
White Motor Co. (Cleveland, Ohio)	Transportation equipment.	Auto Workers	2,500

¹ Excludes government, airlines, and railroads.

² Unions affiliated with AFL-CIO except where noted as independent (Ind.).

³ Information is from newspaper account of settlement.

⁴ Industry area (group of companies signing same contract).

Developments in Industrial Relations*

A MID-DECEMBER settlement at General Motors Corp. ended the current round of negotiations for national contracts between the Auto Workers and the Big Three automakers. About 387,000 employees were included in the 3-year agreement whose terms were substantially similar to earlier Ford and Chrysler contracts. General Motors also agreed with the Electrical Workers (IUE) on a contract covering 30,000 workers providing like terms. Meanwhile, the Dana Corp. became the first major auto parts supplier to follow the Big Three pattern by agreeing to a 3-year contract for 8,000 Auto Workers. Later, Deere and Co. also followed the auto pattern as a 3-year contract covered 20,000 Auto Workers and ended a 34-day strike. On December 16, President Lyndon B. Johnson signed into law bills providing pay increases to over 5.5 million Federal classified and postal employees and members of the Armed Forces.

Strike idleness in November rose to 3,060,000 man-days, or 0.26 percent of the estimated total working time, compared with 0.19 percent in November 1966, and 0.13 percent in November¹ 1965.

Metalworking

A December 15 agreement at General Motors Corp. covered 387,000 Automobile Workers and ended 1967 bargaining for national contracts with the Big Three automakers. Economic terms were closely patterned after the settlements reached at Ford Motor Co. and Chrysler Corp.²

In noneconomic matters, GM agreed to increase by an hour a day the amount of company-paid time that the union's 2,050 shop stewards could devote to union affairs. As a result, about half of the stewards will be allowed 8 hours a day, and the balance 6 hours a day, for union work. (At Ford and Chrysler, stewards spend their full workday on union affairs.) Relief time was increased by 10 minutes a day (to 46 minutes) at GM, compared with a 12-minute increase (to 48 minutes) at

Ford and Chrysler, but the improvement applied to a larger proportion of the work force at GM than at the other firms. GM also agreed to short-term training of workers displaced by automation and to establishment of a joint committee to identify future problems resulting from technological change. Arbitration procedures were established to resolve disputes regarding jurisdiction of the skilled trades and subcontracting of maintenance work. The apprentice program was improved and now will be administered jointly.

On December 19, the Electrical Workers (IUE) also agreed to a 3-year contract with GM. The agreement, which covered 30,000 workers, generally followed terms of the GM-UAW settlement.

The Ford Motor Co. on December 7 announced a \$35- to \$87-a-month pay increase for its general salaried employees, retroactive to November 1. In addition, \$31.20 of the \$119.60 quarterly cost-of-living allowance was transferred to base salaries, an additional holiday was granted, and improvements were made in pensions and in medical, life and disability insurance.

Dana Corp. in early December became the first major automotive parts supplier to reach agreement with the Automobile Workers. The 3-year contract, which was similar to those with the Big Three automobile manufacturers, included an immediate wage increase of 47 cents an hour for skilled workers and 17 cents for others.

A strike by 20,000 Auto Workers at Deere and Co., that began on November 18, ended in late December with agreement on a 3-year contract that followed the pattern of the October settlements with Ford Motor Co. and Caterpillar Tractor Co.

Meanwhile, negotiations were continuing with International Harvester Co. and Allis-Chalmers Manufacturing Co.

A \$1-an-hour immediate wage increase featured a November settlement between the Michigan Pattern Manufacturers' Association and the Detroit affiliate of the Pattern Makers League. This brought the minimum hourly rate to \$6.16. Other provisions of the 3-year contract included 35-cent wage increases in both the second and third years,

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

¹ Figures for November 1967 are preliminary.

² See *Monthly Labor Review*, December 1967, p. 53, and January 1968, p. 69.

continuation of the cost-of-living clause, with no maximum limits on the increases, a 4-cent raise in the 18-cent hourly payment in lieu of paid holidays, a 10-cent-an-hour increase in the employers' pension contribution, and a \$2-a-week increase in the contribution to the insurance fund.

The settlement, preceded by a 6-week strike by the 900 workers, was expected to set a pattern for independent shops.

Otis Elevator Co. and the Electrical Workers (IUE) settled October 31, ending a 2-month strike by 3,000 workers at plants in Yonkers, N.Y. and Harrison, N.J. The 3-year contract provided wage increases of 8 to 17 cents for hourly employees and 4 percent for salaried employees effective immediately, matching increases in 1968, and 8 to 17 cents and 3½-percent increases in 1969. Other terms included additional wage adjustments for some classifications, and improved pension, sickness and accident, and severance benefits.

In San Diego, Calif., a 4-month strike that had idled 5,000 shipbuilding workers at its peak ended in late October, when the Iron Workers settled with National Steel and Shipbuilding Co. (NASCO) on a 3-year contract. The six other unions³ involved in the walkout agreed to 3- or 5-year contracts with the 20 firms, including NASSCO.

The 3-year agreements specified an immediate 14-cent-an-hour wage increase, 13 cents in the second year, and 12 cents in the third; established a pension plan giving a \$62.50-a-month benefit after 25 years of service and portability of pension credits among the yards; provided a 5-cent-an-hour tool allowance for journeymen, and improved hospital and medical benefits. The 5-year agreements matched these wage and benefit changes during the first 3 years but included 12-cent wage increases in both the fourth and fifth years, and, effective in the fifth year, an \$81.50 pension and a cost-of-living clause.

Wages were increased 18 to 28 cents an hour effective immediately and 15 to 25 cents in 1968 under a 2-year agreement between the Machinists and the Brown and Sharpe Manufacturing Co. for 2,000 workers in Providence, Greystone, and North

Kingstown, R.I. The incentive system was eliminated and replaced by straight hourly rates calculated at the worker's average earnings for the second or third quarter of 1967 (whichever was higher), plus 13 cents an hour effective immediately and an additional 10 cents in 1968. Changes in supplementary benefits included a 5-cent increase in shift differentials, improved insurance and vacations, and adoption of a 10th paid holiday and a major medical plan.

About 25,000 hourly employees of Texas Instruments, Inc., will be paid on a salaried basis on January 1, 1968, according to a late November announcement by the company. In contrast to salaried workers, hourly paid employees had not been paid for absences but could earn overtime pay. Under the new plan, all employees would be eligible for paid absences ranging from 3 days for employees with 1 year of service to 26 weeks for those with 5 years. Those with 5 years of service may receive 75 percent of base pay for up to 26 weeks of absence because of disability after 5 days at 100 percent of base pay. All employees would be paid for overtime work—up to a maximum of \$1,100 a month including base pay.

The company refused to speculate on the effect of the conversion on attempts to organize the firm's employees. The company's operations are primarily in the Dallas, Tex. area with major facilities in Attleboro, Mass., Versailles, Ky., and Sherman, Tex.

United Aircraft Corp. on December 1 announced a 4-percent pay increase for 31,000 non-union salaried employees, effective December 15.

Other Manufacturing

Bargaining under a cost-of-living wage re-opener, Local 62 of the Ladies' Garment Workers' Union in October negotiated a 4-percent wage increase for 15,000 workers in the undergarment and negligee industry in the New York City area. The increase will be effective February 1, 1968, when workers will also receive a 4-percent deferred wage increase provided by their existing 3-year contracts,⁴ which expire June 30, 1969.

Annual length-of-service bonuses were to begin in March 1969. The bonuses, equal to 2 percent of yearly earnings, will be paid to employees who have worked in the same shop for the 3 preceding years.

³ The Operating Engineers, Teamsters, Painters, Electrical Workers (IBEW), Carpenters, and Machinists.

⁴ The contracts are with four employer associations, the Allied Underwear Association, Inc., the Lingerie Manufacturers Association of New York, Inc., the Negligee Manufacturers Association of New York, Inc., and the Undergarment Accessories Association, Inc.

Even though bargaining on this benefit was not scheduled until 1968, employers agreed to increase their health and welfare contributions to 5.5 from 5 percent of weekly payroll for inside shops, and to 4.125 from 3.75 percent for contracting shops. Using the additional financing, the sickness and accident benefit maximum was raised to \$55 a week from \$50 and the minimum was set at \$28 regardless of earnings, hospital benefits were increased to 200 days from 75, and improvements were made in benefits for extended illness and for hospitalization of minors.

About 4,000 workers in three States were affected by a November 27 settlement between six pottery firms⁵ and the Potters union. The 3-year, 26-cent package included annual wage increases, improved pensions, and a \$500 increase in life insurance.

A 9½-week strike by 3,500 members of Local 6-75 of the Oil, Chemical, and Atomic Workers ended in late November with ratification of a 3-year agreement covering Minnesota Mining and Manufacturing Co. plants in St. Paul and Hastings, Minn. The first-year wage increase was 12 to 16½ cents an hour for production and noncraft maintenance workers, with 25- and 26-cent increases for craftworkers.

In the second and third years, the company will continue the practice of basing wage scales on surveys of area wage rates, but with a minimum increase in each year of 17 cents for production and noncraft maintenance workers and 18 cents for craftworkers. In addition, improvements were made in holiday, vacation, pension, and sickness and accident benefits.

The Upholsterers' International Union and Simmons Co. agreed on a 3-year contract on November 8, ending a 15-day strike. Employees had struck eight plants⁶ after rejecting a tentative settlement negotiated in late October. Two other Simons plants (in San Leandro and Los Angeles, Calif.) were not involved in the negotiations.

The agreement, covering 4,500 employees, provided wage increases of 14 cents an hour for pieceworkers and 19 cents for hourly rated employees retroactive to October 12, 1967, with additional 12-cent increases for all employees in the second and third years. An additional paid holiday was provided and pensions and health and welfare benefits were improved.⁴

In early December, the United Papermakers and Paperworkers reached agreement with the

West Virginia Pulp and Paper Co. on a 2-year contract covering 1,800 workers in three plants.⁷ The agreement provided a 13-cent-an-hour immediate wage increase and a 5-percent increase in the second year. Other terms included a sixth week of vacation after 30 years, an eighth paid holiday, and improved hospitalization and pension benefits.

A 5-percent wage increase, additional 4- to 8-cent-an-hour adjustments for skilled workers, a 3-cent increase in the night-shift differential, a ninth paid holiday, and a reopening clause for wage bargaining after 1 year were provided in a 2-year contract for 1,950 production employees of Armstrong Cork Co. The agreement was reached in November for the Lancaster, Pa. floor plant by Local 285 of the Rubber Workers. The company also settled with the Machinists on a generally similar contract that provided additional improvements for 400 maintenance workers.

The directors of the Eastman Kodak Co. on November 16 approved the annual wage dividend to be paid on March 22, 1968, to the company's 68,500 employees throughout the United States. The dividend, which will total \$77.6 million, will amount to \$36 for each \$1,000 an employee earned from 1963 through 1967. Employees with at least 5 years of service had the option of investing part or all of their bonus in the company's savings and investment plan.

Freund's Bakery in Glendale, Calif. will pay personal automobile insurance for its 40 employees as a result of a settlement in late November with Teamsters Local 986. Under the provision, Freund's will pay \$20 a month per employee into a fund from which premium payments will be made.

Construction

In New York State, the Associated General Contractors and five locals of the Operating Engineers reached agreement in November on contracts for 8,000 workers in heavy and highway construction in 46 counties outside New York City. The settlement for the Albany, Binghamton, Syracuse, and Rochester locals provided wage and benefit in-

⁵ Canonsburg Pottery Co., Canonsburg, Pa., Hall China Co., East Liverpool, Ohio, Harker Pottery Co., Chester, W. Va., Homer Laughlin Pottery Co., Newall, W. Va., Royal China Co., Sebring, Ohio, and Taylor, Smith and Taylor China Co., Chester, W. Va.

⁶ Located in Medford, Mass.; Elizabeth, N.J.; Atlanta, Ga.; Jacksonville, Fla.; Dallas, Tex.; Columbus, Ohio; Munster, Ind.; and Kansas City, Kans.

⁷ Located in Luke, Md., Williamsburg, Pa., and Covington, Va.

creases over 3½ years ranging from \$1.50 an hour for lower rated classifications to \$1.70 an hour for top-rated classifications. The Buffalo local accepted a 1-year agreement that provided a 75-cent package. The settlements were preceded by 1-month strikes.

Nine locals of the Boilermakers and an employer committee representing construction contractors in seven southeastern States⁸ negotiated a 3-year agreement providing an estimated \$1.09 package for 2,500 workers.

Transportation and Utilities

The 29,000-member New York City Taxi Drivers Union reached a 3-year agreement with the Metropolitan Taxicab Board of Trade in late November. The driver's share of fares was increased to 49 percent for those with 10 years of full-time service (including the last 3 years with one fleet) and to 48 percent for other drivers, effective when the city approves an "adequate" fare increase. After 18 months these rates would be increased to 50 and 49 percent, respectively. The previous rate was 47 percent for all drivers. In addition, reduction in the requirement for classification as a full-time driver to 230 days' work in a year from 240 days enabled more drivers to qualify for the quarterly attendance bonus (1 percent of gross receipts). Other terms included \$2-increased of \$1.50-an-hour breakdown pay, a third week of paid vacation after 10 years of service for full-time drivers whose last 3 years were with one fleet, and, for all drivers, 2 weeks, after 3 years of full-time service instead of 4. Estimates of driver earnings prior to the settlement were \$100 (including tips) for a 50-hour week, according to the union, and \$125 for 45 hours, according to management.

About 1,200 inside employees received wage increases of 5 percent in each year of the contract along with improved holidays, vacations and industrywide seniority provisions.

Base pay for about 2,200 stewardesses was increased \$17 to \$85 a month retroactive to October

⁸ North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee. For earlier Boilermakers area agreements, see *Monthly Labor Review*, January 1968, pp. 70-71.

⁹ Incentive pay is compensation for each hour of flight time in excess of 67 a month on straight jet aircraft and 70 hours on other aircraft.

¹⁰ Massachusetts, New Jersey, Pennsylvania, Maryland, and Delaware.

¹¹ Five cents in November of both 1967 and 1968 and 4 cents in November 1969.

1, and between \$20 to \$55 a month effective September 1, 1968, by an early November settlement between Eastern Airlines, Inc., and the Transport Workers. The 28-month pact also gave the stewardesses a lump-sum retroactive payment of 5½ percent of gross earnings for the period from May 1, 1967, to September 30, 1967. Incentive pay (pay for extra flying hours)⁹ was increased by amounts ranging from 12 cents to \$3.62 an hour retroactive to October 1, and 36 cents to \$1.76 on September 1, 1968. Other terms included improved vacations, pensions, and health and welfare benefits.

On November 19, members of 11 Teamsters locals ratified a 3-year contract with the Eastern Labor Advisory Association that affected 2,500 oil and chemical tank truckdrivers in five Eastern States.¹⁰ Wages were increased by 25 cents an hour retroactive to November 15, 15 cents on November 15 of both 1968 and 1969, and 14 cents for drivers and 5 cents for mechanics effective May 1, 1970. These increases included adjustments scheduled under a November 1966 settlement.¹¹ The current settlement also brought the number of paid holidays to 9 from the previous 7 or 8, provided double time instead of time and one-half pay for Sunday and holiday work, 4 weeks of vacation after 15 instead of 16 years of service, improved pensions, and made other benefit changes.

About 4,000 employees were covered by a November 29 settlement between the Railway Yardmasters and the Class I Railroads. The 18-month contract provided 5-percent wage increases retroactive to January 1, 1967, and 2½ percent on January 1, 1968, an eighth paid holiday, and 3 weeks' paid vacation after 10 instead of 15 years of service.

The first reported collective bargaining agreement covering privately employed physicians was reached in November when the National Maritime Union and the Grace Lines agreed to terms for 10 ship's surgeons on passenger ships. Salaries were increased \$82 a month, resulting in base salaries ranging from \$1,008 to \$1,208 a month. Payment for work in excess of 8 hours a day and for holiday and weekends was reinstated at \$4.23 an hour, which, the union said, would raise monthly at-sea earnings at least \$500. Other terms included formal recognition of equality in rank between ship's surgeons and first officers and provision for full coverage under the union's pension, health and welfare, and other security plans.

A 3-year agreement was reached in mid-November between the Dayton Power and Light Co. and Local 175 of the Utility Workers Union, representing 1,950 workers. Wages were increased 5.83 percent retroactive to October 29, with 3-percent plus 3-cent increases to become effective in both 1968 and 1969. A cost-of-living provision was to become operative on November 3, 1968, with a maximum accumulation of 15 cents over the term of the contract. Pension and group insurance plans were improved and meal allowances and Sunday and holiday premium pay were increased.

Trade and Services

Collective bargaining activity in November and December was at a high level in the food store industry. In southern California, the Food Employers Council, Inc., and the Teamsters agreed in November on a 3-year contract for 6,000 drivers, warehousemen, and clerical employees. Terms included wage increases of 20 cents an hour retroactive to September 4, and 14 cents in both 1968 and 1969, improved health and welfare benefits, a reduction in the service requirement, effective in 1969, for 4 weeks of vacation to 15 years from 20, a 5-cent-an-hour increase in the employer pension contribution, and the establishment of a vision care plan costing the employers 1½ cents a man-hour.

The Food Employers Council and the Meat Cutters reached agreement on December 12 on a 3-year contract, ending a 4-week strike against 1,100 food markets in southern California. Total pay increases ranged from 32 cents an hour for wrappers and cashiers to 40 cents for head meatcutters and journeymen.

Other provisions included a reduction to 15 from 20 years in the service required for 4 weeks of vacation and, effective July 1, 1968, the vacation plan will be converted to a funded basis, with employers paying in 3½ cents per hour worked; increased pension benefits, improved health and welfare coverage with the addition of a new vision-care plan, major medical coverage, and an annual physical examination, increased sick leave; and improved travel pay for employees required to work in more than one store in 1 day.

The Food Employers Labor Relations Association negotiated a 3-year agreement in mid-November with the Meat Cutters for 10,000 meat department employees in food stores in the San Francisco Bay area. Total wage increases over the contract

term were 45 cents for department heads, 42½ cents for journeymen, and 35 cents for wrappers. Other benefits included a cost-of-living clause, time and three-quarters pay for overtime work, a ninth paid holiday, a fifth week of vacation after 20 years of service, a 5-cent-an-hour increase in employer pension contributions, and a 10-cent increase in health and welfare contributions.

Agreement between First National Stores in Massachusetts, Connecticut, New Hampshire, and Maine, and six locals of the Meat Cutters ended a 17-day strike-lockout of 8,000 workers on November 29. Wages increased by varying amounts, as the contracts differed in length from 27 to 42 months. Supplemental benefits (essentially the same for all locals) included liberalized health and welfare benefits, increased sick leave, and improved funeral leave.

In the Chicago area, 10,000 meat department employees of chain and independent grocery stores were affected by a settlement with the Meat Cutters. Weekly wages were increased by \$12 effective immediately, by \$8 in 1968, and by \$7 in 1969. A "wrapper" job classification was established, paying \$90 a week, increasing to \$93 in 1968 and to \$96 in 1969. Other terms included adoption of a seventh paid holiday, a reduction to 18, from 20, in the years of service required for 4 weeks of vacation, a change in the pension plan to provide vesting after 10 years of service, and a \$4-a-month increase in the employer's health and welfare contribution.

In the Detroit, Mich. area, Retail Clerks Local 876 negotiated contracts in mid-November for 1,500 employees of Montgomery Ward Co. and 1,000 employees of E. J. Korvette.

The Ward contract provided for wage increases of at least 30 cents an hour over the 3-year term, a \$7.40-a-week cost-of-living allowance for commission employees, improved health and welfare benefits, a reduction to 20 from 25 years of service required for 4 weeks of paid vacation, and a seventh paid holiday.

The 41-month Korvette contract specified wage increases of at least 40 cents, increased company contributions to the health and welfare plan, a seventh paid holiday, and improved vacation and funeral leave benefits.

A 9-week strike ended in late November when the National Association of Broadcast Employees and Technicians (NABET) ratified a 4-year contract with the American Broadcasting Company.

Covering 1,400 employees in various major cities, the pact provided semiannual increases in weekly pay for about 1,200 engineering employees:

<i>Date</i>	<i>Amount</i>
Apr. 1, 1967.....	\$8 to \$16
Oct. 1, 1967 and Apr. 1, 1968.....	3 to 5
Oct. 1, 1968 and Oct. 1, 1969.....	2 to 5
Apr. 1, 1969.....	2 to 6
Apr. 1, 1970.....	5 to 16
Oct. 1, 1970.....	2 to 3

Size of the increases for about 200 nonengineering employees was not reported. In addition, working hours will be reduced to 37½ hours a week (from 40) on April 1, 1969, and to 36¼ hours on October 1, 1970. (This will be accomplished by providing paid lunch periods.) Holidays and sick leave were improved.

Earlier, NABET agreed to a 3-year contract with the National Broadcasting Company. This contract, covering about 1,500 employees, was ratified in October by about 1,300 engineering employees, but about 200 nonengineering employees waited until November. Terms of the settlement included weekly wage increases for the engineering employees ranging from \$7 to \$16 retroactive to April 1, \$4 to \$9 on October 1, and \$5 to \$11 on October 1 of both 1968 and 1969. The other employees received weekly increases ranging from \$5 to \$25, \$3 to \$7.89, \$3 to \$10.08, and \$3 to \$10 on the same dates. Working hours were reduced to 37½ hours (from 40) on November 1, 1968, by providing a half-hour paid lunch period. Sick leave was also improved.

Government

On December 16, President Johnson signed bills providing wage increases for 5.5 million Federal employees. The 1.3 million classified (white-collar) and 750,000 postal employees received increases of 4.5 and 6 percent, respectively, retroactive to the first pay period in October 1967. In addition, effective July 1, 1968, classified employees will receive an increase expected to be between 4.5 and 5 percent and postal workers will receive a 5-percent increase. Both groups will receive an increase of undetermined size effective July 1, 1969. Group life insurance was improved by the adoption of a \$10,000 minimum coverage for employees earning \$8,000 or less a year and by increasing the coverage for other employees by \$2,000, bringing the maximum benefit to \$32,000. The 800,000 Federal blue-collar employees were not affected by

the pay legislation; their wage levels are determined locally by comparisons with those of similar trades in private industry.

The 3.5 million military personnel on active duty received a 5.6-percent increase in base pay, retroactive to October 1. This bill also provided that servicemen will receive increases on July 1 of 1968 and 1969 matching those for the classified employees, if Congress does not legislate otherwise.

On December 2, the Washington, D.C., School Board and the Washington Teachers Union (affiliate of the American Federation of Teachers) reached agreement on a contract for the city's 7,000 public school teachers. The contract, the first negotiated by the union since it gained representation rights in an election held in April 1967, was to expire in January 1969. Salaries were not an issue but the school board and the union agreed to work for passage of 1 of 2 teacher paybills before Congress. The settlement also provides for a 182-day school year, instead of the previous 181 to 183 days, for an 8:45 a.m. to 3:15 p.m. work day, and for relieving teachers of some clerical duties.

In late November the Harris County, Texas, Commissioners voted to increase the salaries of the county's 3,050 employees by 5 percent on January 1, 1968. The increase was granted to offset a rise in the employees' retirement contribution scheduled to become effective January 1.

After more than a year of bargaining, the city of Detroit and Teamsters Local 214 reached agreement on an initial contract for the city's 1,500 truck drivers and equipment operators. The contract committed the city to pay prevailing area rates for comparable work in private industry, with the stipulation that the commitment be waived if "for financial reasons not within the city's control, it shall not be within the ability of the city to do so." The agreement also provided for binding arbitration of disputes between the union and the city and required members of the union to maintain their membership for the 3-year contract period.

Minimum Wage

On December 18, New York City's Mayor Lindsay signed a bill requiring all concerns doing business with the city to pay a minimum wage of \$1.75 an hour. The New York State minimum of \$1.50 and the Federal minimum of \$1.40 were scheduled to rise to \$1.60 effective February 1, 1968.

An increase in the Wisconsin minimum wage, and provision for future adjustments in accordance with changes in the Consumer Price Index, were announced by the State's Department of Industry, Labor and Human Relations. The minimum for those age 18 through 20 and for adult women will be increased to \$1.30 an hour, from \$1.25, effective July 1, 1968. The figure will thereafter be adjusted at 2-year intervals by 5 cents for each 4½-point change in the CPI. Any resulting adjustment will also affect minors under age 18; their minimum will be revised to maintain the 85-percent relationship their current \$1.10 rate bears to \$1.30. The "tip-credit" was increased to 15 from 10 percent, that is, employers can now pay their workers 15 percent less than the minimum if their tips make up the difference. The Wisconsin minimum wage law does not apply to adult men.

Yearend Bonuses

Auto Workers at General Motors Corp. and Ford Motor Co. and Rubber Workers at the Big Four rubber companies received Christmas bonuses paid from company-financed SUB funds. At General Motors, 370,000 workers with at least 1 year of seniority received bonuses of about \$35 on the last payday before Christmas. (GM paid bonuses of \$43 a worker in 1965 but none in 1966.) Some 136,000 Auto Workers at Ford also received bonuses of about \$35, compared with \$53.38 last year. Chrysler's 1964 agreement with the Auto Workers did not contain a bonus clause, and provisions for bonuses were eliminated from the recently negotiated Ford and GM contracts with the Auto Workers. About 51,000 production workers at Goodyear Tire and Rubber Co., Firestone Tire and Rubber Co., General Tire and Rubber Co., and B. F. Goodrich Co. received bonuses ranging from \$40 to \$95.

On Wall Street, brokerage houses distributed Christmas bonuses believed to be their largest in history. The largest reported payout was at Merrill, Lynch, Pierce, Fenner and Smith, where \$23.5 million was distributed to about 10,500 employees, compared with \$18 million a year earlier.

Other Developments

In a keynote speech to nearly 1,000 delegates to the AFL-CIO's seventh biennial convention at Miami Beach (Bal Harbour), Fla., Federation President George Meany stated that "The trade union movement is a more vital, a more vigorous and a more effective force for progress than ever before in its history." Mr. Meany cited the steady growth of the labor movement (an increase of nearly 1.5 million members since the 1965 convention) as evidence of labor's vitality. Also mentioned were organizing gains among public employees, farm workers, and professional employees, gains in wages and fringe benefits resulting from negotiations, and legislative successes in civil rights, medicare, education, and other social causes. Auto Worker President Walter Reuther did not attend the convention (bargaining for a new contract between his union and General Motors Corp. was still in progress). George Meany, Secretary-Treasurer William F. Schnitzler, and the 27-member Executive Council were reelected unanimously.

At the Executive Council's regular quarterly meeting prior to the convention, a special non-ferrous metals strike fund was established with an initial \$50,000 contribution from the AFL-CIO itself. In an attempt to aid 60,000 copper workers who have been on strike for over 5 months, the Council issued a call to affiliated unions to contribute to the fund.

Also at Bal Harbour, prior to the AFL-CIO Convention, I. W. Abel, president of the Steelworkers, declared on December 2, that a proposed arbitration plan for the 1968 collective bargaining in the basic steel industry had been disapproved by both union and management representatives. The plan, under discussion since a Labor Day statement by Mr. Abel, proposed that strikes and lockouts be given up during bargaining for a new contract and that government intervention be discouraged. To achieve a settlement, good faith bargaining would include final and binding arbitration by an impartial panel established by the parties. The plan was intended to avoid crisis bargaining, with ensuing layoffs and permanent loss of steelworker jobs.

On December 20, Albert Shanker, president of the New York City United Federation of Teachers (UFT) began serving a 15-day jail sentence imposed as a result of his role in the New York City teachers' strike of September 1967.¹² Mr. Shanker was the first person to be convicted under New York's Taylor Act,¹³ which prohibits strikes by public employees. The act went into effect on September 1, 1967. In addition to the jail sentence, Mr. Shanker was fined \$250 and the union was fined \$150,000.

Two days earlier, the New Jersey Supreme Court ruled that strikes by public school teachers were unlawful and upheld the criminal convictions of a number of teachers who had led teacher strikes in New Jersey in 1966 and early 1967.

On December 6, the Nation's railroads and railroad brotherhoods representing about 650,000 current employees agreed to ask Congress to amend the Railroad Retirement Act and the Railroad Un-

employment Insurance Act. The proposal would raise retirement benefits by 10 percent more than the increase under the recently enacted revision in social security benefits. Currently, benefits range from \$48.40 to \$237 a month, depending on length of service and earnings during working years. Retirees with 25 or 30 years of service receive an additional \$45 or \$70 a month.

The proposal would also raise the unemployment benefit to \$12.70 a day, from \$10.20, and extend maximum coverage to 2 years, from 6 months. The improvements in unemployment benefits, which are financed by the carriers, would affect 650,000 active employees, and the improvement in the retirement system, which is jointly financed, would apply to active employees, to 435,000 present retirees, and to 510,000 survivors.

¹² See *Monthly Labor Review*, November 1967, pp. 57-58.

¹³ See *Monthly Labor Review*, June 1967, p. 79, for provisions of the Taylor Act.

Technological change is not an abnormal condition of industrial society. These changes are intimately linked to economic growth and to impede them would seriously threaten our future welfare. The economist presupposes that these changes which have been identified will happen at a faster rate in the future. In the long run these changes make for a healthier, more viable economy. It is the shortrun consequences of these changes—temporary dislocation from jobs, skill shortages in certain occupations, and the need for job changes—that make up the set of problems that a modern industrial society must face.

—William Haber.

Book Reviews and Notes

In Defense of Training

Toward a Manpower Policy. Edited by Robert Aaron Gordon. New York, John Wiley & Sons, Inc., 1967. 372 pp. \$8.95.

Job Corps: Dollars and Dropouts. By Christopher Weeks. Boston, Little, Brown and Co., 1967. 241 pp. \$4.95.

Both manpower and full employment policies have the common objective of efficient utilization of labor resources. In terms of American experience, full employment policies, when properly used, have been successful, but the case for aggressive manpower policies is still being made.

In Dr. Gordon's book, the papers and discussions by labor economists, government administrators, and others at the Fourth Conference on Unemployment held at the University of California at Berkeley in 1966, present generally realistic but not enthusiastic appraisals of existing manpower programs.

Garth L. Mangum in his review of the emergence of national programs pointed to occasional successes but more frequent disappointments that resulted from limited dollar allocations, lack of coordination among agencies, and confusion over objectives. The absence of providing tests of the effectiveness of various training programs and measuring cost-benefit relationships was stressed by Gerald G. Somers in his evaluation of studies of retraining programs.

The question of objectives of manpower policy received a variety of answers. Philip Arnow presented the official position of "creating jobs, training people for jobs, and matching people and jobs." Frederick Harbison's definition was the "development, maintenance, and utilization of actual and potential members of the labor force." More analytical was John T. Dunlop's distinction between a "pure" labor market policy within given institutional constraints, and "gross" manpower policy that included institutional change.

These broad objectives contrasted sharply with the actual proposals for action. Bertil Olsson's description of the effective, integrated manpower service programs of Sweden made the gap even plainer. The mood of the conference was one of consolidation and retrenchment to safe positions. For example, discussions of the policy recommendations of the Employment Service Task Force skirted the issue of a nationalized Employment Service to replace the Federal-State arrangement. Without an effective national agency, it is difficult to see how the American pluralistic system can work better, even if management and labor accept the responsibilities of active participation discussed by Charles A. Myers and Richard A. Lester.

The difficulty of breaking away from older, ineffective manpower programs is the underlying theme of the second book. Mr. Weeks describes the difficulties encountered in an attempt to use Federal resources to attack directly the problems of disadvantaged youth. He discusses the development of the Job Corps from the idea of the Civilian Conservation Corps of the thirties, the legislative battle for the bill's passage, and the prodigious efforts of its protagonist, Sargent Shriver, and his dedicated staff to organize the job centers.

Mr. Weeks, a close associate of Mr. Shriver in the program, defends the Corps against many of its criticisms so far, including the relatively high trainee cost. Youthful dropouts from slum schools of the ghettos were ignored by every manpower agency until the Job Corps came along. But as the author puts it, the Corps was not attempting to wipe out teenage poverty and unemployment. It was trying to find a way to solve it. If it accomplishes that objective the training cost will be low indeed.

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Formula for Success

The American Occupational Structure. By Peter M. Blau and Otis Dudley Duncan. New York, John Wiley & Sons, Inc., 1967. 520 pp. \$14.95.

A sample of over 20,000 men, age 20-64, was obtained for this study from a special questionnaire attached to the Current Population Survey of the Census Bureau in March 1962. Since the CPS rep-

resents a universe covering the entire United States, the information acquired about mobility can be assumed to be representative of the entire adult male population. Thus, because of its size alone, the study is useful. In addition, the authors were able to measure statistically the relative importance of various determinants of occupational mobility.

The objective of the study was to determine "how various factors condition the influence of origins on occupational success." Professors Blau and Duncan chose to limit their analysis to five factors of an individual's occupational mobility: father's educational attainment and occupation when the subject was 16 years old; subject's own educational attainment; prestige status of first job; and prestige status of the present (1962) job. (All Census occupations were assigned prestige scores on the basis of educational attainment and income distribution in 1949-50 using the relationships derived from a 1947 study of prestige ratings for 45 occupations.)

The results are generally not out of line with previous studies of occupational mobility. The most important determinant of an individual's 1962 occupational status was found to be his level of educational attainment, with status of the first job next in importance. The authors concluded that "most of the influence of social origins on occupational achievements is mediated by education and early experience," with the latter becoming dominant as the individual gets older. Father's education and occupation did not contribute any significant independent explanation of the 1962 occupation.

Authors Blau and Duncan then proceeded to crossclassify the subjects by several additional socioeconomic factors in order to discover the effects of these factors on occupational mobility. The interesting findings pertain to the white-nonwhite division. It is hardly surprising to learn that the 1962 job status of nonwhite males remains inferior to that of white males even when education, first job, region of birth (South vs. nonsouth) and father's occupational status are held constant. It would seem that discrimination is still a crucial determinant of occupation. But what is unusual is the finding that "the difference between Negroes and whites in occupational status as well as income is even greater among the better educated than among the less educated, with the partial exception of the minority who complete a college ed-

ucation." It was also found that Negroes experience less upward occupation mobility (measured as the difference between 1962 job status and father's job status) than whites.

One would expect education to be a dominant factor in 1962 occupational status. Higher levels of educational attainment tend to be a necessary condition of entrance into higher prestige occupations. To a large extent, job experience such as on-the-job training can adequately compensate for lack of education in the lower status occupations but not in the upper status ones.

However, even when education is combined with the other three variables studied, less than 50 percent of the variation in status of 1962 job is explained. One omitted factor that suggests itself is the existing job market conditions. The relative demands for labor in various occupations are a crucial determinant of employment, for hiring standards, including that for education, tend to tighten or loosen depending on the state of the particular job markets. The major trends in occupational mobility, i.e., out of farming and into white-collar occupations, are clearly a function of changes in the demand for labor. Unfortunately, the analysis in this book does not offer much insight into the interaction between the individual's socioeconomic attributes and the given state of the job market which yields the observed occupational achievement. Ideally, one would want detailed work history information, an impossible job given the sample size. At the very least, however, the omission of age at entry into first job makes this kind of analysis virtually impossible for anyone wishing to further use the findings of the study.

—RUTH FABRICANT
Federal Reserve Board

Measuring Space

Impact of the Space Program on a Local Economy.

By William H. Miernyk and others. Morgantown, W. Va., West Virginia University Foundation, 1967. 167 pp. \$6.

The National Aeronautics and Space Administration is deeply interested in determining the impact of its programs on society. Contributors to *Social Indicators*, a book published in 1966 based on a study and financed by NASA, indicated the need for greater research in the area of defining and quantifying both the direct and indirect effects of technological change.

The volume under review reports on another NASA financed impact study, one aimed at the more narrowly defined problem of determining the economic impact of space and space-related activities on the Boulder, Colorado area. The results buttress the argument that economics has come further in establishing and measuring impact than the other social sciences.

Professor Miernyk and his associates are responsible for probably the most intensive small area input-output study yet conducted. Based on local data collected from both business firms and households in the Boulder region they have prepared the usual I-O flow, technical coefficient, and inverse tables in an effort to show the direct and indirect economic impacts associated with some 31 intermediate and 11 final demand sectors. "Type I" income multipliers are computed for each intermediate sector as the ratio of direct plus indirect income change to direct income change. To measure direct, indirect, and induced income change, "Type II" multipliers are computed by including households as an intermediate sector. Because of the open nature of a small region the addition of induced effects increases substantially the size of the multipliers. The Type I multiplier for the space sector is only 1.20, for example, while the Type II multiplier is 1.61.

The conceptual innovation of this study rests on the calculation of a modification of the Type II multiplier. From the detailed household data collected, the authors have developed a "Type III" multiplier which abandons the homogeneous consumption function assumption used to compute Type II multipliers. Based on smaller marginal propensities to consume, induced effects are reduced, and Type III multiplier values range between Type I and Type II in magnitude. Space activity is associated with a Type III multiplier of 1.43.

While one might find fault with minor inconsistencies between figures in the tables and the text, and with the absence of discussion of the significance of the triangularized matrices in the context of the study, this book will be welcomed by specialists in the input-output field and by planners and economists primarily interested in the problems of urban areas and small regions who will find the methodology and insights most valuable.

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Proving a Point

The Human Organization: Its Management and Value. By Rensis Likert. New York, McGraw-Hill Book Co., 1967. 258 pp. \$7.95.

Thirty years ago Rensis Likert in an early study of attitudes expressed a philosophy and goal noting:

What is really difficult is to get one's analyses and technique clear enough to permit real insight into the problem and to permit other investigators to criticize or to repeat every aspect of the inquiry.

Nearly a quarter of a century later in his *New Patterns of Management*, Mr. Likert presented a progress report emphasizing a theory of human interaction in a permissive environment as a superior tool for effective management.

This present treatise demonstrates the achievement of his 1938 goal. The author reports the findings from the Institute for Social Research which investigated his earlier theory and bolstered it through deeper insights and empirical testing. The process of effective management is discussed in a manner facilitating further criticism and scientific testing.

Mr. Likert's central thesis remains unchanged. Assuming management's principal task to be directing the human element (since all else depends on how well this is done), the author believes that most successful managers are employee-centered and rely on group participation rather than on authority-centered technique. Moving from a short statement on the need for more scientific study of management, Likert sets the tone of his report:

Tough-minded examination of the evidence and rigorous separation of the objective quantified data from impressions, expressed judgment or fads can significantly improve the art of management.

Four alternative systems of management are then presented in tabular form. Three are essentially authoritative patterns (exploitative, benevolent, and consultative) and the fourth involves participative patterns (the participative group).

Focusing on a poorly managed pajama manufacturer, the Weldon Company, the author found its employees perceiving the company as an exploitative-authoritatively managed type. After reorganization of existing management toward patterns of participatory leadership, these results followed: a 30 percent increase in net earnings; a 20 percent decline in manufacturing costs; a 50 percent drop in employee turnover; substantial re-

duction in employee training periods; a move from a loss of 17 percent on investment to a 15 percent profit; and a marked improvement in labor relations.

If such management is superior, why do many authoritatively-managed firms report high profits? Mr. Likert finds his answer in the use of inadequate accounting procedures:

So long as no quantitative surveillance is maintained over a firm's human assets, its management can readily derive a substantial proportion of its earnings . . . from liquidating these human assets.

Such spurious short-run gains are offset by long-range costs.

Thus the author has built his models on the management process, established his hypothesis, tested it objectively, and reported on a superior management pattern. He then extends the hypothesis (incompletely substantiated as yet) that executives exhibit remarkable capacity to change from authoritative to participatory leadership styles. The data show that managers who wish to do so can learn better systems of management.

The book exudes high optimism. It is not the "last word." Another report on efforts to change management patterns in a number of companies is promised. The present treatise speaks well for progress in building the science of management at the expense of the ever-popular, but less effective, intuitive approach. Serious students and practicing managers will find a substantial contribution in this science-based study.

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Summaries of Recent Books

The Alaska Railroad. By Edwin M. Fitch. New York, Frederick A. Praeger, Publishers, 1967. 326 pp., bibliography. \$5.95.

One of the first of many in a new series entitled the Praeger Library of U.S. Government Departments and Agencies, this volume describes the development of this government-owned railroad. Its significance to the economy of Alaska and to the Federal Government, particularly the Department

of Defense, is included. Besides the history, there is a chapter on the effects of containerization, piggybacking, and pipelines, and one on collective bargaining rights.

In the Service of Man: Technology and the Future of Human Values. By J. V. Langmead Casserley. Chicago, Henry Regnery Co., 1967. 204 pp. \$4.95.

According to the author, technology will set man free to become truly human—"free from the grinding necessity of dull economic labor and dreary job hunting." In order to take advantage of this situation, however, a new economic system must be developed to meet the new circumstances. Dr. Casserley suggests that the main economic problem is that of financing consumption in a system that has outgrown its need for labor. But just as important as economic novelty and development is cultural continuity. The author goes on to discuss the institutions of our society, the present cultural attitudes of our youth, the future of education and religion, and, of course, society's future dependence on the computer.

Industrial Workers in the U.S.S.R. Edited by Robert Conquest. New York, Frederick A. Praeger, Publishers, 1967. 203 pp., bibliography. \$6.25.

The grading of jobs, overtime payments (time-and-a-half for the first 2 hours and double time for each hour after 2 for timeworkers), and general wage policy are discussed in this concise book. The volume demonstrates that comprehensive labor legislation is much needed in the Soviet Union—women continue to be employed in heavy manual work (digging trenches for foundations of houses, handling heavy sacks of sugar, etc.), in some places juveniles still work long hours, and "sometimes managements apply pressure and bullying tactics to compel rest-day [Sunday] working." Since the introduction of the economic reforms in October 1965, an attempt has been made to increase the importance of the Collective Agreements; however, in practice the Agreements have provided little protection of the workers' interests. Besides offering a good deal of information in itself, this book contains an extensive bibliography to send the reader even further into the legal machinery affecting the Soviet worker, if he so desires.

Other Recent Publications

Education and Training

Education in Community Development: Its Function in Technical Assistance. By James J. Shields, Jr. New York, Frederick A. Praeger, Publishers, 1967. 127 pp., bibliography. (Praeger Special Studies in International Economics and Development.) \$10.

School Integration: A Comprehensive Classified Bibliography of 3,100 References. Edited by Meyer Weinberg. Chicago, Integrated Education Associates, 1967. 137 pp. \$3.95, cloth; \$1.95, paperbound.

Community Work and Training Program. Report to Congress by Department of Health, Education and Welfare, Bureau of Family Services. Washington, U.S. Congress, House of Representatives, Committee on ways and Means, 1967. 55 pp. (House Doc. No. 76; 90th Cong., 1st sess.)

Universities and the Training of Industrial and Business Management. By S. L. Kirloskar. Poona, India, Gokhale Institute of Politics and Economics, 1967. 15 pp. (R. R. Kale Memorial Lecture, 1967.) 50 cents, Taplinger Publishing Co., Inc., New York.

Work Training Program: Experimental Demonstration Project. Final Report; period covered, December 1964 through August 1967. Washington, U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research, 1967. 50 pp.

Upgrading the Low-Wage Worker—An Ergonomic Approach: Volume IV, Use of Job Vacancies to Select Promising Industries for Training Programs. Research conducted for Office of Manpower Policy, Evaluation, and Research of the U.S. Department of Labor. New York, Skill Advancement, Inc., 1967. 300 pp.

Apprenticeship Opportunities for Youth. By Hugh C. Murphy. (In Occupational Outlook Quarterly, U.S. Department of Labor, Bureau of Labor Statistics, December 1967, pp. 1-4. 35 cents, Superintendent of Documents, Washington.)

Rehabilitation for the Unwanted. By Julius A. Roth and Elizabeth M. Eddy. New York, Atherton Press, 1967. 232 pp. \$7.50.

Opportunities in a Drafting Career. By Benjamin J. Stern. New York, Universal Publishing and Distribution Corp., 1967. 96 pp., bibliography. (Vocational Guidance Manuals.) \$2.95.

Careers and Opportunities in Computer Science. By John M. Carroll. New York, E. P. Dutton & Co., Inc., 1967. 191 pp., bibliography. \$3.95.

Fashion Designing. By Annette Grant. New York, Alumnae Advisory Center, 1967. 6 pp. (College and Career Information Series, 296; reprinted from Mademoiselle.) 25 cents.

Secretarial Jobs. By Rita Hoffmann. New York, Alumnae Advisory Center, 1967. 4 pp. (College and Career Information Series, 298; reprinted from Mademoiselle.) 25 cents.

Health and Safety

Work Injuries and Accident Causes in Hotels. By T. H. Rockwell and Donald Nameche. Washington, U.S. Department of Labor, Bureau of Labor Statistics, 1967. 90 pp. (BLS Report 329.)

Private Health Insurance: Coverage and Financial Experience, 1940-66. (In Social Security Bulletin, U.S. Department of Health, Education, and Welfare, Social Security Administration, Washington, November 1967, pp. 3-22. 25 cents, Superintendent of Documents, Washington.)

Hearing Levels of Adults by Race, Region, and Area of Residence, United States, 1960-1962. Washington, U.S. Department of Health, Education, and Welfare, Public Health Service, 1967. 33 pp. (Vital and Health Statistics Data from the National Health Survey. PHS Publication No. 1000-Series 11-No. 26.) 30 cents, Superintendent of Documents, Washington.

Industrial Relations

The Analytics of Voluntary Arbitration: Contract Disputes. By Carl M. Stevens. (In Industrial Relations: A Journal of Economy & Society, University of California, Institute of Industrial Relations, Berkeley, October 1967, pp. 68-79. \$1.50.)

"Take It or Leave It" as a Bargaining Technique. By Morris D. Forkosch. (In Labor Law Journal, Chicago, November 1967, pp. 676-698. \$1.35.)

Educational Opportunity: A New Fringe Benefit for Collective Bargaining. By Herbert A. Levine. (In Changing Education, American Federation of Teachers, AFL-CIO, Washington, Fall 1967, pp. 42-46. 75 cents.)

NLRB in a Changing Industrial Society. Edited by Don R. Sheriff and Viola M. Kuebler. Iowa City, University of Iowa, Center for Labor and Management, 1967. 47 pp. (Conference Series, 11.) \$1.

Processing Grievances When Bargaining Units Are Combined: Conflict with the Doctrine of Exclusive Representation? By Bruce S. Feldacker. (In Labor Law Journal, Chicago, November 1967, pp. 649-664. \$1.35.)

Public Employee Strikes: An Operational Solution. By H. L. Fusilier and Lawrence Steinmetz. (In *Quarterly Review of Economics and Business*, University of Illinois, Urbana, Ill., Autumn 1967, pp. 29-36. \$1.50.)

Statistics on Work Stoppages, New York State, 1966. By Jack Herbst. New York, State Department of Labor, 1967. 20 pp.

Labor Force

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Current Labor Statistics

TABLES

A.—Labor Force and Employment

- 89 A-1. Summary employment and unemployment estimates, by age and sex, seasonally adjusted
- 89 A-2. Seasonally adjusted rates of unemployment
- 90 A-3. Rates of unemployment, by age and sex, seasonally adjusted
- 90 A-4. Employed persons, by age and sex, seasonally adjusted
- 91 A-5. Unemployed persons, by duration of unemployment, seasonally adjusted
- 91 A-6. Full- and part-time status of the civilian labor force, not seasonally adjusted
- 92 A-7. Employment status, by color, sex, and age, seasonally adjusted¹
- 92 A-8. Total employment and unemployment rates, by occupation, seasonally adjusted¹
- 93 A-9. Employees in nonagricultural establishments, by industry
- 97 A-10. Production or nonsupervisory workers in nonagricultural establishments, by industry
- 101 A-11. Employees in nonagricultural establishments, by industry division and selected groups, seasonally adjusted
- 102 A-12. Production workers in manufacturing industries, by major industry group, seasonally adjusted
- 103 A-13. Unemployment insurance and employment service program operations

B.—Labor Turnover

- 104 B-1. Labor turnover rates, by major industry group

C.—Earnings and Hours

- 107 C-1. Gross hours and earnings of production workers, by industry
- 120 C-2. Gross and spendable average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls in current and 1957-59 dollars
- 120 C-3. Average weekly hours, seasonally adjusted, of production workers in selected industries
- 121 C-4. Average hourly earnings excluding overtime of production workers in manufacturing, by major industry group
- 122 C-5. Average weekly overtime hours of production workers in manufacturing, by industry
- 124 C-6. Indexes of aggregate weekly man-hours and payrolls in industrial and construction activities

D.—Consumer and Wholesale Prices

- 125 D-1. Consumer Price Index—U.S. city average for urban wage earners and clerical workers, all items, groups, subgroups, and special groups of items
- 126 D-2. Consumer Price Index—U.S. city average for urban wage earners and clerical workers, selected groups, subgroups, and special groups of items, seasonally adjusted
- 127 D-3. Consumer Price Index—U.S. and selected areas for urban wage earners and clerical workers
- 128 D-4. Indexes of wholesale prices, by group and subgroup of commodities
- 130 D-5. Indexes of wholesale prices for special commodity groupings
- 131 D-6. Indexes of wholesale prices, by stage of processing and durability of product

E.—Work Stoppages

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

¹ Tables A-7 and A-8 appear quarterly in the February, May, August, and November issues of the *Review*.

NOTE: With the exceptions noted, the statistical series here from the Bureau of Labor Statistics are described in *BLS Handbook of Methods for Surveys and Studies* (BLS Bulletin 1458, 1966).

A.—Labor Force and Employment

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

(In thousands)

Employment status, age, and sex	1967												1966		Annual average	
	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1966	1965
TOTAL																
Total labor force.....	82,051	81,576	81,460	81,259	81,160	80,954	80,681	79,645	80,189	79,959	80,443	80,473	80,154	79,934	78,893	77,178
Civilian labor force.....	78,582	78,106	77,997	77,803	77,701	77,505	77,237	76,189	76,740	76,523	77,025	77,087	76,764	76,612	75,770	74,455
Employed.....	75,681	75,083	74,630	74,625	74,718	74,489	74,147	73,289	73,910	73,747	74,137	74,255	73,893	73,897	72,895	71,088
Agriculture.....	4,264	3,829	3,707	3,676	3,992	3,856	3,727	3,652	3,890	3,855	3,890	4,015	4,011	3,892	3,979	4,361
Nonagricultural industries.....	71,417	71,254	70,923	70,949	70,726	70,633	70,420	69,637	70,020	69,892	70,247	70,240	69,882	70,005	68,915	66,726
Unemployed.....	2,901	3,023	3,367	3,178	2,983	3,016	3,090	2,900	2,830	2,776	2,888	2,832	2,871	2,715	2,875	3,366
MEN, 20 YEARS AND OVER																
Total labor force.....	48,584	48,336	48,280	48,238	48,365	48,273	48,196	47,920	48,033	47,921	48,605	48,591	47,842	47,604	47,437	47,115
Civilian labor force.....	45,811	45,563	45,513	45,476	45,559	45,433	45,314	45,021	45,140	45,047	45,222	45,239	44,987	44,797	44,787	44,857
Employed.....	44,798	44,480	44,375	44,435	44,479	44,338	44,156	43,922	44,092	44,010	44,236	44,227	43,898	43,711	43,667	43,422
Agriculture.....	2,974	2,808	2,791	2,806	2,835	2,791	2,726	2,753	2,870	2,795	2,875	2,861	2,884	2,807	2,894	3,174
Nonagricultural industries.....	41,824	41,672	41,584	41,629	41,644	41,547	41,430	431,169	41,222	41,215	41,361	41,366	41,014	40,904	40,773	40,246
Unemployed.....	1,013	1,083	1,138	1,041	1,080	1,095	1,158	1,099	1,048	1,037	986	1,012	1,089	1,086	1,119	1,435
WOMEN, 20 YEARS AND OVER																
Civilian labor force.....	26,420	26,134	26,092	26,051	25,557	25,516	25,177	24,730	25,023	24,862	25,071	25,221	25,139	25,145	24,427	23,687
Employed.....	25,348	25,093	24,827	24,781	24,558	24,421	24,094	23,773	24,002	23,834	24,057	24,128	24,167	24,278	23,507	22,630
Agriculture.....	852	634	567	512	705	624	581	537	625	628	636	702	729	663	675	748
Nonagricultural industries.....	24,496	24,459	24,260	24,269	23,853	23,797	23,513	23,236	23,377	23,206	23,421	23,426	23,438	23,615	22,832	21,882
Unemployed.....	1,072	1,041	1,265	1,270	999	1,095	1,083	957	1,021	1,028	1,014	1,093	972	867	919	1,056
BOTH SEXES, 16-19 YEARS																
Civilian labor force.....	6,351	6,409	6,392	6,276	6,585	6,556	6,746	6,438	6,577	6,614	6,732	6,627	6,638	6,670	6,557	5,910
Employed.....	5,535	5,510	5,428	5,409	5,681	5,730	5,897	5,594	5,816	5,903	5,844	5,900	5,828	5,908	5,721	5,036
Agriculture.....	438	387	349	358	452	441	420	362	395	432	379	452	398	422	410	439
Nonagricultural industries.....	5,097	5,123	5,079	5,051	5,229	5,289	5,477	5,232	5,421	5,471	5,465	5,448	5,430	5,486	5,310	4,598
Unemployed.....	816	899	964	867	904	826	849	844	761	711	888	727	810	762	836	874

TABLE A-2. Seasonally adjusted rates of unemployment

Selected unemployment rates	1967												1966		Annual average	
	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1966	1965
Total (all civilian workers).....	3.7	3.9	4.3	4.1	3.8	3.9	4.0	3.8	3.7	3.6	3.7	3.7	3.7	3.5	3.8	4.5
Men, 20 years and over.....	2.2	2.4	2.5	2.3	2.4	2.4	2.6	2.4	2.3	2.3	2.2	2.2	2.4	2.4	2.5	3.2
Women, 20 years and over.....	4.1	4.0	4.8	4.9	3.9	4.3	4.3	3.9	4.1	4.1	4.0	4.3	3.9	3.4	3.8	4.5
Both sexes, 16-19 years.....	12.8	14.0	15.1	13.8	13.7	12.6	12.6	13.1	11.6	10.7	13.2	11.0	12.2	11.4	12.7	14.8
White workers.....	3.3	3.4	3.8	3.6	3.5	3.5	3.5	3.3	3.3	3.1	3.3	3.3	3.3	3.1	3.3	4.1
Nonwhite workers.....	6.9	7.3	8.8	7.9	6.9	7.2	7.8	7.8	7.3	7.4	7.1	6.6	7.6	6.9	7.3	8.1
Married men.....	1.7	1.7	1.9	1.8	2.0	1.8	2.0	1.9	1.9	1.7	1.6	1.7	1.7	1.7	1.9	2.4
Full-time workers.....	3.3	3.6	3.9	3.8	3.6	3.6	3.9	3.5	3.3	3.1	3.0	3.1	3.3	3.4	3.4	3.5
Blue-collar workers.....	4.3	4.4	4.9	4.6	4.4	4.7	4.7	4.6	4.6	4.2	4.1	4.2	4.3	4.3	4.3	5.3
Experienced wage and salary workers.....	3.5	3.6	4.1	4.0	3.6	3.7	3.8	3.6	3.4	3.4	3.4	3.5	3.5	3.4	3.5	4.3
Labor force time lost ¹	4.1	4.1	4.7	4.6	4.3	4.3	4.5	3.8	4.0	4.1	4.0	4.1	4.1	3.8	4.2	5.0

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

Beginning in the March issue, the 1965 and 1966 statistics on the labor force were revised to take account of the lower age limit change from 14 to 16 years of age. The 1967 data reflect all the definitional changes which became effective in January 1967. (See the February 1967 *Employment and Earnings and Monthly Report on the Labor Force*, Vol. 13, No. 8.) Although these data are not strictly comparable with those published prior to January 1967, they may be treated by most users as continuing the previous series.

TABLE A-5. Unemployed persons, by duration of unemployment, seasonally adjusted

[In thousands]

Duration of unemployment	1967												1966		Annual average	
	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1966	1965
Less than 5 weeks.....	1,471	1,586	1,847	1,889	1,660	1,805	1,649	1,371	1,468	1,408	1,678	1,542	1,562	1,397	1,535	1,628
5 to 14 weeks.....	954	918	1,153	945	945	876	919	877	900	986	771	787	760	789	804	983
15 weeks and over.....	453	487	489	437	441	435	444	414	436	560	439	485	496	484	536	755
15 to 26 weeks.....	261	310	313	278	231	265	298	271	251	354	249	282	269	287	245	404
27 weeks and over.....	192	177	176	159	210	170	146	143	185	206	190	203	227	197	241	351
15 weeks and over as a percent of civilian labor force.....	.6	.6	.6	.6	.6	.6	.6	.5	.6	.6	.6	.6	.6	.6	.7	1.0

TABLE A-6. Full- and part-time status of the civilian labor force, not seasonally adjusted

[In thousands]

Full- and part-time employment status	1967											Annual average	
	December	November	October	September	August	July	June	May	April	March	February	1966	1965
FULL TIME													
Civilian labor force.....	67,135	67,170	67,309	67,950	71,134	71,058	70,195	65,538	65,640	65,425	65,445	66,943	66,145
Employed:													
Full-time schedules ¹	63,122	63,063	63,267	63,747	66,264	65,909	64,688	61,978	61,447	60,916	60,793	62,734	61,144
Part time for economic reasons.....	2,000	2,072	1,934	2,117	2,486	2,499	2,507	1,573	2,079	2,209	2,283	1,894	2,209
Unemployed, looking for full-time work.....	2,013	2,034	2,108	2,086	2,384	2,650	3,000	1,987	2,114	2,300	2,369	2,315	2,792
Unemployment rate.....	3.0	3.0	3.1	3.1	3.4	3.7	4.3	3.0	3.2	3.5	3.6	3.5	4.2
PART TIME													
Civilian labor force.....	10,923	10,943	10,823	9,576	7,978	8,413	8,825	10,557	10,471	10,088	10,246	8,830	8,310
Employed (voluntary part time).....	10,216	10,083	9,980	8,767	7,421	7,813	8,197	10,086	9,920	9,433	9,432	8,279	7,735
Unemployed, looking for part-time work.....	707	860	843	809	557	600	628	471	551	655	814	560	575
Unemployment rate.....	6.5	7.9	7.8	8.4	7.0	7.1	7.1	4.5	5.3	6.5	7.9	6.2	6.9

¹ Employed persons with a job but not at work are distributed proportionately among the full- and part-time employed categories.

TABLE A-10. Production or nonsupervisory workers in nonagricultural establishments, by industry¹—Continued

[In thousands]

Industry	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
Finance, insurance, and real estate⁴	2,608	2,603	2,598	2,605	2,640	2,624	2,589	2,544	2,527	2,507	2,487	2,472	2,490	2,478	2,426
Banking.....	728.4	726.1	726.4	736.3	732.0	720.1	706.8	704.1	702.7	700.5	696.6	699.0	686.4	683.5	663.5
Credit agencies other than banks.....	274.3	273.5	275.2	276.7	277.9	274.1	271.3	269.9	268.8	266.8	266.2	267.0	267.1	263.4	263.4
Savings and loan associations.....	80.5	80.7	80.3	80.8	81.2	79.1	77.4	77.1	76.3	75.5	76.6	75.7	77.8	79.7	79.7
Security, commodity brokers & services.....	144.8	142.2	140.3	141.2	139.0	134.0	130.2	129.0	127.7	125.5	123.4	125.1	123.8	113.9	113.9
Insurance carriers.....	679.8	675.6	677.6	685.3	676.5	668.1	660.9	659.5	656.9	654.5	647.8	649.9	640.7	634.0	634.0
Life insurance.....	295.2	293.5	294.3	296.8	290.4	288.0	286.1	286.8	285.0	283.7	282.8	284.2	282.9	282.9	282.9
Accident and health insurance.....	66.4	65.6	65.5	66.5	66.1	64.7	63.3	62.8	62.2	60.9	58.3	57.8	51.9	46.3	46.3
Fire, marine, and casualty insurance.....	284.8	283.7	284.9	288.9	287.1	283.3	279.9	278.6	278.5	278.4	274.9	275.5	271.7	269.2	269.2
Services:															
Hotels and other lodging places:															
Hotels, tourist courts, and motels.....	564.0	576.5	599.0	635.9	637.7	613.3	580.5	570.0	549.7	540.9	531.9	534.7	571.1	546.8	546.8
Personal services:															
Laundries and drycleaning plants.....	501.2	503.1	503.8	505.7	511.9	511.7	504.8	503.7	499.9	496.8	498.0	503.1	505.2	492.0	492.0
Motion pictures:															
Motion picture filming & distributing.....	33.1	31.9	32.1	34.0	34.4	33.8	31.3	29.8	31.0	31.6	34.0	37.2	33.5	30.4	30.4

¹ For comparability of data with those published in issues prior to October 1967, 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. Transportation and public utilities, and services are included in total private but are not shown separately in this table.

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 precutting 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.

² Preliminary.

³ Data relate to nonsupervisory employees except messengers.

⁴ Nonoffice salesmen excluded from nonsupervisory count for all series in this division.

CAUTION

The series on employment, hours, earnings, and labor turnover in nonagricultural establishments have been adjusted to March 1966 benchmarks and are not comparable with those published in the Monthly Labor Review prior to the October 1967 issue, nor with those for periods after April 1965 appearing in the *Handbook of Labor Statistics, 1967*. (See footnote 1, table A-9, and "BLS Establishment Employment Estimates Revised to March 1966 Benchmark Levels" appearing in the September 1967 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 historical data appear in *Employment and Earnings Statistics for the United States, 1909-67* (BLS Bulletin 1312-5).

Beginning with the October 1967 issue of the Monthly Labor Review, industry titles have been changed, as necessary, to conform to the Bureau of the Budget's Standard list of short SIC titles—definitions are unchanged.

TABLE A-11. Employees in nonagricultural establishments, by industry division and selected groups, seasonally adjusted ¹

[In thousands]

Industry division and group	1967												1966
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.
Total employees.....	67,128	66,929	66,243	66,055	66,190	65,939	65,903	65,639	65,653	65,749	65,692	65,564	65,251
Mining.....	597	597	597	601	606	623	619	617	620	624	624	625	623
Contract construction.....	3,350	3,299	3,236	3,238	3,223	3,231	3,187	3,192	3,276	3,313	3,352	3,311	3,291
Manufacturing.....	19,469	19,418	19,169	19,142	19,318	19,169	19,285	19,238	19,331	19,445	19,507	19,558	19,526
Durable goods.....	11,380	11,358	11,143	11,149	11,351	11,218	11,285	11,283	11,322	11,434	11,482	11,507	11,496
Ordnance and accessories.....	307	303	300	299	297	292	290	286	288	286	283	277	272
Lumber and wood products.....	599	593	592	585	585	585	590	584	592	602	603	607	596
Furniture and fixtures.....	464	458	455	451	451	447	452	453	455	459	465	466	469
Stone, clay, and glass products.....	640	635	628	622	626	625	626	624	628	638	640	642	640
Primary metal industries.....	1,287	1,290	1,267	1,262	1,281	1,280	1,295	1,299	1,305	1,332	1,348	1,362	1,364
Fabricated metal products.....	1,357	1,349	1,332	1,331	1,356	1,350	1,357	1,348	1,354	1,364	1,372	1,374	1,374
Machinery, except electrical.....	1,939	1,979	1,932	1,966	1,976	1,969	1,972	1,972	1,979	1,984	1,984	1,988	1,978
Electrical equipment and supplies.....	1,926	1,920	1,896	1,882	1,916	1,889	1,872	1,904	1,916	1,947	1,959	1,958	1,955
Transportation equipment.....	1,970	1,950	1,862	1,873	1,980	1,896	1,947	1,927	1,916	1,932	1,938	1,938	1,959
Instruments and related products.....	457	455	454	452	456	455	454	454	456	456	454	453	451
Miscellaneous manufacturing industries.....	434	426	425	426	427	430	430	432	433	434	436	442	438
Nondurable goods.....	8,089	8,060	8,026	7,993	7,967	7,951	8,000	7,955	8,009	8,011	8,025	8,051	8,030
Food and kindred products.....	1,794	1,784	1,783	1,777	1,751	1,790	1,806	1,797	1,800	1,803	1,798	1,795	1,795
Tobacco manufactures.....	82	89	82	81	85	89	87	86	86	84	85	89	86
Textile mill products.....	966	959	954	950	946	940	948	941	945	952	954	963	962
Apparel and other textile products.....	1,397	1,390	1,384	1,377	1,381	1,376	1,396	1,395	1,390	1,384	1,401	1,414	1,411
Paper and allied products.....	691	687	685	682	687	689	688	679	680	684	681	680	679
Printing and publishing.....	1,070	1,070	1,065	1,064	1,067	1,066	1,066	1,064	1,063	1,065	1,056	1,053	1,044
Chemicals and allied products.....	1,007	1,001	1,001	993	992	989	990	982	984	981	984	983	978
Petroleum and coal products.....	193	193	192	191	190	191	189	187	187	186	187	187	187
Rubber and plastics products, nec.....	535	533	529	529	521	479	472	520	521	523	523	527	527
Leather and leather products.....	354	354	351	349	347	342	351	352	354	351	356	360	361
Transportation and public utilities.....	4,289	4,288	4,251	4,262	4,283	4,292	4,266	4,267	4,212	4,246	4,247	4,242	4,218
Wholesale and retail trade.....	13,910	13,909	13,776	13,719	13,664	13,647	13,648	13,609	13,572	13,557	13,541	13,515	13,416
Wholesale trade.....	3,596	3,599	3,567	3,565	3,569	3,555	3,555	3,549	3,545	3,535	3,521	3,512	3,496
Retail trade.....	10,314	10,310	10,209	10,154	10,095	10,092	10,093	10,060	10,027	10,022	10,020	10,003	9,920
Finance, insurance, and real estate.....	3,302	3,290	3,270	3,264	3,253	3,234	3,227	3,205	3,194	3,179	3,165	3,152	3,144
Services.....	10,335	10,301	10,199	10,161	10,130	10,074	10,035	9,987	9,973	9,946	9,883	9,840	9,781
Government.....	11,876	11,827	11,745	11,668	11,713	11,669	11,636	11,524	11,475	11,439	11,373	11,321	11,252
Federal.....	2,692	2,698	2,712	2,715	2,746	2,759	2,747	2,698	2,688	2,685	2,673	2,667	2,653
State and local.....	9,184	9,129	9,033	8,953	8,967	8,910	8,889	8,826	8,787	8,754	8,700	8,654	8,599

¹ For coverage of the series, see footnote 1, table A-9.² Preliminary.NOTE: The seasonal adjustment method used is described in appendix A, *BLS Handbook of Methods for Surveys and Studies* (BLS Bulletin 1458, 1966).

TABLE A-12. Production workers in manufacturing industries, by major industry group, seasonally adjusted ¹

[In thousands]

Revised series; see box, p. 100

Major industry group	1967												1966
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.
Manufacturing.....	14,308	14,279	14,034	14,003	14,191	14,056	14,170	14,147	14,233	14,358	14,436	14,506	14,495
Durable goods.....	8,305	8,293	8,083	8,091	8,299	8,170	8,240	8,254	8,286	8,407	8,459	8,502	8,501
Ordnance and accessories.....	162	158	157	154	155	151	149	147	147	146	143	140	136
Lumber and wood products.....	520	515	513	508	509	508	512	507	514	525	524	530	519
Furniture and fixtures.....	382	377	374	370	369	366	371	375	374	379	384	385	389
Stone, clay, and glass products.....	512	507	500	494	497	498	498	495	499	509	509	512	513
Primary metal industries.....	1,028	1,032	1,009	1,003	1,024	1,023	1,037	1,042	1,049	1,073	1,091	1,106	1,109
Fabricated metal products.....	1,047	1,041	1,024	1,023	1,048	1,041	1,048	1,041	1,046	1,059	1,065	1,068	1,069
Machinery, except electrical.....	1,333	1,373	1,329	1,365	1,375	1,368	1,372	1,373	1,380	1,388	1,392	1,398	1,390
Electrical equipment and supplies.....	1,295	1,291	1,270	1,260	1,290	1,265	1,251	1,284	1,298	1,332	1,345	1,348	1,347
Transportation equipment.....	1,398	1,379	1,289	1,297	1,410	1,326	1,377	1,361	1,347	1,363	1,371	1,373	1,394
Instruments and related products.....	286	284	283	281	285	285	285	287	289	289	288	289	286
Miscellaneous manufacturing industries.....	342	336	335	336	337	339	340	342	343	344	347	353	349
Nondurable goods.....	6,003	5,986	5,951	5,912	5,892	5,886	5,930	5,893	5,947	5,951	5,977	6,004	5,994
Food and kindred products.....	1,196	1,187	1,185	1,175	1,148	1,185	1,201	1,196	1,195	1,200	1,197	1,196	1,195
Tobacco manufactures.....	70	77	70	69	72	76	75	74	73	72	73	77	74
Textile mill products.....	858	849	847	842	839	834	841	835	838	845	848	856	856
Apparel and other textile products.....	1,235	1,232	1,223	1,218	1,223	1,220	1,239	1,235	1,232	1,226	1,243	1,254	1,252
Paper and allied products.....	535	533	531	527	534	536	535	525	526	531	529	527	527
Printing and publishing.....	673	673	669	669	673	674	673	672	673	674	670	668	663
Chemicals and allied products.....	595	594	594	585	585	585	583	580	583	580	585	585	584
Petroleum and coal products.....	121	122	121	120	118	119	119	117	118	116	117	117	118
Rubber and plastics products, nec.....	413	412	408	407	401	362	362	354	402	403	406	411	411
Leather and leather products.....	307	307	303	300	299	295	302	305	307	304	309	313	314

¹ For definition of production workers, see footnote 1, table A-10.² Preliminary.NOTE: The seasonal adjustment method used is described in appendix A, *BLS Handbook of Methods for Surveys and Studies* (BLS Bulletin 1458, 1966).

TABLE A-13. Unemployment insurance and employment service program operations ¹

[All items except average benefit amounts are in thousands]

Item	1967											1966	
	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.
Employment service: ²													
New applications for work.....	800	844	820	881	967	1,335	974	859	887	853	966	721	794
Nonfarm placements.....	460	540	558	552	487	537	507	476	460	407	440	420	513
State unemployment insurance programs:													
Initial claims ^{3, 4}	910	798	663	872	1,218	803	848	1,005	1,061	1,087	1,346	1,280	915
Insured unemployment ⁵ (average weekly volume) ⁶	997	889	894	1,059	1,184	1,019	1,142	1,360	1,532	1,582	1,558	1,254	903
Rate of insured unemployment ⁷	2.0	1.8	1.8	2.2	2.4	2.1	2.4	2.9	3.3	3.4	3.3	2.7	1.9
Weeks of unemployment compensated.....	3,414	3,139	3,186	4,351	3,806	4,071	4,663	4,977	6,323	5,398	5,615	3,971	2,960
Average weekly benefit amount for total unemployment.....	\$41.19	\$40.70	\$40.10	\$41.08	\$40.10	\$39.99	\$40.99	\$41.81	\$42.07	\$41.97	\$41.73	\$41.39	\$40.57
Total benefits paid.....	\$134,877	\$122,145	\$122,614	\$172,807	\$147,307	\$156,083	\$183,645	\$200,588	\$257,488	\$219,480	\$224,787	\$157,566	\$114,814
Unemployment compensation for ex-service- men: ^{8, 9}													
Initial claims ^{3, 6}	22	20	18	21	22	17	14	14	16	15	19	17	15
Insured unemployment ⁵ (average weekly volume).....	26	22	22	25	24	19	19	21	24	25	25	21	16
Weeks of unemployment compensated.....	93	82	88	106	75	82	81	85	101	93	96	72	59
Total benefits paid.....	\$3,960	\$3,502	\$3,715	\$4,443	\$3,126	\$3,471	\$3,404	\$3,576	\$4,199	\$3,878	\$3,963	\$2,973	\$2,450
Unemployment compensation for Federal civilian employees: ^{9, 10}													
Initial claims ³	10	11	9	9	12	9	9	8	8	9	15	10	9
Insured unemployment ⁵ (average weekly volume).....	21	20	18	19	20	18	18	19	22	24	23	20	17
Weeks of unemployment compensated.....	85	76	73	87	67	81	78	81	103	91	87	75	67
Total benefits paid.....	\$3,526	\$3,164	\$3,043	\$3,581	\$2,752	\$3,370	\$3,237	\$3,354	\$4,192	\$3,728	\$3,581	\$3,045	\$2,752
Railroad unemployment insurance:													
Applications ¹¹	54	56	15	12	21	15	3	4	5	6	11	7	6
Insured unemployment (average weekly volume).....	23	21	21	18	17	14	17	20	23	24	25	19	18
Number of payments ¹²	90	93	46	45	32	36	42	44	57	53	48	40	38
Average amount of benefit payment ¹³	\$47.63	\$45.67	\$66.68	\$74.31	\$73.45	\$73.44	\$71.29	\$74.10	\$77.16	\$75.54	\$72.95	\$76.70	\$73.80
Total benefits paid ¹⁴	\$4,097	\$4,176	\$2,910	\$3,181	\$2,069	\$2,478	\$2,812	\$3,013	\$4,233	\$3,784	\$3,499	\$2,858	\$2,550
All programs: ¹⁵													
Insured unemployment ⁶	1,067	952	955	1,122	1,246	1,070	1,196	1,422	1,602	1,654	1,631	1,313	955

¹ Includes data for Puerto Rico beginning January 1961 when the Commonwealth's program became part of the Federal-State UI system.

² Includes Guam and the Virgin Islands.

³ Initial claims are notices filed by workers to indicate they are starting periods of unemployment. Excludes transitions claims under State programs.

⁴ Includes interstate claims for the Virgin Islands.

⁵ Number of workers reporting the completion of at least 1 week of unemployment.

⁶ Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

⁷ The rate is the number of insured unemployed expressed as a percent of the average covered employment in a 12-month period.

⁸ Excludes data on claims and payments made jointly with other programs.

⁹ Includes the Virgin Islands.

¹⁰ Excludes data on claims and payments made jointly with State programs.

¹¹ An application for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year.

¹² Payments are for unemployment in 14-day registration periods.

¹³ The average amount is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments.

¹⁴ Adjusted for recovery of overpayments and settlement of underpayments.

¹⁵ Represents an unduplicated count of insured unemployment under the State, Ex-servicemen and UCFE programs and the Railroad Unemployment Insurance Act.

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 ¹

[Per 100 employees]

Major industry group	1967											1966		Annual average	
	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1966	1965
	Accessions: Total														
Manufacturing.....	3.6	4.7	5.3	5.4	4.6	5.9	4.6	3.9	3.9	3.6	4.3	2.9	3.9	5.0	4.3
<i>Seasonally adjusted</i>	4.4	4.7	4.9	4.9	4.2	4.6	4.6	4.2	4.1	4.3	4.6	4.6	4.8	-----	-----
Durable goods.....	3.4	4.4	4.7	4.8	4.1	5.5	4.3	3.7	3.7	3.4	4.1	2.7	3.8	4.8	4.1
Ordnance and accessories.....	3.4	4.0	4.1	4.3	3.5	5.0	3.1	2.8	2.7	2.9	3.8	2.2	3.7	3.8	2.9
Lumber and wood products.....	5.0	6.5	7.1	6.5	6.0	9.2	8.3	7.0	6.5	5.4	6.4	3.6	4.5	6.7	6.0
Furniture and fixtures.....	4.7	6.5	7.1	7.7	6.7	6.4	5.3	4.5	4.9	4.5	5.3	3.4	5.6	6.6	5.5
Stone, clay, and glass products.....	3.3	4.2	4.7	5.1	4.7	6.9	5.4	5.0	4.7	3.7	3.7	2.3	3.1	4.5	4.0
Primary metal industries.....	2.9	3.3	3.2	3.3	2.9	4.6	3.2	2.6	2.7	2.6	3.2	2.3	2.8	3.7	2.9
Fabricated metal products.....	4.1	5.1	5.5	5.7	5.0	6.1	5.1	4.5	4.4	4.0	4.7	3.2	4.4	5.3	4.6
Machinery, except electrical.....	2.5	3.2	3.3	3.0	2.9	4.3	3.0	2.7	2.9	3.0	3.6	2.6	3.2	3.9	3.3
Electrical equipment and supplies.....	3.1	4.2	4.3	4.5	3.8	4.7	3.3	2.9	3.0	3.1	3.8	2.6	3.7	4.7	3.9
Transportation equipment.....	3.6	4.6	5.4	5.7	4.1	5.5	4.9	3.7	3.9	3.3	4.0	2.5	3.8	5.3	4.7
Instruments and related products.....	2.6	3.3	3.4	3.5	3.0	4.9	2.9	2.9	3.0	2.9	3.5	2.3	3.0	3.8	3.2
Miscellaneous manufacturing industries.....	4.7	6.3	7.7	7.4	6.3	7.2	6.3	6.0	5.8	5.1	6.2	3.0	5.5	6.9	6.3
Nondurable goods.....	3.9	5.2	6.0	6.2	5.5	6.5	5.1	4.3	4.2	3.8	4.5	3.1	4.2	5.2	4.6
Foods and kindred products.....	4.8	7.3	9.5	9.7	7.7	9.5	7.0	5.6	5.1	4.3	5.0	4.1	5.3	6.9	6.1
Tobacco manufactures.....	6.5	7.2	7.4	15.0	9.6	5.9	5.4	2.9	2.8	3.2	3.7	7.0	5.9	6.4	6.1
Textile mill products.....	4.4	5.4	5.6	6.0	5.3	5.7	5.4	4.8	4.7	4.1	4.7	2.9	4.2	5.1	4.3
Apparel and other textile products.....	4.6	5.6	6.2	6.8	6.8	6.2	5.9	5.1	5.0	5.0	6.3	3.4	4.9	6.1	5.8
Paper and allied products.....	3.0	3.9	4.3	4.1	3.6	6.1	3.9	3.3	3.3	2.9	3.4	2.5	3.4	4.0	3.2
Printing and publishing.....	2.9	2.7	4.3	3.7	3.4	5.1	3.6	3.1	3.5	3.3	3.7	2.7	3.3	3.8	3.2
Chemicals and allied products.....	1.9	2.6	2.9	2.4	2.6	4.5	2.8	2.5	2.7	2.4	2.4	1.8	2.2	2.9	2.4
Petroleum and coal products.....	1.3	2.3	3.1	2.8	2.3	4.6	2.7	2.6	2.0	1.6	1.5	1.1	1.4	2.1	1.8
Rubber and plastics products, nec.....	3.9	5.3	5.6	6.1	5.7	7.1	5.3	4.3	4.3	4.1	4.6	3.2	4.9	5.5	4.4
Leather and leather products.....	5.5	6.4	6.5	6.2	7.7	6.4	5.7	5.0	4.8	4.7	7.0	4.1	5.3	6.3	5.4
Nonmanufacturing:															
Metal mining.....	2.4	2.7	3.0	2.9	2.8	6.5	4.0	4.7	3.4	3.0	4.6	3.0	2.8	3.5	3.2
Coal mining.....	1.5	1.5	1.6	2.1	1.7	1.7	1.6	1.8	1.4	1.5	2.3	1.4	1.7	1.7	1.7
	Accessions: New hires														
Manufacturing.....	2.7	3.7	4.1	4.0	3.3	4.5	3.3	2.8	2.8	2.7	3.0	2.1	3.1	3.8	3.1
<i>Seasonally adjusted</i>	3.3	3.5	3.2	3.1	3.0	3.2	3.2	3.1	3.2	3.4	3.6	3.6	3.7	-----	-----
Durable goods.....	2.5	3.4	3.7	3.5	2.9	4.1	3.0	2.6	2.7	2.5	2.9	2.1	3.1	3.8	3.0
Ordnance and accessories.....	2.8	3.5	3.4	3.5	2.9	4.3	2.6	2.3	2.2	2.5	3.1	1.8	3.1	3.2	1.8
Lumber and wood products.....	4.3	5.8	6.6	5.7	5.3	7.8	6.5	5.5	4.8	3.9	4.2	2.9	3.8	5.7	4.7
Furniture and fixtures.....	4.0	5.6	6.2	6.3	5.1	5.3	4.3	3.8	4.2	3.8	4.5	3.0	5.1	5.9	4.6
Stone, clay, and glass products.....	2.5	3.4	3.8	4.0	3.6	5.4	4.0	3.3	2.9	2.2	2.3	1.6	2.5	3.5	2.7
Primary metal industries.....	1.7	2.1	2.3	2.3	1.7	3.1	1.9	1.5	1.7	1.7	2.0	1.5	2.1	2.7	2.0
Fabricated metal products.....	3.4	4.1	4.5	4.5	3.4	4.9	3.8	3.3	3.4	3.1	3.5	2.5	3.7	4.3	3.5
Machinery, except electrical.....	2.0	2.4	2.5	2.3	2.1	3.4	2.4	2.2	2.4	2.6	3.0	2.1	2.7	3.3	2.6
Electrical equipment and supplies.....	2.2	3.2	3.2	3.0	2.4	3.3	2.1	2.0	2.2	2.6	3.0	2.0	3.1	3.8	2.9
Transportation equipment.....	2.3	3.2	3.6	3.6	2.7	3.7	2.7	2.3	2.3	2.1	2.1	1.7	2.8	3.4	2.8
Industries and related products.....	2.2	2.8	2.8	3.0	2.6	4.2	2.4	2.4	2.6	2.6	3.0	2.0	2.7	3.4	2.6
Miscellaneous manufacturing industries.....	3.8	5.5	6.7	6.2	4.2	5.6	4.7	4.1	4.0	3.8	3.9	2.5	4.9	5.5	4.5
Nondurable goods.....	2.9	4.0	4.7	4.7	3.9	5.1	3.7	3.2	3.1	2.8	3.2	2.3	3.3	4.0	3.2
Food and kindred products.....	3.4	5.5	7.3	7.4	5.9	7.4	5.1	4.0	3.4	2.9	3.4	2.8	3.9	5.0	4.1
Tobacco manufacturing.....	3.9	5.1	4.4	11.1	5.1	3.8	2.8	1.9	1.7	2.3	2.6	3.4	4.6	3.7	3.3
Textile mill products.....	3.5	4.3	4.5	4.7	3.7	4.6	4.2	3.7	3.5	3.1	3.5	2.2	3.3	4.1	3.7
Apparel and other textile products.....	3.0	4.0	4.5	4.6	3.9	4.2	3.6	3.3	3.5	3.4	4.0	2.1	3.5	4.2	3.7
Paper and allied products.....	2.6	3.4	3.8	3.6	3.0	5.1	3.3	2.8	2.8	2.4	2.8	2.1	3.0	3.5	2.5
Printing and publishing.....	2.3	3.2	3.6	3.1	2.8	4.2	2.9	2.7	2.8	2.7	3.0	2.2	2.8	3.2	2.6
Chemicals and allied products.....	1.5	2.2	2.4	1.9	2.1	3.7	2.2	2.1	2.1	1.9	1.9	1.4	1.8	2.4	1.9
Petroleum and coal products.....	1.1	2.0	2.8	2.6	2.1	3.9	2.4	2.0	1.5	1.3	1.1	.9	1.2	1.7	1.4
Rubber and plastics products, nec.....	3.2	4.5	4.8	5.0	4.0	6.0	4.0	3.3	3.3	3.2	3.5	2.6	4.1	4.6	3.4
Leather and leather products.....	4.2	5.0	4.8	4.7	4.6	4.9	3.9	3.1	3.2	3.3	4.8	3.1	4.1	4.8	3.9
Nonmanufacturing:															
Metal mining.....	1.6	2.0	2.2	2.1	2.1	5.1	2.7	2.4	2.3	2.1	2.7	2.0	2.0	2.5	2.2
Coal mining.....	1.0	.8	1.0	1.3	1.1	1.2	1.1	1.1	.9	1.0	1.2	1.0	1.1	1.1	.9

See footnotes at end of table.

TABLE B-1. Labor turnover rates, by major industry group¹—Continued

[Per 100 employees]

Major industry group	1967											1966		Annual average	
	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	1966	1965
	Separations: Layoffs														
Manufacturing.....	1.3	1.3	1.2	1.1	1.9	1.1	1.1	1.3	1.5	1.3	1.5	1.8	1.3	1.2	1.4
<i>Seasonally adjusted</i>	1.2	1.3	1.3	1.1	1.6	1.4	1.4	1.5	1.7	1.5	1.4	1.3	1.2	-----	-----
Durable goods.....	1.1	1.1	1.1	1.0	2.0	1.1	1.0	1.2	1.5	1.4	1.5	1.5	1.1	1.1	1.2
Ordnance and accessories.....	.4	.7	.7	.6	.6	.4	.6	.9	.8	.5	.5	.2	.4	.4	.8
Lumber and wood products.....	1.2	1.2	1.1	1.8	1.2	.8	.9	1.4	2.1	1.6	2.3	3.1	3.0	1.6	1.7
Furniture and fixtures.....	.9	.6	.9	.8	1.5	1.2	1.2	1.1	1.4	1.1	1.5	1.2	1.0	.8	1.0
Stone, clay, and glass products.....	1.4	1.1	1.0	.9	1.3	1.2	1.2	1.3	1.7	1.7	2.6	2.7	1.8	1.3	1.5
Primary metal industries.....	.6	1.2	1.2	.9	1.0	.9	.9	1.2	1.3	1.0	1.0	1.0	.8	.6	1.0
Fabricated metal products.....	1.0	1.5	1.4	1.0	2.1	1.8	1.0	1.4	1.6	1.9	1.6	1.5	1.3	1.2	1.4
Machinery, except electrical.....	.6	.8	.8	.8	1.1	.9	.6	.7	.8	.5	.5	.4	.5	.5	.6
Electrical equipment and supplies.....	.8	.7	.7	.8	1.0	.7	1.1	1.4	1.9	1.2	1.2	.7	.5	.5	.8
Transportation equipment.....	1.6	1.6	1.8	1.8	5.8	1.7	1.4	1.8	1.9	2.4	2.7	1.9	1.3	2.1	2.2
Instruments and related products.....	.4	.5	.6	.6	.7	.4	.6	.7	.5	.5	.5	.4	.3	.4	.6
Miscellaneous manufacturing industries.....	3.6	1.7	1.0	1.0	2.2	1.3	1.3	1.3	1.5	1.6	2.0	8.6	3.5	2.1	2.3
Nondurable goods.....	1.7	1.7	1.5	1.2	1.8	1.2	1.3	1.4	1.5	1.3	1.6	2.1	1.6	1.4	1.6
Food and kindred products.....	3.9	4.1	3.0	2.3	2.4	1.7	2.0	2.3	2.3	2.1	2.7	4.2	3.5	2.8	2.9
Tobacco manufactures.....	6.3	2.2	.5	3.6	1.5	1.1	2.0	2.5	5.2	4.9	5.6	3.6	4.0	3.5	4.4
Textile mill products.....	.8	.6	.7	.6	1.5	.6	.6	.7	.9	.9	1.2	1.2	1.1	.7	.8
Apparel and other textile products.....	2.0	2.0	1.9	1.6	3.5	2.3	2.1	2.6	2.8	1.7	1.9	2.8	1.8	2.1	2.4
Paper and allied products.....	.6	.5	.7	.6	.7	.4	.5	.7	.6	.5	.7	.7	.6	.5	.8
Printing and publishing.....	.7	.8	.8	.7	.8	.7	.7	.6	.6	.6	.8	.9	.6	.7	.9
Chemicals and allied products.....	.5	.5	.7	.5	.6	.8	.7	.5	.6	.5	.6	.7	.5	.6	.7
Petroleum and coal products.....	.8	.8	1.0	.6	.3	.3	.3	.5	.4	.4	.7	.8	.7	.6	.6
Rubber and plastics products, nec.....	.7	.8	.9	.9	1.5	.8	1.0	1.1	1.3	1.7	1.5	1.3	.7	.9	1.2
Leather and leather products.....	1.0	.8	1.3	1.2	3.6	.7	1.5	1.9	2.0	1.7	1.7	2.7	1.0	1.4	1.5
Nonmanufacturing:															
Metal mining.....	1.3	1.3	.5	.3	.7	.5	.7	1.0	.6	.7	1.1	1.0	1.5	.7	.7
Coal mining.....	.4	.3	.6	.5	.6	.7	.8	1.2	.9	.5	.8	.5	.5	.6	.9

¹ For comparability of data with those published in issues prior to October 1967, 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.

² Preliminary.

TABLE C-1. Gross hours and earnings of production workers,¹ by industry—Continued

Industry	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
	Average weekly earnings														
Manufacturing	\$119.19	\$116.81	\$116.28	\$116.57	\$114.77	\$113.65	\$114.49	\$113.52	\$112.56	\$112.44	\$111.88	\$113.42	\$114.40	\$112.34	\$107.53
Durable goods	128.44	125.66	125.44	126.05	123.30	122.40	123.19	122.89	121.18	121.36	120.77	122.84	124.62	122.09	117.18
Nondurable goods	106.13	105.06	104.14	104.66	102.80	102.03	101.63	100.73	100.22	100.08	99.18	99.65	100.25	98.49	94.44
Ordnance and accessories	140.10	139.68	137.43	138.65	135.11	134.05	132.25	134.08	132.48	133.54	133.22	136.63	138.02	134.94	131.15
Ammunition, except for small arms	141.79	140.95	137.19	138.93	135.29	134.64	131.46	133.72	131.46	134.55	134.23	135.71	135.38	134.55	135.66
Sighting and fire control equipment	-----	123.84	132.26	135.38	133.25	137.15	134.96	135.98	140.51	137.60	137.70	139.43	135.46	130.83	127.08
Other ordnance and accessories	138.14	137.28	138.14	137.92	133.46	131.99	133.56	133.73	133.22	130.20	129.58	138.03	143.28	135.25	121.93
Lumber and wood products	98.25	99.80	99.55	99.72	96.88	96.64	97.27	95.18	94.77	93.09	91.08	90.80	90.80	91.80	88.75
Sawmills and planing mills	91.25	93.43	93.61	94.48	93.61	91.37	91.98	89.02	88.84	88.22	86.24	85.75	84.53	86.07	82.42
Millwork, plywood, & related products	106.55	106.71	106.30	106.55	106.40	103.68	103.63	102.41	103.41	101.09	99.70	99.38	99.47	99.70	96.93
Wooden containers	84.05	83.64	83.03	83.62	81.80	80.60	81.60	80.36	79.56	77.76	76.00	75.44	76.36	75.53	72.92
Miscellaneous wood products	93.89	93.48	93.48	93.48	91.76	90.85	91.88	90.20	89.35	88.56	86.83	86.88	88.37	87.34	84.67
Furniture and fixtures	98.95	97.34	97.82	97.41	95.06	92.40	93.09	91.25	90.46	90.74	90.12	90.63	93.79	91.72	88.19
Household furniture	94.43	92.66	92.89	92.03	88.88	85.89	86.76	84.41	84.24	84.71	83.89	83.95	87.76	85.49	83.21
Office furniture	-----	112.83	112.14	114.44	110.56	113.01	108.94	110.12	110.24	109.82	110.51	114.01	115.61	112.32	104.06
Partitions and fixtures	-----	116.64	118.37	120.80	121.82	114.74	118.28	116.69	113.65	113.12	113.55	114.95	117.04	115.92	112.86
Other furniture and fixtures	102.91	101.60	101.96	102.97	100.60	98.57	101.09	100.45	99.14	97.68	97.10	95.75	101.10	97.90	92.18
	Average weekly hours														
Manufacturing	41.1	40.7	40.8	40.9	40.7	40.3	40.6	40.4	40.2	40.3	40.1	40.8	41.3	41.3	41.2
Durable goods	41.7	41.2	41.4	41.6	41.1	40.8	41.2	41.1	40.8	41.0	40.8	41.5	42.1	42.1	42.0
Nondurable goods	40.2	40.1	39.9	40.1	40.0	39.7	39.7	39.5	39.3	39.4	39.2	39.7	40.1	40.2	40.1
Ordnance and accessories	42.2	42.2	41.9	42.4	41.7	41.5	41.2	41.9	41.4	41.6	41.5	42.3	42.6	42.3	41.0
Ammunition, except for small arms	42.2	42.2	41.7	42.1	41.5	41.3	40.7	41.4	40.7	41.4	41.3	41.5	41.4	41.4	42.0
Sighting and fire control equipment	-----	37.3	39.6	41.4	41.0	42.2	41.4	42.1	43.1	42.6	42.5	42.9	42.2	41.8	40.6
Other ordnance and accessories	42.9	42.9	42.9	43.1	42.1	41.9	42.4	43.0	42.7	42.0	41.8	44.1	45.2	44.2	41.9
Lumber and wood products	40.6	40.9	40.8	40.7	40.2	40.1	40.7	40.5	40.5	40.3	39.6	40.0	40.0	40.8	40.9
Sawmills and planing mills	40.2	40.8	40.7	40.9	40.7	39.9	40.7	40.1	40.2	40.1	39.2	39.7	39.5	40.6	40.6
Millwork, plywood, & related products	41.3	41.2	41.2	41.3	41.4	40.5	40.8	40.8	41.2	40.6	40.2	40.4	40.6	41.2	41.6
Wooden containers	-----	40.6	40.5	40.2	40.1	40.3	40.8	41.0	40.8	40.5	40.0	41.0	41.5	41.5	41.2
Miscellaneous wood products	41.0	41.0	41.0	41.0	40.6	40.2	41.2	41.0	40.8	41.0	40.2	40.6	41.1	41.2	41.3
Furniture and fixtures	41.4	40.9	41.1	41.1	40.8	40.0	40.3	39.5	39.5	39.8	39.7	40.1	41.5	41.5	41.6
Household furniture	41.6	41.0	41.1	40.9	40.4	39.4	39.8	38.9	39.0	39.4	39.2	39.6	41.2	41.1	41.4
Office furniture	-----	42.1	42.0	42.7	42.2	43.3	41.9	41.4	41.6	41.6	41.7	42.7	43.3	43.2	42.3
Partitions and fixtures	-----	40.5	41.1	41.8	42.3	40.4	41.5	40.8	40.3	40.4	40.7	41.2	41.8	42.0	41.8
Other furniture and fixtures	40.2	40.0	40.3	40.7	41.4	40.9	41.6	41.0	40.8	40.7	40.8	40.4	42.3	42.2	41.9
	Average hourly earnings														
Manufacturing	\$2.90	\$2.87	\$2.85	\$2.85	\$2.82	\$2.82	\$2.82	\$2.81	\$2.80	\$2.79	\$2.79	\$2.78	\$2.77	\$2.72	\$2.61
Durable goods	3.08	3.05	3.03	3.03	3.00	3.00	2.99	2.99	2.97	2.96	2.96	2.96	2.96	2.90	2.79
Nondurable goods	2.64	2.62	2.61	2.61	2.57	2.57	2.56	2.55	2.55	2.54	2.53	2.51	2.50	2.45	2.36
Ordnance and accessories	3.32	3.31	3.28	3.27	3.24	3.23	3.21	3.20	3.20	3.21	3.21	3.23	3.24	3.19	3.13
Ammunition, except for small arms	3.36	3.34	3.29	3.30	3.26	3.26	3.23	3.23	3.23	3.25	3.25	3.27	3.27	3.25	3.23
Sighting and fire control equipment	-----	3.32	3.34	3.27	3.25	3.25	3.26	3.23	3.26	3.23	3.24	3.25	3.21	3.13	3.13
Other ordnance and accessories	3.22	3.20	3.22	3.20	3.17	3.15	3.15	3.11	3.12	3.10	3.10	3.13	3.17	3.06	2.91
Lumber and wood products	2.42	2.44	2.44	2.45	2.41	2.41	2.39	2.35	2.34	2.31	2.30	2.27	2.27	2.25	2.17
Sawmills and planing mills	2.27	2.29	2.30	2.31	2.30	2.29	2.26	2.22	2.21	2.20	2.20	2.16	2.14	2.12	2.03
Millwork, plywood, & related products	2.58	2.59	2.58	2.58	2.57	2.56	2.54	2.51	2.51	2.49	2.48	2.46	2.45	2.42	2.33
Wooden containers	2.05	2.06	2.05	2.08	2.04	2.00	2.00	1.96	1.95	1.92	1.90	1.84	1.84	1.82	1.77
Miscellaneous wood products	2.29	2.28	2.28	2.28	2.26	2.26	2.23	2.20	2.19	2.16	2.16	2.14	2.15	2.12	2.05
Furniture and fixtures	2.39	2.38	2.38	2.37	2.33	2.31	2.31	2.31	2.29	2.28	2.27	2.26	2.26	2.21	2.12
Household furniture	2.27	2.26	2.26	2.25	2.20	2.18	2.18	2.17	2.16	2.15	2.14	2.12	2.13	2.08	2.01
Office furniture	-----	2.68	2.67	2.68	2.62	2.61	2.60	2.66	2.65	2.64	2.65	2.67	2.67	2.60	2.46
Partitions and fixtures	-----	2.88	2.88	2.89	2.88	2.84	2.85	2.86	2.82	2.80	2.79	2.79	2.80	2.76	2.70
Other furniture and fixtures	2.56	2.54	2.53	2.53	2.43	2.41	2.43	2.45	2.43	2.40	2.38	2.37	2.39	2.32	2.20

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,¹ by industry—Continued

Industry	1967												1966	Annual average	
	Dec. ²	Nov. ³	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
Average weekly earnings															
Manufacturing—Continued															
Durable goods—Continued															
Stone, clay, and glass products.....	\$120.35	\$122.67	\$121.25	\$121.11	\$119.99	\$118.01	\$117.46	\$116.62	\$115.23	\$113.70	\$112.19	\$113.71	\$115.23	\$114.24	\$110.04
Flat glass.....	165.35	157.56	154.76	151.79	147.33	152.46	149.56	150.33	149.24	150.28	152.64	155.06	153.36	149.60	
Glass and glassware, pressed or blown.....	118.90	118.08	116.52	114.29	113.20	114.45	113.93	113.93	113.24	115.34	112.59	114.26	114.68	111.93	106.25
Cement, hydraulic.....	138.42	143.72	137.78	136.95	131.61	132.07	130.70	130.41	132.70	129.02	128.70	130.79	131.65	132.61	124.42
Structural clay products.....	100.44	101.93	101.76	102.01	100.45	100.04	100.45	99.72	99.55	97.77	96.07	95.92	96.48	97.00	94.02
Pottery and related products.....	107.60	103.88	103.62	102.83	99.46	102.57	102.31	103.22	101.26	100.22	101.12	101.75	98.85	95.12	
Concrete, gypsum, and plaster products.....	121.54	128.76	129.34	132.24	130.87	127.80	124.60	121.05	116.57	113.40	111.38	112.44	114.90	117.65	113.08
Other stone & nonmetallic mineral products.....	123.48	122.06	120.35	120.51	119.81	117.67	117.99	117.71	116.60	114.93	113.65	115.36	116.76	115.64	110.62
Primary metal industries.....	142.61	140.83	137.90	138.58	137.50	136.27	136.12	134.64	133.57	135.38	134.97	138.69	137.61	138.09	133.88
Blast furnace and basic steel products.....	149.24	147.33	142.88	145.89	144.00	143.47	141.55	141.20	139.35	142.31	140.80	144.02	140.45	144.73	140.90
Iron and steel foundries.....	134.62	130.41	128.96	127.51	128.54	125.44	128.74	125.86	123.11	124.73	125.44	129.20	131.63	128.57	125.72
Nonferrous metals.....	138.98	139.63	138.13	138.22	135.98	133.54	134.20	131.88	132.51	131.15	130.21	132.60	131.86	129.98	124.44
Nonferrous rolling and drawing.....	138.99	136.96	135.15	134.93	131.46	132.51	132.71	130.09	130.40	131.24	133.65	136.66	138.03	136.27	130.07
Nonferrous foundries.....	123.00	120.69	120.69	120.07	120.66	117.41	119.95	120.95	117.68	117.27	119.25	121.30	123.77	120.56	113.97
Miscellaneous primary metal products.....	150.12	149.94	145.20	146.20	146.62	143.15	143.85	144.14	142.27	147.70	148.12	150.66	152.14	150.25	143.52
Average weekly hours															
Stone, clay, and glass products.....	41.5	42.3	42.1	42.2	42.1	41.7	41.8	41.5	41.3	40.9	40.5	41.2	41.6	42.0	42.0
Flat glass.....	43.4	42.7	42.4	41.7	40.7	42.0	41.2	41.3	41.0	41.4	42.4	42.6	42.6	42.6	42.5
Glass and glassware, pressed or blown.....	41.0	41.0	40.6	40.1	40.0	40.3	40.4	40.4	40.3	40.9	40.5	41.4	41.4	41.0	40.4
Cement, hydraulic.....	42.2	42.9	41.5	41.5	41.0	41.4	41.1	41.4	41.6	40.7	40.6	41.0	41.4	41.7	41.2
Structural clay products.....	40.5	41.1	41.2	41.3	41.0	41.0	41.0	40.7	40.8	40.4	39.7	39.8	40.2	41.1	41.6
Pottery and related products.....	40.3	39.8	39.7	39.4	38.4	39.3	39.5	39.7	39.7	39.4	39.3	39.5	39.9	39.7	39.8
Concrete, gypsum, and plaster products.....	42.2	44.4	44.6	45.6	45.6	45.0	44.5	43.7	42.7	42.0	41.1	41.8	42.4	43.9	44.0
Other stone & nonmetallic mineral products.....	42.0	41.8	41.5	41.7	41.6	41.0	41.4	41.3	41.2	40.9	40.3	41.2	41.7	41.9	41.9
Primary metal industries.....	41.7	41.3	40.8	41.0	40.8	40.8	41.0	40.8	40.6	40.9	40.9	41.9	41.7	42.1	42.1
Blast furnace and basic steel products.....	41.0	40.7	39.8	40.3	40.0	40.3	40.1	40.0	39.7	40.2	40.0	40.8	39.9	41.0	41.2
Iron and steel foundries.....	42.2	41.4	41.6	41.4	41.6	41.4	41.8	41.4	40.9	41.3	41.4	42.5	43.3	43.0	43.5
Nonferrous metals.....	42.5	42.7	42.5	42.4	42.1	41.6	42.2	42.0	42.2	41.9	41.6	42.5	42.4	42.2	41.9
Nonferrous rolling and drawing.....	43.3	42.8	42.5	42.7	42.0	42.2	42.4	42.1	42.2	42.2	42.7	43.8	44.1	44.1	43.5
Nonferrous foundries.....	41.0	40.5	40.5	40.7	40.9	39.8	40.8	41.0	40.3	40.3	40.7	41.4	42.1	42.3	41.9
Miscellaneous primary metal products.....	41.7	42.0	40.9	41.3	41.3	40.9	41.1	41.3	41.0	42.2	42.2	42.8	43.1	43.3	43.1
Average hourly earnings															
Stone, clay, and glass products.....	\$2.90	\$2.90	\$2.88	\$2.87	\$2.85	\$2.83	\$2.81	\$2.81	\$2.79	\$2.78	\$2.77	\$2.76	\$2.77	\$2.72	\$2.62
Flat glass.....	3.81	3.69	3.65	3.64	3.62	3.63	3.63	3.63	3.64	3.64	3.63	3.60	3.64	3.60	3.52
Glass and glassware, pressed or blown.....	2.90	2.88	2.87	2.85	2.83	2.84	2.82	2.82	2.81	2.82	2.78	2.76	2.77	2.73	2.63
Cement, hydraulic.....	3.28	3.35	3.32	3.30	3.21	3.19	3.18	3.15	3.19	3.17	3.17	3.19	3.18	3.18	3.02
Structural clay products.....	2.48	2.48	2.47	2.47	2.45	2.44	2.45	2.45	2.44	2.42	2.42	2.41	2.40	2.36	2.26
Pottery and related products.....	2.67	2.61	2.61	2.61	2.59	2.61	2.59	2.60	2.57	2.55	2.55	2.56	2.55	2.49	2.39
Concrete, gypsum, and plaster products.....	2.88	2.90	2.90	2.90	2.87	2.84	2.80	2.77	2.73	2.70	2.71	2.69	2.71	2.68	2.57
Other stone & nonmetallic mineral products.....	2.94	2.92	2.90	2.89	2.88	2.87	2.85	2.85	2.83	2.81	2.82	2.80	2.80	2.76	2.64
Primary metal industries.....	3.42	3.41	3.38	3.38	3.37	3.34	3.32	3.30	3.29	3.31	3.30	3.31	3.30	3.28	3.18
Blast furnace and basic steel products.....	3.64	3.62	3.59	3.62	3.60	3.56	3.53	3.53	3.51	3.54	3.52	3.53	3.52	3.53	2.42
Iron and steel foundries.....	3.19	3.15	3.10	3.08	3.09	3.03	3.08	3.04	3.01	3.02	3.03	3.04	3.04	2.99	2.89
Nonferrous metals.....	3.27	3.27	3.25	3.26	3.23	3.21	3.18	3.14	3.14	3.13	3.13	3.12	3.11	3.08	2.97
Nonferrous rolling and drawing.....	3.21	3.20	3.18	3.16	3.13	3.14	3.13	3.09	3.09	3.11	3.13	3.12	3.13	3.09	2.99
Nonferrous foundries.....	3.00	2.98	2.98	2.95	2.95	2.94	2.95	2.92	2.91	2.92	2.93	2.93	2.94	2.85	2.72
Miscellaneous primary metal products.....	3.60	3.57	3.55	3.54	3.55	3.50	3.50	3.49	3.47	3.50	3.51	3.52	3.53	3.47	3.33

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,¹ by industry—Continued

Industry	1967												1966		Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965	
Average weekly earnings																
Manufacturing—Continued																
<i>Durable goods—Continued</i>																
Electrical equipment and supplies.....	\$116.28	\$115.18	\$114.09	\$112.31	\$111.76	\$111.32	\$111.88	\$110.12	\$108.35	\$108.93	\$107.98	\$109.35	\$111.24	\$109.18	\$105.78	
Electric test & distributing equipment.....	126.24	124.80	123.26	122.01	119.19	119.14	119.48	119.19	119.36	120.10	118.82	118.43	123.69	117.46	113.02	
Electrical industrial apparatus.....	122.25	120.54	119.54	118.73	117.05	118.73	116.76	116.93	117.62	117.26	116.85	118.85	119.71	118.72	113.70	
Household appliances.....	128.74	126.38	126.38	120.95	120.80	121.50	119.39	118.70	111.93	115.15	114.76	115.63	116.80	118.82	114.54	
Electric lighting and wiring equipment.....	108.14	106.40	104.28	104.28	104.66	102.05	104.26	104.00	100.74	102.56	100.10	103.97	104.70	102.41	99.55	
Radio and TV receiving equipment.....	97.27	95.99	98.49	96.32	95.68	93.17	92.20	91.37	86.76	89.21	90.82	92.97	94.80	94.33	91.54	
Communication equipment.....	130.21	128.44	127.82	126.38	125.36	124.12	126.48	124.03	123.62	124.12	123.82	124.56	125.63	120.93	116.47	
Electronic components and accessories.....	98.55	97.51	96.38	95.11	94.62	94.38	93.60	92.19	91.48	91.42	90.56	91.41	92.86	92.11	89.28	
Misc. Electrical equipment & supplies.....	126.88	123.93	120.54	119.36	119.99	120.00	118.80	117.91	116.13	116.82	115.94	121.18	125.40	119.89	115.36	
Transportation equipment.....	150.88	140.59	146.86	147.48	143.52	140.29	141.17	141.78	137.30	136.49	136.21	141.02	144.93	141.86	137.71	
Motor vehicles and equipment.....	137.83	152.15	155.88	148.16	144.23	145.14	144.96	135.76	133.86	135.63	143.50	150.80	147.23	147.63		
Aircraft and parts.....	152.85	150.58	148.75	147.90	146.70	144.67	144.24	145.09	145.18	145.09	143.06	144.24	144.14	143.32	131.88	
Ship and boat building and repairing.....	137.09	135.53	136.61	134.39	131.34	127.26	130.90	133.09	132.93	132.60	127.59	133.63	136.21	130.41	121.50	
Railroad equipment.....	139.32	135.72	130.81	133.23	137.54	135.32	138.23	139.09	136.00	139.19	141.66	141.92	137.09	129.44		
Other transportation equipment.....	103.17	107.74	105.63	105.06	102.00	106.50	102.97	98.60	98.89	94.75	93.07	94.92	95.52	93.09		
Average weekly hours																
Electrical equipment and supplies.....	40.8	40.7	40.6	40.4	40.2	39.9	40.1	39.9	39.4	39.9	39.7	40.5	41.2	41.2	41.0	
Electric test & distributing equipment.....	41.8	41.6	41.5	41.5	41.1	40.8	41.2	41.1	41.3	41.7	41.4	41.7	42.8	42.1	41.4	
Electrical industrial apparatus.....	41.3	41.0	40.8	40.8	40.5	40.8	40.4	40.6	40.7	41.0	41.0	41.7	42.3	42.4	41.8	
Household appliances.....	41.8	41.3	41.0	41.0	40.1	40.5	40.2	40.1	38.2	39.3	39.3	39.6	40.0	41.4	41.2	
Electric lighting and wiring equipment.....	40.5	40.0	39.8	39.8	40.1	39.4	40.1	40.0	39.2	39.6	38.8	40.3	40.9	40.8	40.8	
Radio and TV receiving equipment.....	39.7	39.5	40.2	39.8	39.7	38.5	38.1	37.6	36.0	37.8	38.0	38.9	39.5	39.8	39.8	
Communication equipment.....	41.6	41.3	41.1	40.9	40.7	40.3	41.2	40.8	40.8	41.1	41.0	41.8	42.3	41.7	41.3	
Electronic components and accessories.....	39.9	39.8	39.5	39.3	39.1	39.0	39.0	38.9	38.6	38.9	38.7	39.4	40.2	40.4	40.4	
Misc. electrical equipment & supplies.....	41.6	40.9	41.0	40.6	40.4	40.0	40.0	39.7	39.5	39.6	39.3	40.8	41.8	41.2	41.2	
Transportation equipment.....	42.5	40.4	42.2	42.5	41.6	40.9	41.4	41.7	40.5	40.5	40.3	41.6	42.5	42.6	42.9	
Motor vehicles and equipment.....	38.5	42.5	43.3	41.5	40.4	41.0	41.3	38.9	38.8	39.2	41.0	42.6	42.8	44.2	44.2	
Aircraft and parts.....	43.3	42.9	42.5	42.5	42.4	42.3	42.3	42.8	42.7	42.8	42.2	42.8	42.9	43.3	42.0	
Ship and boat building and repairing.....	40.8	40.7	40.9	40.6	39.8	38.8	40.4	40.7	40.9	40.8	39.5	41.5	42.3	41.4	40.5	
Railroad equipment.....	40.5	39.8	38.7	39.3	40.1	39.8	40.3	40.2	40.0	40.7	41.3	40.9	40.8	40.2	40.2	
Other transportation equipment.....	40.3	41.6	41.1	41.2	40.0	41.6	40.7	39.6	39.4	37.9	38.3	38.9	39.8	40.3	40.3	
Average hourly earnings																
Electrical equipment and supplies.....	\$2.85	\$2.83	\$2.81	\$2.78	\$2.78	\$2.79	\$2.79	\$2.76	\$2.75	\$2.73	\$2.72	\$2.70	\$2.70	\$2.65	\$2.58	
Electric test & distributing equipment.....	3.02	3.00	2.97	2.94	2.90	2.92	2.90	2.90	2.89	2.88	2.87	2.84	2.89	2.79	2.73	
Electrical industrial apparatus.....	2.96	2.94	2.93	2.91	2.89	2.91	2.89	2.88	2.89	2.86	2.85	2.85	2.83	2.80	2.72	
Household appliances.....	3.08	3.06	3.06	3.00	3.00	2.97	2.96	2.93	2.93	2.92	2.92	2.92	2.92	2.87	2.78	
Electric lighting and wiring equipment.....	2.67	2.66	2.62	2.62	2.61	2.59	2.60	2.60	2.57	2.59	2.58	2.58	2.56	2.51	2.44	
Radio and TV receiving equipment.....	2.45	2.43	2.45	2.42	2.41	2.42	2.42	2.43	2.41	2.36	2.39	2.39	2.40	2.37	2.30	
Communication equipment.....	3.13	3.11	3.11	3.09	3.08	3.08	3.07	3.04	3.03	3.02	3.02	2.98	2.97	2.90	2.82	
Electronic components and accessories.....	2.47	2.45	2.44	2.42	2.42	2.42	2.40	2.37	2.37	2.35	2.34	2.32	2.31	2.28	2.21	
Misc. electrical equipment & supplies.....	3.05	3.03	2.94	2.94	2.97	3.00	2.97	2.97	2.94	2.95	2.95	2.97	3.00	2.91	2.80	
Transportation equipment.....	3.55	3.48	3.48	3.47	3.45	3.43	3.41	3.40	3.39	3.37	3.38	3.39	3.41	3.33	3.21	
Motor vehicles and equipment.....	3.58	3.58	3.60	3.57	3.57	3.54	3.51	3.49	3.45	3.46	3.46	3.50	3.54	3.44	3.34	
Aircraft and parts.....	3.53	3.51	3.50	3.48	3.46	3.42	3.41	3.39	3.40	3.39	3.39	3.37	3.36	3.31	3.14	
Ship and boat building and repairing.....	3.36	3.33	3.34	3.31	3.30	3.23	3.24	3.27	3.25	3.23	3.23	3.22	3.22	3.15	3.00	
Railroad equipment.....	3.44	3.41	3.38	3.33	3.43	3.40	3.43	3.46	3.40	3.42	3.43	3.47	3.36	3.36	3.22	
Other transportation equipment.....	2.56	2.59	2.57	2.55	2.55	2.56	2.53	2.49	2.51	2.50	2.43	2.44	2.40	2.40	2.31	

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,¹ by industry—Continued

Industry	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
Average weekly earnings															
Manufacturing—Continued															
<i>Durable goods—Continued</i>															
Instruments and related products.....	\$120.35	\$119.36	\$118.53	\$118.53	\$117.14	\$116.28	\$117.01	\$115.90	\$115.77	\$115.51	\$114.11	\$115.65	\$116.89	\$114.93	\$108.47
Engineering & scientific instruments.....	-----	138.24	137.60	137.82	134.41	136.00	137.90	137.14	138.85	137.85	133.65	133.30	136.97	133.18	125.33
Mechanical measuring & control devices.....	-----	117.55	116.69	115.18	115.75	112.16	110.25	110.92	113.24	111.20	112.72	110.92	116.06	117.88	115.78
Optical and ophthalmic goods.....	-----	112.34	109.34	109.08	108.53	108.09	107.04	107.94	105.82	105.67	104.86	103.68	105.22	106.59	103.66
Ophthalmic goods.....	-----	-----	97.36	96.38	95.68	95.20	94.96	94.80	94.09	'94.09	93.06	92.59	93.20	94.42	92.84
Medical instruments and supplies.....	-----	99.65	100.35	100.75	100.90	99.05	98.46	98.40	98.74	98.33	97.44	97.69	96.64	97.68	95.24
Photographic equipment and supplies.....	-----	-----	142.80	142.04	141.28	141.53	140.10	141.67	137.48	135.98	137.49	136.53	136.21	136.28	134.54
Watches, clocks, and watchcases.....	-----	-----	95.11	94.89	94.83	94.00	93.53	93.06	90.87	91.77	91.43	90.23	92.06	92.11	91.39
Miscellaneous manufacturing industries.....	-----	95.28	94.80	93.53	92.66	92.04	90.79	92.20	91.57	91.57	92.20	90.17	91.87	91.20	88.80
Jewelry, silverware, and plated ware.....	-----	112.06	112.19	110.42	108.94	106.23	103.22	104.26	105.30	105.18	104.52	100.47	103.38	108.03	102.26
Toys and sporting goods.....	-----	-----	83.95	83.56	83.13	82.71	81.96	83.10	82.11	82.71	83.10	81.79	82.53	79.17	78.80
Pens, pencils, office and art supplies.....	-----	-----	92.23	90.91	90.46	91.64	90.16	90.68	90.06	89.33	89.04	87.58	88.31	90.17	86.65
Costume jewelry and notions.....	-----	-----	85.28	84.67	83.64	83.64	81.75	85.36	84.07	84.46	83.42	81.32	82.47	82.35	81.39
Other manufacturing industries.....	-----	102.80	102.40	100.44	99.65	98.36	96.47	97.86	96.97	96.58	97.71	96.08	97.66	97.84	95.68
Musical instruments and parts.....	-----	-----	103.97	102.26	102.51	100.84	99.79	98.39	96.75	99.15	99.43	98.89	100.85	103.91	100.53
Average weekly hours															
Instruments and related products.....	41.5	41.3	41.3	41.3	41.1	40.8	41.2	41.1	41.2	41.4	40.9	41.6	42.2	42.1	41.4
Engineering & scientific instruments.....	-----	42.8	42.6	42.8	42.4	42.5	43.5	43.4	43.8	43.9	42.7	43.0	43.9	43.1	41.5
Mechanical measuring & control devices.....	-----	41.1	40.8	40.7	40.9	40.2	39.8	39.9	40.3	40.0	40.4	39.9	41.6	42.1	42.1
Optical and ophthalmic goods.....	-----	41.3	40.8	40.7	40.8	41.1	40.7	41.2	40.7	40.8	40.8	40.5	41.1	41.8	41.8
Ophthalmic goods.....	-----	-----	39.9	39.5	39.7	40.0	39.9	40.0	39.7	39.6	39.4	40.0	40.0	40.7	41.2
Medical instruments and supplies.....	-----	39.7	40.3	40.3	40.2	40.1	39.7	40.0	40.3	40.3	40.1	40.2	40.1	40.7	40.7
Photographic equipment and supplies.....	-----	-----	42.5	42.4	42.3	42.5	42.2	42.8	42.3	42.1	42.7	42.4	42.7	43.4	43.0
Watches, clocks, and watchcases.....	-----	-----	40.3	40.9	40.7	40.0	39.8	39.6	39.0	39.9	40.1	39.4	40.2	40.4	40.8
Miscellaneous manufacturing industries.....	-----	39.7	40.0	39.8	39.6	39.5	38.8	39.4	39.3	39.3	39.4	38.7	39.6	40.0	39.9
Jewelry, silverware, and plated ware.....	-----	41.2	41.4	41.2	40.8	40.7	39.7	40.1	40.5	40.3	40.2	39.4	40.7	42.2	41.4
Toys and sporting goods.....	-----	-----	39.6	39.6	39.4	39.2	38.3	39.2	39.1	39.2	39.2	38.4	39.3	39.0	39.4
Pens, pencils, office and art supplies.....	-----	-----	40.1	39.7	39.5	39.5	39.2	39.6	39.5	39.7	39.4	39.1	39.6	40.8	40.3
Costume jewelry and notions.....	-----	-----	39.3	39.2	38.9	38.9	38.2	39.7	39.1	39.1	38.8	38.0	38.9	39.4	39.7
Other manufacturing industries.....	-----	40.0	40.0	39.7	39.7	39.5	38.9	39.3	39.1	39.1	39.4	38.9	39.7	40.1	40.2
Musical instruments and parts.....	-----	-----	40.3	40.1	40.2	39.7	39.6	39.2	38.7	39.5	39.3	39.4	40.5	41.9	41.2
Average hourly earnings															
Instruments and related products.....	\$2.90	\$2.89	\$2.87	\$2.87	\$2.85	\$2.85	\$2.84	\$2.82	\$2.81	\$2.79	\$2.79	\$2.78	\$2.77	\$2.73	\$2.62
Engineering & scientific instruments.....	-----	3.23	3.23	3.22	3.17	3.20	3.17	3.16	3.17	3.14	3.13	3.10	3.12	3.09	3.02
Mechanical measuring & control devices.....	-----	2.86	2.86	2.83	2.83	2.79	2.77	2.78	2.81	2.78	2.79	2.78	2.79	2.80	2.75
Optical and ophthalmic goods.....	-----	2.72	2.68	2.68	2.66	2.63	2.63	2.62	2.60	2.59	2.57	2.56	2.56	2.55	2.48
Ophthalmic goods.....	-----	-----	2.44	2.44	2.41	2.38	2.38	2.37	2.37	2.37	2.35	2.35	2.33	2.32	2.27
Medical instruments and supplies.....	-----	2.51	2.49	2.50	2.51	2.47	2.48	2.46	2.45	2.44	2.43	2.43	2.41	2.40	2.34
Photographic equipment and supplies.....	-----	-----	3.36	3.35	3.34	3.33	3.32	3.31	3.25	3.23	3.22	3.22	3.19	3.14	3.10
Watches, clocks, and watchcases.....	-----	-----	2.36	2.32	2.33	2.35	2.35	2.35	2.33	2.30	2.28	2.29	2.29	2.28	2.24
Miscellaneous manufacturing industries.....	-----	2.40	2.37	2.35	2.34	2.33	2.34	2.34	2.33	2.33	2.34	2.33	2.32	2.28	2.22
Jewelry, silverware, and plated ware.....	-----	2.72	2.71	2.68	2.67	2.61	2.60	2.60	2.60	2.61	2.60	2.55	2.54	2.56	2.47
Toys and sporting goods.....	-----	-----	2.12	2.11	2.11	2.11	2.14	2.12	2.10	2.11	2.12	2.13	2.10	2.03	2.00
Pens, pencils, office and art supplies.....	-----	-----	2.30	2.29	2.29	2.32	2.30	2.29	2.28	2.25	2.26	2.24	2.23	2.21	2.15
Costume jewelry and notions.....	-----	-----	2.17	2.16	2.15	2.15	2.14	2.15	2.15	2.16	2.15	2.14	2.12	2.09	2.05
Other manufacturing industries.....	-----	2.57	2.56	2.53	2.51	2.49	2.48	2.49	2.48	2.47	2.48	2.47	2.46	2.44	2.38
Musical instruments and parts.....	-----	-----	2.58	2.55	2.55	2.54	2.52	2.51	2.50	2.51	2.53	2.51	2.49	2.48	2.44

See footnotes at end of table.

TABLE C-1. Gross hours and earnings of production workers,¹ by industry—Continued

Industry	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
	Average weekly earnings														
Services:															
Hotels and other lodging places:															
Hotels, tourist courts, and motels ³		\$56.76	\$57.04	\$56.68	\$57.22	\$56.92	\$56.36	\$56.42	\$55.85	\$56.15	\$56.00	\$55.05	\$55.72	\$53.34	\$51.54
Personal services:															
Laundries and drycleaning plants.....		66.04	66.20	65.63	65.25	65.42	65.77	64.53	64.13	63.24	62.02	62.79	62.87	61.12	58.98
Motion pictures:															
Motion picture filming & distributing.....		161.17	160.74	159.56	163.18	163.96	162.38	155.16	154.77	150.91	160.24	162.89	166.96	157.77	148.08
	Average weekly hours														
Services:															
Hotels and other lodging places:															
Hotels, tourist courts, and motels ³		35.7	36.1	36.1	37.4	37.2	36.6	36.4	36.5	36.7	36.6	36.7	36.9	37.3	37.9
Personal services:															
Laundries and drycleaning plants.....		37.1	37.4	37.5	37.5	37.6	37.8	37.3	37.5	37.2	36.7	37.6	38.1	38.2	38.8
Motion pictures:															
Motion picture filming & distributing.....		40.7	40.9	40.6	41.0	41.3	40.8	40.3	40.2	39.3	41.3	42.2	42.7	41.3	39.7
	Average hourly earnings														
Services:															
Hotels and other lodging places:															
Hotels, tourist courts, and motels ³		\$1.59	\$1.58	\$1.57	\$1.53	\$1.53	\$1.54	\$1.55	\$1.53	\$1.53	\$1.53	\$1.50	\$1.51	\$1.43	\$1.36
Personal services:															
Laundries and drycleaning plants.....		1.78	1.77	1.75	1.74	1.74	1.74	1.73	1.71	1.70	1.69	1.67	1.65	1.60	1.52
Motion pictures:															
Motion picture filming & distributing.....		3.96	3.93	3.93	3.98	3.97	3.98	3.85	3.85	3.84	3.88	3.86	3.91	3.82	3.73

¹ For comparability of data with those published in issues prior to October 1967 see footnote 1, table A-9. For employees covered, see footnote 1, table A-10.

² Preliminary.

³ 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 I). Beginning January 1965, data relate to railroads with operating revenues of \$5,000,000 or more.

⁴ Data relate to nonsupervisory employees except messengers.

⁵ Money payments only, tips not included.

⁶ 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-4. Average hourly earnings excluding overtime of production workers in manufacturing, by major industry group¹

Major industry group	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept. ²	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
Manufacturing.....	\$2.78	\$2.76	\$2.74	\$2.73	\$2.71	\$2.71	\$2.71	\$2.70	\$2.70	\$2.69	\$2.68	\$2.67	\$2.65	\$2.59	\$2.51
Durable goods.....	2.95	2.93	2.90	2.89	2.88	2.88	2.88	2.87	2.86	2.85	2.84	2.84	2.82	2.76	2.67
Ordnance and accessories.....	3.15	3.13	3.11	3.10	3.10	3.10	3.09	3.07	3.08	3.08	3.08	3.08	3.08	3.05	3.03
Lumber and wood products.....	2.34	2.33	2.32	2.30	2.30	2.29	2.25	2.25	2.24	2.21	2.21	2.18	2.18	2.15	2.07
Furniture and fixtures.....	2.28	2.28	2.28	2.24	2.24	2.23	2.24	2.24	2.22	2.21	2.19	2.18	2.18	2.11	2.03
Stone, clay, and glass products.....	2.76	2.73	2.71	2.70	2.69	2.68	2.68	2.67	2.66	2.66	2.66	2.65	2.64	2.59	2.49
Primary metal industries.....	3.28	3.25	3.25	3.25	3.22	3.20	3.19	3.18	3.18	3.16	3.16	3.16	3.15	3.13	3.04
Fabricated metal products.....	2.88	2.86	2.86	2.84	2.84	2.83	2.84	2.83	2.81	2.81	2.81	2.80	2.79	2.73	2.64
Machinery, except electrical.....	3.09	3.06	3.05	3.03	3.03	3.02	3.01	3.00	2.99	2.98	2.98	2.98	2.96	2.90	2.81
Electrical equipment and supplies.....	2.74	2.72	2.69	2.70	2.71	2.71	2.69	2.67	2.65	2.64	2.61	2.60	2.60	2.54	2.49
Transportation equipment.....	3.33	3.31	3.29	3.28	3.28	3.27	3.27	3.26	3.26	3.25	3.26	3.25	3.25	3.15	3.04
Instruments and related products.....	2.78	2.77	2.76	2.75	2.75	2.74	2.73	2.71	2.69	2.69	2.69	2.67	2.66	2.61	2.53
Miscellaneous manufacturing industries.....	2.29	2.27	2.26	2.26	2.28	2.27	2.26	2.26	2.27	2.26	2.26	2.25	2.21	2.14	2.07
Nondurable goods.....	2.53	2.52	2.50	2.50	2.47	2.47	2.46	2.46	2.46	2.45	2.44	2.42	2.40	2.35	2.27
Food and kindred products.....	2.55	2.51	2.50	2.49	2.50	2.51	2.52	2.53	2.51	2.50	2.48	2.45	2.45	2.40	2.33
Tobacco manufactures.....	2.13	2.07	2.12	2.20	2.33	2.32	2.32	2.31	2.30	2.25	2.17	2.12	2.12	2.15	2.06
Textile mill products.....	2.02	2.02	2.00	1.95	1.94	1.94	1.94	1.94	1.94	1.93	1.93	1.91	1.91	1.87	1.78
Apparel and other textile products.....	2.03	2.02	2.03	2.00	1.98	1.98	1.97	1.97	1.97	1.96	1.91	1.90	1.90	1.85	1.80
Paper and allied products.....	2.76	2.75	2.75	2.74	2.73	2.70	2.68	2.67	2.66	2.66	2.65	2.64	2.64	2.59	2.50
Printing and publishing.....	(³)	(³)	(²)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)
Chemicals and allied products.....	3.05	3.04	3.03	3.01	3.01	2.99	2.97	2.94	2.94	2.94	2.94	2.93	2.93	2.87	2.79
Petroleum and coal products.....	3.49	3.44	3.43	3.41	3.45	3.42	3.44	3.43	3.43	3.41	3.38	3.34	3.34	3.29	3.18
Rubber and plastics products, nec.....	2.72	2.70	2.68	2.63	2.52	2.52	2.52	2.61	2.60	2.59	2.59	2.57	2.57	2.54	2.49
Leather and leather products.....	2.05	2.04	2.04	2.02	2.00	2.02	2.02	2.02	2.01	1.98	1.95	1.93	1.89	1.89	1.84

¹ For comparability of data with those published in issues prior to October 1967, 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.

² Preliminary.

³ 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-6. Indexes of aggregate weekly man-hours and payrolls in industrial and construction activities ¹

[1957-59=100]

Activity	1967												1966	Annual average	
	Dec. ²	Nov. ²	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
	Man-hours														
Total.....	114.3	116.0	115.4	116.8	116.5	113.8	114.8	111.7	110.5	110.2	109.4	112.3	116.2	115.9	109.3
Mining.....	77.0	77.8	78.2	79.1	81.1	84.3	83.0	80.0	79.2	77.1	76.7	79.1	81.4	82.2	83.0
Contract construction.....	107.1	120.2	122.6	127.1	130.1	127.8	120.2	110.4	104.7	97.1	92.5	99.1	107.4	114.7	110.5
Manufacturing.....	117.4	117.2	115.9	116.8	115.7	112.7	115.4	113.5	113.2	114.3	114.1	116.4	119.6	117.8	110.4
Durable goods.....	122.6	121.6	119.3	120.0	118.9	117.3	121.0	119.9	119.1	120.6	120.5	123.4	126.6	124.2	114.3
Ordnance and accessories.....	194.5	189.5	185.9	184.8	179.5	174.1	171.5	171.6	169.5	170.4	168.6	168.1	164.8	144.9	113.3
Lumber and wood products.....	92.1	94.2	94.8	95.2	95.7	95.0	97.1	91.6	90.8	90.1	88.4	89.4	90.7	97.4	97.0
Furniture and fixtures.....	128.0	125.8	125.7	124.3	123.0	116.3	120.5	117.3	117.7	120.1	121.1	123.1	130.6	127.7	119.5
Stone, clay, and glass products.....	106.5	110.2	109.0	110.1	111.2	109.7	109.6	106.0	104.5	102.5	100.1	103.0	106.9	111.2	108.3
Primary metal industries.....	107.1	106.0	102.6	104.6	106.3	107.3	110.2	109.1	108.7	111.3	112.5	116.0	115.4	116.9	113.3
Fabricated metal products.....	124.4	123.9	122.1	123.1	123.2	120.0	124.8	122.3	121.3	122.0	122.5	125.6	129.4	126.1	117.2
Machinery, except electrical.....	134.5	135.3	131.0	135.9	134.9	134.9	138.2	138.5	140.4	142.2	141.6	143.5	144.6	139.0	123.6
Electrical equipment and supplies.....	144.4	143.8	141.2	138.3	138.7	133.8	134.6	136.1	136.4	141.4	143.2	147.3	151.3	145.8	125.7
Transportation equipment.....	122.6	114.9	111.5	111.6	105.4	106.5	115.0	115.3	111.0	112.1	112.1	116.0	122.3	116.7	107.1
Instruments and related products.....	130.6	129.6	128.6	128.8	128.5	126.4	129.1	128.0	129.4	130.6	128.7	131.0	133.1	127.7	112.7
Misc. manufacturing industries.....	109.0	116.4	117.4	115.4	112.7	104.6	110.4	108.6	107.5	106.0	103.7	105.2	112.1	113.4	109.4
Nondurable goods.....	110.7	111.4	111.6	112.7	111.6	106.8	108.0	105.2	105.4	106.1	105.7	107.3	110.4	109.5	105.3
Food and kindred products.....	96.1	98.6	103.0	108.2	103.4	99.6	96.2	91.0	88.6	89.5	88.8	91.4	96.6	96.2	94.4
Tobacco manufactures.....	87.6	99.3	107.2	101.0	92.8	75.7	77.1	73.0	74.6	74.2	76.2	87.8	98.9	84.6	86.4
Textile mill products.....	106.4	105.6	104.7	103.7	102.8	98.4	102.2	100.0	99.5	99.9	99.4	101.3	103.9	106.0	102.0
Apparel and other textile products.....	116.3	118.2	116.6	117.1	118.5	111.3	116.2	115.3	114.7	116.6	117.1	116.9	118.6	118.7	115.1
Paper and allied products.....	119.1	117.8	117.5	117.5	118.4	116.6	118.0	113.1	112.7	114.0	112.9	114.1	116.9	115.0	109.6
Printing and publishing.....	120.6	118.5	117.7	118.8	118.9	117.9	118.6	118.0	118.5	119.3	117.4	117.2	119.9	115.8	110.0
Chemicals and allied products.....	119.1	119.0	117.9	117.4	117.6	117.3	117.4	116.7	118.7	116.6	115.2	115.5	117.1	115.9	110.2
Petroleum and coal products.....	83.5	85.6	86.3	87.3	87.1	87.4	85.7	83.1	82.3	79.5	78.6	77.5	80.1	81.0	78.7
Rubber and plastics products, nec.....	155.1	154.7	152.9	152.4	148.7	125.0	130.9	126.3	143.1	144.1	144.5	149.4	153.2	146.8	135.2
Leather and leather products.....	99.0	99.2	95.1	94.8	97.0	94.0	95.2	91.3	89.4	92.0	95.0	98.2	100.2	100.6	96.9
	Payrolls														
Mining.....	100.8	101.0	101.5	102.8	104.1	108.9	106.2	101.8	101.0	97.7	97.1	100.4	102.6	100.8	97.1
Contract construction.....	160.2	178.9	182.8	188.3	188.9	184.7	171.1	157.3	147.9	137.2	131.3	141.0	151.7	157.6	144.6
Manufacturing.....	161.2	159.3	156.5	157.6	154.5	150.5	153.8	150.9	149.9	151.1	150.4	153.1	156.9	151.4	136.6

¹ For comparability of data with those published in issues prior to October 1967, 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.
² Preliminary.

TABLE D-2. Consumer Price Index¹—U.S. city average for urban wage earners and clerical workers, selected groups, subgroups, and special groups of items, seasonally adjusted²

[1957-59=100 unless otherwise specified]

Group	1967												1966
	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.
Food.....	116.5	116.1	115.8	115.6	115.8	115.0	115.3	114.5	113.9	114.3	114.0	114.9	115.3
Food at home.....	113.4	112.9	112.7	112.5	112.9	112.0	112.6	111.5	110.9	111.6	111.4	112.5	113.1
Meats, poultry, and fish.....	111.8	111.3	111.2	111.1	112.1	112.2	113.1	110.3	110.0	110.4	110.4	110.4	111.3
Dairy products.....	117.4	117.0	117.3	117.1	116.6	117.0	117.4	116.6	116.3	115.6	115.9	115.8	115.9
Fruits and vegetables.....	123.4	121.1	120.5	119.7	120.6	116.0	115.1	113.5	112.1	114.7	114.4	118.5	117.6
Other foods at home.....	101.3	100.9	101.1	101.3	102.5	101.1	101.6	101.7	101.9	102.8	102.3	104.4	104.9
Fuel and utilities ³	109.0	109.1	109.4	109.5	109.5	109.3	108.8	108.8	108.7	108.4	108.7	108.2	108.0
Fuel oil and coal ⁴	111.2	112.1	112.8	113.8	113.9	113.7	112.4	112.4	110.3	109.4	108.9	108.3	108.3
Apparel and upkeep ⁵	116.2	115.9	115.4	114.9	114.3	114.2	113.9	113.7	113.1	112.9	112.3	111.9	111.7
Men's and boys'.....	116.1	115.7	115.6	115.3	115.0	114.4	114.2	114.0	113.6	113.2	112.2	111.9	111.9
Women's and girls'.....	112.6	112.3	111.5	110.7	109.6	109.7	109.8	109.6	108.7	108.6	107.9	107.5	107.1
Footwear.....	127.5	127.2	126.8	126.5	126.3	125.8	125.3	125.2	124.8	124.3	123.5	123.0	122.5
Transportation.....	117.7	117.8	117.3	117.0	116.3	116.0	115.9	115.6	115.3	114.5	114.3	113.2	113.3
Private.....	115.6	115.6	115.4	115.1	114.3	113.9	113.8	113.7	113.4	112.7	112.2	111.3	111.4
Special groups:													
Commodities ⁶	112.8	112.5	112.3	112.0	111.8	111.3	111.1	110.6	110.3	110.1	110.0	110.1	110.1
Nondurables.....	115.6	115.4	115.0	114.7	114.6	113.7	113.9	113.4	113.1	113.0	112.7	112.9	113.1
Durables ⁷	105.9	105.6	105.5	105.1	104.9	104.4	104.1	103.9	103.4	103.0	103.0	102.7	102.9
Commodities less food ⁶	110.8	110.7	110.4	110.1	109.6	109.2	108.9	108.8	108.4	108.0	107.9	107.4	107.4
Nondurables less food.....	114.9	114.7	114.2	114.0	113.4	113.0	112.8	112.8	112.5	112.0	111.8	111.1	111.1
Apparel commodities.....	115.1	114.8	114.3	113.9	113.2	113.2	112.9	112.6	112.1	111.9	111.3	110.8	110.5
Apparel commodities less footwear.....	112.6	112.4	111.9	111.4	110.6	110.6	110.4	110.2	109.6	109.4	108.9	108.4	108.0
New cars.....	100.3	99.8	100.4	97.9	98.2	98.0	97.2	97.1	96.8	97.1	96.9	96.9	97.5
Used cars.....	124.3	124.7	124.8	125.1	123.3	123.1	120.9	121.9	119.4	117.9	117.2	115.1	114.0
Housefurnishings.....	102.0	101.7	101.5	101.2	101.1	100.9	100.6	100.5	100.4	100.2	100.2	100.0	100.0

¹ See footnote 1, table D-1.² 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 BLSSeasonal Factor Method using data for 1956-66. These factors will be updated at the end of each calendar year. A detailed description of the BLS Seasonal Factor Method is provided in appendix A, *BLS Handbook of Methods for Surveys and Studies* (BLS Bulletin 1458, 1966).³ See footnote 5, table D-1.⁴ See footnote 6, table D-1.⁵ See footnote 8, table D-1.⁶ See footnote 10, table D-1.⁷ See footnote 12, table D-1.

TABLE D-5. Indexes of wholesale prices for special commodity groupings¹[1957-59=100, unless otherwise specified]²

Commodity group	1967												1966	Annual average	
	Dec.	Nov.	Oct.	Sept.	Aug.	July	June	May	Apr.	Mar.	Feb.	Jan.	Dec.	1966	1965
All commodities—less farm products.....	107.7	107.3	107.2	107.1	106.8	106.8	106.7	106.4	106.2	106.3	106.5	106.5	106.3	105.8	102.9
All foods.....	109.1	108.0	107.5	109.3	108.8	110.7	110.3	107.8	106.4	107.3	108.5	109.5	109.8	110.7	104.5
Processed foods.....	110.2	109.6	110.4	111.6	111.1	112.0	111.4	109.6	108.2	108.8	109.9	110.6	110.6	111.5	105.1
Textile products, excluding hard and bast fiber products.....	99.1	97.6	96.4	96.1	95.6	95.5	95.9	96.3	96.7	97.0	97.3	97.5	97.5	98.5	99.1
Hosiery.....	91.9	91.8	91.6	91.6	91.6	91.3	91.3	91.7	91.6	91.6	91.6	91.4	91.4	92.0	93.5
Underwear and nightwear.....	109.9	109.9	109.9	109.9	109.7	109.7	109.7	108.7	108.4	107.7	107.5	107.5	107.1	106.8	104.6
Refined petroleum products.....	99.9	100.4	101.0	103.9	104.6	103.3	103.1	103.7	101.7	102.4	101.9	100.3	100.2	99.5	95.9
East Coast, refined.....	104.3	104.3	104.3	104.3	104.3	104.3	101.6	101.6	101.6	101.6	101.6	99.9	99.9	97.5	95.3
Mid-Continent, refined.....	100.9	100.9	97.9	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.9	98.7	97.9	98.6	97.6
Gulf Coast, refined.....	99.2	100.8	102.3	107.0	108.6	107.0	107.0	107.2	102.5	104.1	104.1	102.5	102.5	102.2	95.1
Pacific Coast, refined.....	91.3	91.3	91.3	91.3	92.2	92.2	92.1	95.6	95.6	95.6	95.6	94.8	94.8	90.7	90.6
Midwest, refined (Jan. 1961=100).....	95.2	95.0	96.3	98.8	98.8	95.2	95.2	95.2	94.0	94.7	93.4	92.7	92.7	92.7	91.7
Pharmaceutical preparations.....	95.8	95.7	95.6	95.5	95.6	96.1	96.1	96.2	95.9	96.4	96.3	96.9	97.1	96.8	96.5
Lumber and wood products excluding millwork and other wood products ³	106.9	105.6	106.5	108.6	105.1	104.1	103.4	102.6	102.5	101.9	102.0	100.7	100.8	105.1	99.8
Special metals and metal products ⁴	109.7	109.4	108.8	107.8	107.5	107.4	107.3	107.5	107.6	107.7	107.9	107.8	107.5	106.7	104.7
Machinery and motive products.....	110.4	110.1	109.7	108.6	108.5	108.4	108.4	108.5	108.5	108.4	108.3	108.2	108.0	106.0	103.7
Machinery and equipment, except electrical.....	120.0	119.6	119.0	118.3	118.2	117.8	117.6	117.6	117.3	117.2	117.0	116.8	116.4	114.0	110.1
Agricultural machinery, including tractors.....	127.2	125.9	124.3	124.1	123.9	123.9	123.8	123.7	123.7	123.8	123.7	123.4	122.7	120.3	116.6
Metalworking machinery.....	133.3	133.2	131.7	131.5	131.5	130.6	130.4	130.5	129.5	129.2	128.4	128.1	128.2	124.1	117.4
Total tractors.....	128.6	128.7	125.4	123.7	123.7	123.4	123.3	123.3	123.0	123.1	123.1	123.0	122.7	120.2	116.8
Industrial valves.....	122.8	122.8	122.8	122.8	121.9	121.8	121.5	122.7	122.7	122.7	122.7	122.4	122.1	116.3	105.7
Industrial fittings.....	105.6	103.0	103.0	101.5	101.5	102.6	102.6	102.6	101.7	101.7	101.7	101.7	99.1	95.9	90.8
Abrasive grinding wheels.....	98.2	94.6	94.6	94.6	94.6	94.6	94.6	94.7	94.7	94.7	94.7	94.7	94.7	93.9	94.2
Construction materials.....	106.7	106.2	106.2	106.3	105.3	104.9	104.6	104.4	104.7	104.5	104.4	104.1	104.0	103.9	100.8

¹ See footnote 1, table D-4.² See footnote 2, table D-4.³ Formerly titled "Lumber and wood products, excluding millwork."⁴ Metals and metal products, agricultural machinery and equipment, and motor vehicles and equipment.⁵ Revised.

E.—Work Stoppages

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

Month and year	Number of stoppages		Workers involved in stoppages		Man-days idle during month or year	
	Beginning in month or year	In effect during month	Beginning in month or year	In effect during month	Number	Percent of estimated working time
1945.....	4,750	-----	3,470,000	-----	38,000,000	0.47
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
1965.....	3,963	-----	1,550,000	-----	23,300,000	.18
1966.....	4,405	-----	1,960,000	-----	25,400,000	.19
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	2,236,000	.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.....	238	389	113,000	140,000	1,090,000	.10
February.....	252	421	101,000	138,000	928,000	.09
March.....	336	536	217,000	265,000	1,410,000	.12
April.....	403	614	227,000	392,000	2,600,000	.24
May.....	494	720	240,000	340,000	2,870,000	.26
June.....	499	759	161,000	265,000	2,220,000	.19
July.....	448	704	286,000	347,000	3,100,000	.29
August.....	442	718	117,000	310,000	3,370,000	.27
September.....	422	676	132,000	226,000	1,780,000	.16
October.....	410	651	191,000	255,000	2,190,000	.19
November.....	288	533	126,000	234,000	2,150,000	.19
December.....	173	389	49,000	158,000	1,670,000	.15
1967: January ²	275	440	98,000	190,000	1,270,000	.11
February ²	325	465	106,000	151,000	1,280,000	.12
March ²	430	575	141,000	202,000	1,490,000	.12
April ²	440	600	409,000	443,000	2,170,000	.20
May ²	535	695	255,000	402,000	3,900,000	.33
June ²	430	670	177,000	350,000	4,360,000	.36
July ²	375	630	804,000	1,010,000	4,710,000	.43
August ²	385	655	86,000	231,000	2,840,000	.22
September ²	405	670	375,000	494,000	6,320,000	.57
October ²	405	645	158,000	440,000	6,510,000	.54
November ²	300	530	197,000	388,000	3,060,000	.26
December ²	190	400	64,700	194,000	2,610,000	.24

¹ The data include all known strikes or lockouts involving 6 workers or more and lasting a full day or shift or longer. Figures on workers involved and man-days idle cover all workers made idle for as long as 1 shift in establishments directly involved in a stoppage. They do not measure the indirect

or secondary effect on other establishments or industries whose employees are made idle as a result of material or service shortages.

² Preliminary.

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