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**UNITED STATES DEPARTMENT OF LABOR**

*Frances Perkins, Secretary*

**BUREAU OF LABOR STATISTICS**

*Isador Lubin, Commissioner (on leave)*

*A. F. Hinrichs, Acting Commissioner*

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**Wages in Manufacturing Industries  
in Wartime**

by

**H. M. Douty, Robert J. Myers,  
and Herman D. Bloch**



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## Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,  
BUREAU OF LABOR STATISTICS,  
*Washington, D. C., December 3, 1943.*

**The SECRETARY OF LABOR:**

I have the honor to transmit herewith a report on wages in manufacturing industries in wartime. The report is divided into parts. The first part, on trends in factory wages, 1939-43, was prepared by H. M. Douty, and the second part, on the level of factory wages rates, by Robert J. Myers and Herman D. Bloch. The report was prepared in the Bureau's Division of Wage Analysis, with the assistance of the Division of Employment Statistics.

A. F. HINRICHS,  
*Acting Commissioner.*

HON. FRANCES PERKINS,  
*Secretary of Labor.*

## Preface

The two discussions of wartime wages of which the present bulletin is composed first appeared as separate articles in the *Monthly Labor Review*. Part I: *Trends in Factory Wages, 1939-43* (published in the November 1943 issue) and Part II: *The Level of Factory Wages in Wartime* (in the October 1943 issue) are reproduced here without change.

These articles form part of a series of broad, general discussions of wages that have appeared in the *Monthly Labor Review* from time to time, supplementing the Bureau's monthly statistics on average hourly and weekly earnings and its detailed studies of wage rates by occupation.<sup>1</sup> Although the present material deals exclusively with wages in manufacturing, later articles will discuss wages in nonmanufacturing industries.

The articles combined for publication in this bulletin are closely related and are essentially comparable. Both deal with wages during the period of World War II. Both, as is indicated above, are limited to manufacturing industries. Part I, however, discusses the changes that have taken place in the general level of wages during the war period, and the factors responsible for those changes; for simplicity of presentation, differences in the movement of wages and in the level of wages among various groups of workers are ignored. Part II, which contains a cross-section analysis of wage rates in a pre-war period and in the summer of 1943, deals primarily with differences in the rates of individual workers at the two periods and attempts to point out some of the factors responsible for the differences shown.

Part I presents several measures of changing wage levels, while part II analyzes wage differences in terms of average wage rates only. The figures in part II are essentially comparable with the "estimated straight-time average hourly earnings" presented in table 4 (p. 11) of part I.<sup>2</sup>

Parts I and II differ in one other important respect. Whereas in part I manufacturing industries are segregated on the basis of durable or nondurable product, part II distinguishes between the "war" and "nonwar" industries. To a substantial degree these categories correspond, since the durable-goods group consists largely of war industries and the nondurable goods group principally of nonwar. Readers who are interested in the distribution of factory workers by average hourly wage rates for the durable and nondurable groups may obtain these figures on application to the Bureau of Labor Statistics.

<sup>1</sup> See, for example, *Effect of Incentive Payments on Hourly Earnings* (May 1943), *Wartime Wages and Manpower in Farming* (December 1942), *Distribution of Factory Workers by Hourly and Weekly Earnings* (June 1942), and *Wages and Cost of Living in Two World Wars* (November 1941).

<sup>2</sup> The data for July 1943 appearing in pt. I may be compared with the June 1943 figures in pt. II, since wage changes from June to July were minor. In the data presented in pt. II, but not in the tabular data in pt. I, allowance has been made for shift differentials. This affects the over-all average by only about 2 cents per hour.

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## PART I—Trends in Factory Wages, 1939–43

### *Summary*

MANY factors have contributed to the changes that have taken place since 1939 in levels of money earnings and wage rates in manufacturing industry. Wage rates have been influenced particularly by changes in the size, sex, and age composition of the labor force, by sharp alteration in the demand for labor, by minimum-wage action under the Fair Labor Standards Act of 1938, and, especially since October 1942, by comprehensive social control over wage-rate changes. Money earnings have been affected not only by changes in basic wage rates but also by shifts in the distribution of workers among individual manufacturing industries, by material increase in the length of the average workweek, by the greater importance of overtime at premium rates, by changes in the proportion of workers on late shifts with rate differentials, and by wage changes, such as reclassifications, affecting individual workers or small groups of workers.

The level of living that factory workers have been able to achieve on the basis of increased average money income has been affected by the upward movement of living costs and by other conditions growing out of the war.

Sharp differences are evident in the movement of the various measures of money wages. Between January 1939 and July 1943, the average weekly earnings of factory workers increased by 84.4 percent; average hourly earnings by 52.4 percent; average hourly earnings, corrected for premium overtime payments, by 45.1 percent; and average hourly earnings, corrected for both overtime premium pay and shifts in the distribution of workers among industries, by 32.1 percent. This last figure represents an approximation of changes in average basic wage rates.

In terms of purchasing power, the average weekly earnings of factory workers increased by 48.5 percent between January 1939 and July 1943; average hourly earnings by 22.7 percent; estimated straight-time average hourly earnings by 16.8 percent; and estimated average wage rates by 6.4 percent.

In addition to figures for all manufacturing, data are here shown separately for workers in durable- and nondurable-goods industries. Particular attention is devoted to the period beginning in October 1942 when a comprehensive program of wage-rate control was inaugurated.

### *Scope and Purpose of Study*

Any adequate analysis of wage trends in manufacturing industry in recent years must take account of a series of important factors affecting wages and must proceed with clear distinctions among earnings, wage

rates, and real wages. This article presents the latest available information on the movement of factory wages from January 1939, in the light of the factors affecting the trends in the various measures of wages.

By mid-1943 there were many indications that the conversion of the American economy to the requirements of the war had been substantially completed. For example, an estimated 47 percent of the gross value of the national product was taken for military purposes in the second quarter of 1943, as compared with 9 percent in the second quarter of 1941 and an average of only 2 percent for 1939.<sup>1</sup> The output of durable goods, as measured by the Federal Reserve Board index of physical production, was beginning to level off in the spring of 1943, and, by June, Federal expenditures for war were being made at an annual rate of almost 90 billion dollars. The tapering off of the conversion process makes particularly appropriate a consideration of trends in the wages of factory workers in the United States from a period prior to the beginning of the war in Europe.

During the period from 1939 to mid-1943, and especially after the autumn of 1940, a large upward movement of wages occurred. Wage rates did not, of course, remain unchanged, but a very material increase in money earnings would have taken place even if wage rates had remained constant.

In the movement of wage rates themselves, the general tightening of the labor market was a primary factor. Because of the growing scarcity of labor, the trade-unions were able to exercise effective pressure for increased wage rates. The attitude of the individual employers of labor toward upward wage-rate adjustments became more favorable as competition for the available labor supply became more intense. Furthermore, wage rates in some industries were affected by the application of the minimum-wage provisions of the Fair Labor Standards Act of 1938.

Apart from the movement of wage rates, the general levels of both hourly and weekly earnings were raised by a combination of other forces, including shifts of workers among industries, lengthening of the workweek, increased output under incentive systems of wage payment, and increasing employment on late shifts at premium rates.

Changes in the average real earnings of factory workers can be measured, in normal circumstances, by a comparison of changes in money earnings with changes in the cost-of-living index. The matter is much more complicated, however, in a modern war economy. Apparent gains in real income may not be realized by the workers in the form either of real consumption or of voluntary savings. Moreover, there are likely to be sharp contrasts among the workers in the character of consumption and in the conditions under which consumption takes place.

This article attempts to clarify the major factors governing the trends of wages since 1939 and to present the available information as to these trends in terms of these governing factors, as far as the available information permits.

<sup>1</sup> Survey of Current Business (U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington), August 1943, p. 13, table 5.

*Major Factors Affecting Wages, 1939-43*

## COMPOSITION OF THE LABOR FORCE

Not until the summer of 1940, with the inauguration of the defense program, did American industry begin to feel the impact of war. For a considerable period thereafter, the factor of labor supply did not operate as a serious limitation to expansion of output. Even by the middle of 1941, a considerable volume of unemployment continued to exist and hence significant reserves of manpower remained to be utilized, even though shortages of skilled workers had become evident at earlier dates in some of the key production centers.

Real pressure on the labor supply developed during the latter half of 1941, and especially after the attack on Pearl Harbor. Moreover, the drain of men into the armed forces was accelerated. Under these conditions strong efforts began to be made in 1942 to attract new workers into the civilian labor market.

A broad view of the developments in the American labor market between July 1940 and July 1943 is presented in table 1. The total number of workers available for civilian employment, the so-called civilian labor force, declined by 1.4 millions during this period. Nonagricultural employment increased, nevertheless, by 5.4 millions and agricultural employment rose by 1.3 millions. These increases in effectively applied labor were brought about by sharp reduction in the number of the unemployed.

TABLE 1.—*Estimated Civilian Labor Force, by Employment Status and Sex, in Selected Months, July 1940-July 1943*<sup>1</sup>

Sex and employment status	Estimated number (millions of persons) <sup>2</sup>			
	July 1940	July 1941	July 1942	July 1943
<b>Both sexes</b> .....	56.9	56.6	56.8	55.5
Unemployed <sup>3</sup> .....	9.3	5.7	2.8	1.2
Employed.....	47.6	50.9	54.0	54.3
Nonagriculture.....	36.8	40.2	42.3	42.2
Agriculture.....	10.8	10.7	11.7	12.1
<b>Males</b> .....	43.1	42.6	41.6	37.8
Unemployed <sup>3</sup> .....	6.3	3.7	1.7	.6
Employed.....	36.8	38.9	39.9	37.2
Nonagriculture.....	27.0	29.5	30.2	27.4
Agriculture.....	9.8	9.4	9.7	9.8
<b>Females</b> .....	13.8	14.0	15.2	17.7
Unemployed <sup>3</sup> .....	3.0	2.0	1.1	.4
Employed.....	10.8	12.0	14.1	17.1
Nonagriculture.....	9.8	10.7	12.1	14.8
Agriculture.....	1.0	1.3	2.0	2.8

<sup>1</sup> Data are from U. S. Department of Commerce, Bureau of the Census.

<sup>2</sup> All data exclude persons in institutions.

<sup>3</sup> Includes persons on public emergency projects.

By the summer of 1943 a marked stringency had developed in the labor market as a whole. Such unemployment as remained was mainly of the temporary type, and the problem of the transfer of workers from less- to more-essential employment had become urgent. A material change had occurred in the sex composition of the civilian labor force. Male workers available for employment declined by 5.3 millions between July 1940 and July 1943, whereas the number of

female workers rose by 3.9 millions. Moreover, the existing labor force was utilized more intensively by lengthening the hours of work.

These changes in the composition of the working force had powerful, though divergent, effects on the level of wages. Demands upon the available supply of civilian labor operated to raise wage rates. Lengthening of the hours of labor tended further to raise the average of total money earnings. By itself the increasing proportion of new workers, especially women, tended to lower the average wage and the average wage rate, as long as the proportion of new workers was large in the total of employed workers. However, the mere continuance of these new workers in employment tended to raise the wage averages, as soon as recruitment slackened, and as the new workers acquired experience and skill.

#### DISTRIBUTION OF FACTORY EMPLOYMENT

It is within the field of manufacturing industry that the most precise accounting for wage trends can be made. Table 2 shows that employment in manufacturing industries as a whole increased by almost 70 percent from 1939 to July 1943. This was a greater rate of increase than that experienced by any other major division of employment, although relatively large gains were registered in transportation, in certain branches of metal mining, and in government service. On the other hand, construction and trade showed actual net declines in employment during this period.

Within the broad field of manufacturing, striking changes in employment occurred. These changes have had an important effect on wage levels. Employment in the manufacture of durable goods more than doubled after 1939, while employment in the nondurable industries showed a relatively moderate rise of 22 percent. In 1939 employment in the nondurable-goods industries had been considerably greater than employment in the durable-goods industries. By July 1943 this situation had been reversed—almost 60 percent of all factory workers were employed by the durable-goods division.

Within the durable-goods division of manufacturing industries, all the major industry groups showed a net increase in employment from 1939 to July 1943. However, the rates of increase were uneven. A tremendous rise occurred in the transportation-equipment group, excluding the former automobile industry. Employment in this group, including aircraft and shipbuilding, responded to the special needs of war production. In each of the two machinery groups, employment more than doubled. On the other hand, employment in the furniture group rose by less than 10 percent.

Within the nondurable-goods division, the contrasts in employment trends were even more striking than in the durable division. The chemicals group, notably affected by war demands, showed an increase in employment of more than 1½ times, whereas the leather and tobacco groups actually showed slight net declines in employment.

During the shorter and more recent period, July 1942 to July 1943, employment in the durable-goods division rose by more than 18 percent, while that in the nondurable-goods division rose by less than 1 percent. Employment actually declined in this last 12-month period in 3 of the 9 durable-goods groups and in 6 of the 11 nondurable-goods groups.

TABLE 2.—Estimated Number of Wage Earners in Manufacturing, by Major Industry Divisions<sup>1</sup>

Industry division	1939 average	July 1940	July 1941	July 1942	July 1943 <sup>2</sup>	Percent of change—	
						1939 to July 1943	July 1942 to July 1943
All manufacturing.....	8,192	8,445	11,097	12,564	13,895	+69.6	+6.1
Durable goods.....	3,611	3,946	5,723	7,003	8,286	+129.5	+18.3
Nondurable goods.....	4,581	4,499	5,374	5,561	5,609	-22.4	+ .9
<i>Durable goods</i>							
Iron and steel and their products.....	991	1,105	1,479	1,612	1,711	+72.7	+6.1
Electrical machinery.....	259	295	467	542	709	+173.7	+30.8
Machinery, except electrical.....	529	619	909	1,094	1,246	+135.5	+13.9
Transportation equipment, except automobiles.....	159	267	598	1,559	2,310	+1,452.8	+48.2
Automobiles.....	402	342	570	513	694	+72.6	+35.3
Nonferrous metals and their products.....	229	250	349	381	414	+80.8	+8.7
Lumber and timber basic products.....	420	433	565	559	484	+15.2	-13.4
Furniture and finished lumber products.....	328	328	403	374	360	+9.8	-3.7
Stone, clay, and glass products.....	294	307	383	369	358	+21.8	-3.0
<i>Nondurable goods</i>							
Textile-mill products and other fiber manufactures.....	1,144	1,072	1,312	1,293	1,219	+6.6	-5.7
Apparel and other finished textile products.....	790	709	889	866	833	+5.4	-3.8
Leather and leather products.....	347	332	386	374	330	-4.9	-11.8
Food and kindred products.....	855	902	1,000	1,052	1,016	+18.8	-3.4
Tobacco manufactures.....	93	90	95	94	89	-4.3	-5.3
Paper and allied products.....	265	278	320	302	316	+19.2	+4.6
Printing, publishing, and allied industries.....	328	324	341	325	339	+3.4	+4.3
Chemicals and allied products.....	288	302	411	613	742	+157.6	+21.0
Products of petroleum and coal.....	106	113	124	129	126	+18.9	-2.3
Rubber products.....	121	120	161	153	192	+58.7	+25.5
Miscellaneous industries.....	244	257	335	360	407	+66.8	+13.1

<sup>1</sup> Estimates for the industry groups have been adjusted to final data for 1941 and preliminary data for the second quarter of 1942, made available by the Bureau of Employment Security of the Federal Security Agency.

<sup>2</sup> Preliminary.

These interindustry shifts in employment resulted in a sharp rise in average factory wages, quite apart from any wage-rate increases in the various individual industries, since the shifts have been in the direction of relatively high-wage industries.

#### LENGTHENING OF THE WORKWEEK

While employment in manufacturing increased by 69.6 percent between 1939 and July 1943, man-hours worked advanced by 99.8 percent. In short, the labor force in terms of number of workers was extended during this period by a substantial addition to the length of the workweek.

In the manufacturing industry as a whole, as table 3 indicates, average weekly hours increased from 37.7 in 1939 to 44.4 in July 1943, or by 17.8 percent.<sup>2</sup> The increase in the durable-goods division amounted to 21.1 percent, as compared with the materially smaller increase of 12.8 percent in nondurable-goods manufacture. Among durable-goods industries, average weekly hours in machine-tools manufacture in July were 49.8; in 25 of the 50 individual durable-goods industries for which detailed data are published, hours averaged 46 or more a

<sup>2</sup> The decline in average weekly hours between June and July 1943—from 45.2 to 44.4—suggests that the level of hours in the latter month was affected by observance of the Independence Day holiday.

week.<sup>3</sup> Among the nondurable-goods industries, hours worked in July 1943 were greatest in paper, chemicals, rubber, and in some divisions of the food industry. In most of the textile, apparel, tobacco, and printing and publishing industries, average weekly hours did not greatly exceed 40 and in some cases fell below this level.<sup>4</sup>

The general tendency toward longer hours was stimulated by the issuance on February 9, 1943, of Executive Order No. 9301, which provided for the establishment of a 48-hour minimum workweek as part of "the fullest mobilization" of manpower in areas and industries designated by the War Manpower Commission.<sup>5</sup> At that time, the basic war industries, with some exceptions, were operating on a minimum 48-hour basis, but many establishments providing civilian goods or services had shorter hour standards. On February 28, 1943, the Commission issued regulations applying to the Executive order, and initially designated 32 local labor-shortage areas as subject to its provisions. The provisions were also applied nationally to the lumber and nonferrous-metal-mining industries.

TABLE 3.—Average Weekly Hours in Manufacturing, 1939–43

Industry division	1939 average	July 1940	July 1941	July 1942	July 1943 <sup>1</sup>	Percent of change—	
						1939 to July 1943	July 1942 to July 1943
All manufacturing.....	37.7	37.3	40.3	42.6	44.4	+17.8	+4.2
Durable goods.....	38.0	38.1	41.6	44.8	46.0	+21.1	+2.7
Nondurable goods.....	37.4	36.6	39.0	39.8	42.2	+12.8	+6.0

<sup>1</sup>Preliminary.

Obviously the extension of hours of labor since 1939 has added greatly to the weekly earnings of workers. This has been especially true in industries subject to the Fair Labor Standards Act or in which union provisions for premium pay for overtime after 40 hours are widely applicable. Even at straight-time pay, the change from 40 hours to 48 hours would lead to a 20-percent increase in earnings for a full-time week.

#### REGULATION OF THE LABOR MARKET

The creation of the War Manpower Commission on April 18, 1942, grew out of the need for central direction in the utilization of the available labor supply and in the maintenance of balance between the manpower requirements of industry and the armed services. The functions of the Commission basically relate to labor-market regulation. Indirectly, however, the work of the Commission probably has had some indeterminate influence on wage levels.

1. The Commission, through the U. S. Employment Service, has facilitated the transfer of workers to industries and employments

<sup>3</sup> For data on average weekly hours by industry, see the report on Trend of Employment and Unemployment in the November issue of the Monthly Labor Review.

<sup>4</sup> A average weekly hours do not coincide with average full-time hours. If all the plants in an industry are operating on a 48-hour basis, average hours per worker ordinarily will fall below this level because of labor turnover, absenteeism, shut-downs for repairs, and other causes. On the other hand, average weekly hours may exceed the standard full-time schedule if sufficient overtime is worked.

<sup>5</sup> See Monthly Labor Review, March 1943 (p. 471) and April 1943 (p. 666).

considered most essential to the war effort. It is probable that these transfers have been predominantly to jobs carrying higher wage rates.

2. The efforts of the Commission to control labor turnover in areas of acute labor shortage, however, undoubtedly have reduced the volume of transfers induced by the prospect of higher wages.

3. Through the encouragement of industrial-training programs, the Commission has assisted in the training of workers in the skills required in the basic war industries.

4. As previously pointed out, the Commission has been charged with the administration of Executive Order No. 9301 relating to the 48-hour week. The Commission in general has been concerned with the more intensive utilization of the labor supply.

#### INCREASED MULTISHIFT OPERATION

As production requirements increased, more intensive use of the available plant and equipment began to be made in many establishments by the introduction of multishift operation. In many of the basic war industries, equipment is utilized virtually around the clock. Frequently, however, employment on extra shifts is not so great as employment on the first or daylight shift. Where three shifts are operated, skeleton crews are often found on the third shift.

On the whole, work on evening or night shifts is less attractive than work on the daylight shift. Consequently, the payment of premiums to workers on extra shifts has developed, at least partly, as an inducement to employees to accept work on late shifts. The industries in which the payment of shift differentials is widespread are not numerous, but these industries in the spring of 1943 employed very large numbers of wage earners on late shifts. The principal industries involved are aircraft, automobiles, electrical machinery, other types of machinery (including machine tools), shipbuilding, and fabricated steel products.<sup>6</sup> Shift differentials in the spring of 1943 undoubtedly exerted measurable influence upon the general levels of earnings of the workers in these industries. As indicated later, the influence of shift differentials upon the level of earnings in the manufacturing industry as a whole was relatively small. In any comparison with pre-war data, however, the shift-differential factor needs to be taken into account. In 1939, for example, the influence of shift premium pay on the level of earnings is believed to have been negligible.

The fact should be noted that shift differentials are rare in certain industries in which night-shift work is common. Many of the processes in these industries—basic steel, petroleum, pulp and paper, and certain others—are continuous and require multishift operation. It has been suggested that where shifts are rotated so that all workers participate in night work, the shift differential factor may be taken into account in the base rates paid rather than in differentials for night work as such.

#### FAIR LABOR STANDARDS ACT

The influence of the Fair Labor Standards Act of 1938 on wages during this period was by no means negligible. The minimum-wage provisions of the act affected directly the wage rates and earnings of

<sup>6</sup> See *Pay Differentials for Night Work Under Union Agreements*, Monthly Labor Review, July 1943 (p. 133). Studies of industry wage structures made by the Bureau's Division of Wage Analysis also indicate that the industry groups listed are those in which shift differential payment is widely found.

substantial proportions of workers in a large group of relatively low-wage industries.<sup>7</sup> Through the industry-committee procedure established by the act, the statutory minimum of 30 cents an hour (effective October 24, 1939) had been raised, by the spring of 1943, to 40 cents<sup>8</sup> in most of the covered industries containing appreciable numbers of low-paid workers. After 1940, general economic factors conspired to lessen opposition to minimum-wage-rate advances. There was sharp employer opposition, for example, to the 32½-cent minimum recommended by the Textile Industry Committee in the spring of 1939; there was virtually no opposition to the 37½-cent rate recommended for the textile industry 2 years later or to the subsequent recommendation of 40 cents.

The hour provisions of the Fair Labor Standards Act have had a marked effect on earnings since 1939. The act provides that covered employees shall be paid (after October 24, 1940) not less than time and one-half their regular rates of pay for hours worked in excess of 40 a week. The general lengthening of the workweek since 1940 has made this provision of signal importance. Collective-bargaining agreements, of course, usually contain provisions for premium pay for overtime, and the hour standards found in such agreements tend to be at least as favorable as those embodied in the Fair Labor Standards Act. It was in the extension of the principle of premium pay for overtime to large groups of unorganized workers that the Fair Labor Standards Act contributed importantly to increased earnings in the present situation.

#### INCENTIVE PAYMENTS, RECLASSIFICATIONS, AND AUTOMATIC INCREASES

During the period under consideration, wage levels undoubtedly were influenced by the cumulative impact of wage changes affecting individual workers or small groups of workers. The wages of individual workers can be raised—aside from general wage-rate changes—in at least three ways:

1. The earnings of workers paid on an incentive basis are obviously affected by the level of labor productivity. Increases in labor productivity can result from the operation of a number of factors, including greater exertion by workers and better control by management over conditions, such as the routing and flow of materials, that affect the ability of workers to produce. The drive for increased output as an aid to the war effort unquestionably has reacted favorably on productivity in many plants and industries in which wage incentives are used.<sup>9</sup>

2. Promotions, upgrading, and merit increases to individual workers also represent a factor in changes in the level of earnings. It may perhaps be noted that such increases are likely to be especially numerous in periods of labor shortage.

3. Some plants have provision for automatic increases to employees, based on length of service.

<sup>7</sup> Approximately 25 percent of the 2.1 million workers employed in the 10 industries for which wage orders had been issued by August 1, 1940, were directly affected by the wage-order minima.

<sup>8</sup> 40 cents is the highest minimum rate that can be established under the act.

<sup>9</sup> See Productivity and Unit Labor Cost in Selected Manufacturing Industries, 1919-40, and supplements for 1941 and 1942. (U. S. Bureau of Labor Statistics, mimeographed reports.)

## WAGE-RATE REGULATION BY NATIONAL WAR LABOR BOARD

Comprehensive social control of changes in wage rates was inaugurated in October 1942 as part of a general program for the stabilization of prices. Some measure of control, however, had been exercised since the spring of 1941 when the National Defense Mediation Board was created. The successor to this body became the basic instrument of wage regulation.<sup>10</sup>

The National War Labor Board, established on January 12, 1942, was not initially created as an agency for general wage control. The Board could deal directly with wages only in those dispute cases that came before it.<sup>11</sup> It had no control over voluntary wage adjustments. Thus, its influence, as an instrument of wage regulation, was at first largely indirect. The wage policy of the Board prior to October 3, 1942, was crystallized in the decision on the "Little Steel" cases announced in July.<sup>12</sup> Indirect general wage control through the medium of decisions in labor-dispute cases, however, became increasingly less effective as competition for labor sharpened.

On October 2, 1942, Congress enacted an amendment to the Emergency Price Control Act, authorizing the President to issue a general order for the stabilization of prices, wages, and salaries at the levels existing, as far as practicable, on September 15, 1942. In substance, title 2 of Executive Order No. 9250, issued on October 3, provided that no increases or decreases in wage rates could be made without the approval of the National War Labor Board, and that approval for an increase in wage rates above the September 1942 level should not be granted "unless such increase is necessary to correct maladjustments or inequalities, to eliminate substandards of living, to correct gross inequities, or to aid in the effective prosecution of the war." The Board was thus granted broad power, with certain exceptions,<sup>13</sup> over wage-rate changes throughout the national economy.

It is not within the scope of this article to discuss or appraise the principles developed by the War Labor Board in its administration of the wage-stabilization program.<sup>14</sup> These principles have altered from time to time, most drastically after the "hold the line" injunction in April 1943. The fact should be emphasized, however, that wage control has not meant—and in a complex and dynamic economy could not mean—the complete freezing of wage rates. The War Labor Board has considerable administrative discretion in the matter of rate adjustments.

<sup>10</sup> The National War Labor Board succeeded the National Defense Mediation Board. That Board had been created by Executive order on March 19, 1941, to adjust disputes likely to obstruct or hinder national defense which could not be settled by the Commissioners of Conciliation of the Department of Labor.

<sup>11</sup> The Board in Executive Order No. 9017 was given jurisdiction over labor disputes certified to it by the Secretary of Labor, as well as the power to take jurisdiction of disputes on its own motion.

<sup>12</sup> The decision in the "Little Steel" cases revolved about the fact that living costs had increased approximately 15 percent between January 1941 and May 1942. The Board stated in its decision that the "15-percent formula will be the *limb* for general wage-rate increases." [Italics in original.] Provision was also made for wage adjustments to correct "inequalities" and "substandard conditions."

<sup>13</sup> The principal groups of employees whose wages are outside of War Labor Board control are found in interstate transportation, where jurisdiction is exercised by the National Mediation Board; Federal, State, county, and municipal government; and in agriculture, where the Department of Agriculture has certain regulatory functions. At the time of writing, however, some question with respect to War Labor Board control over farm-labor wages continued to exist.

<sup>14</sup> The "Little Steel" formula has continued to serve as a general guide to decisions on general wage-rate changes. Prior to April 1943, wage adjustments on the basis of intraplant or interplant inequalities were important. Since Executive Order No. 9328 in April, and on the basis of directives from the Director of Economic Stabilization, a program involving the establishment of wage-rate brackets by occupation and labor-market area has been under way. The Board will permit wage-rate adjustments in normal circumstances up to the minima of the brackets. The question of substandards of living has also assumed greater importance. Special situations acutely involving manpower or other factors—e. g., in the packing and processing of perishable foods—may be handled outside of the confines of general policy.

Moreover, the Board for administrative reasons has found it expedient to exempt from control wage adjustments made by employers of fewer than nine individuals. The Board estimates that approximately 1,500,000 establishments employing about 4,000,000 wage earners are affected by this exemption.<sup>15</sup> In General Order No. 30, the Board established 40 cents as the rate up to which wage rates could be adjusted without prior approval of the Board. In addition, certain types of adjustments in the wage rates of individual workers may be made without approval of the Board.<sup>16</sup>

### *Changes in Average Money Earnings and Wage Rates, 1939-43*

#### AVERAGE WEEKLY EARNINGS

The net effect of all of the factors discussed in the preceding section on the average money earnings of workers in manufacturing is reflected in the data on average weekly earnings in selected months shown in table 4. Between January 1939 and July 1943, the weekly earnings of the average factory worker increased from \$23.19 to \$42.76, or by 84.4 percent.

This increase in "take-home" earnings<sup>17</sup>—to summarize the main points of the preceding discussion—resulted in part from the fact that the average wage earner worked substantially longer hours in 1943 than in 1939. Some of the additional hours were paid for at premium rates. Workers on late shifts subject to shift premiums were few in 1939 but relatively numerous in 1943. Labor productivity, measured in physical terms, increased considerably over this period. The composition of the labor force had altered drastically; on the whole, the industries in which wages were comparatively high in 1939 had become relatively much more important by 1943. The proportion of skilled workers in the labor force unquestionably had increased greatly over this 4½-year period. Material advances in basic wage rates had also taken place.

The level of weekly earnings in durable-goods manufacture in January 1939 was distinctly higher than in the nondurable-goods division. As table 4 indicates, this difference had widened by July 1943. At that time, average weekly earnings in the durable-goods industries were 92.7 percent above the January 1939 level, as compared with an average increase of 57.7 percent in earnings in nondurable goods. There are basic differences between these two broad divisions of the manufacturing industry in terms of the skill and sex composition of their labor forces, location, industrial and corporate structure, and other characteristics.<sup>18</sup> Hence a persistent divergence in levels of earnings can be anticipated. The more rapid rate of

<sup>15</sup> Report of the National War Labor Board, January 12, 1942-March 31, 1943, p. 6. (Mimeographed.)

<sup>16</sup> The adjustments are those based on (1) individual promotions or reclassifications; (2) individual merit increases within established rate ranges; (3) operation of an established plan of wage increases based upon length of service; (4) increased productivity under piece-work or incentive plans; (5) operation of an apprentice or trainee system.

<sup>17</sup> The term "take-home" as applied to earnings is not so exactly descriptive now as formerly. It includes, for example, amounts deducted at the source for social security, Federal income taxes, and war bonds.

<sup>18</sup> For the industrial composition of these two divisions, see the report on Trend of Employment and Unemployment in this issue of the Monthly Labor Review.

increase in average weekly earnings in the durable-goods industries between 1939 and 1943 can be explained largely by the difference in the impact of the war on the two divisions.<sup>19</sup>

TABLE 4.—Average Money Earnings of Workers in Manufacturing, Selected Months, 1939-43

Month and year	Average weekly earnings			Average hourly earnings			Estimated straight-time average hourly earnings <sup>1</sup>			Estimated straight-time average hourly earnings weighted by January 1939 employment <sup>2</sup>		
	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods
January 1939..	\$23.19	\$25.33	\$21.57	\$0.632	\$0.696	\$0.633	\$0.623	\$0.688	\$0.574	\$0.623	\$0.688	\$0.574
January 1940..	24.56	27.39	22.01	.655	.717	.598	.644	.703	.589	.635	.697	.589
January 1941..	26.64	30.48	22.75	.683	.749	.610	.684	.722	.601	.648	.711	.600
July 1941.....	29.62	33.90	25.16	.735	.815	.645	.708	.750	.630	.689	.771	.628
January 1942..	33.40	38.98	26.97	.801	.890	.688	.762	.835	.670	.729	.810	.667
July 1942.....	36.43	42.51	28.94	.856	.949	.725	.809	.856	.701	.759	.846	.694
October 1942..	38.89	45.31	30.66	.893	.990	.751	.839	.919	.723	.782	.869	.716
January 1943..	40.62	46.68	32.10	.919	1.017	.763	.859	.941	.733	.794	.886	.724
April 1943....	42.48	48.67	33.58	.944	1.040	.790	.881	.957	.752	.808	.897	.741
July 1943 *....	42.76	48.81	34.01	.963	1.061	.806	.904	.983	.769	.823	.920	.751
Indexes (January 1939=100)												
January 1939..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
January 1940..	105.9	108.1	102.0	103.6	103.0	102.6	103.4	102.2	102.6	101.9	101.3	102.6
January 1941..	114.9	120.3	105.5	108.1	107.6	104.6	106.6	104.9	104.7	104.0	103.3	104.5
July 1941.....	127.7	133.8	116.6	116.3	117.1	110.6	113.6	113.4	109.8	110.6	112.1	109.4
January 1942..	144.0	153.9	125.0	126.7	127.9	118.0	122.3	121.4	116.7	117.0	117.7	116.2
July 1942.....	157.1	167.8	134.2	135.4	136.4	124.4	129.9	124.4	122.1	121.8	123.0	120.9
October 1942..	167.7	178.9	142.1	141.3	142.2	128.8	134.7	133.6	126.0	125.5	126.3	124.7
January 1943..	175.2	184.3	148.8	145.4	146.1	131.7	137.9	136.8	127.7	127.4	128.8	126.1
April 1943....	183.2	192.1	155.7	149.4	149.4	135.5	141.4	139.1	131.0	129.7	130.4	129.1
July 1943 *....	184.4	192.7	157.7	152.4	152.4	138.3	145.1	142.9	134.0	132.1	133.7	130.8

<sup>1</sup> Average hourly earnings, excluding the effect of premium pay for overtime.

<sup>2</sup> Average hourly earnings, excluding premium pay for overtime, weighted by man-hours of employment in the major divisions of the manufacturing industry for January 1939.

<sup>3</sup> Preliminary.

#### AVERAGE HOURLY EARNINGS

Average hourly earnings, as shown in the second group of columns in table 4, are obtained by dividing total pay rolls by man-hours worked. The adjective "gross" is a useful and descriptive term for this measure of hourly wages. All except one of the factors (hours of work, figured at straight-time rates) that affect the movement of average weekly earnings also influence the movement of gross average hourly earnings. Hours worked influence the level of gross hourly earnings only to the extent to which overtime premium pay enters into the wage bill.

Between January 1939 and July 1943, the level of gross hourly earnings in manufacturing increased from 63.2 cents to 96.3 cents. This increase of 52.4 percent may be compared with the increase of 84.4 percent in average weekly earnings previously noted. The increase in gross average hourly earnings in durable-goods manufacture during

<sup>19</sup> As previously pointed out, average weekly hours increased more rapidly in durable- than in nondurable-goods industries between 1939 and 1943. Night work at premium rates developed predominantly in the durable-goods division. The creation of vast shipbuilding, aircraft, and ordnance industries since 1939 added large blocks of skilled and relatively well-paid workers to the durable-goods division. As indicated later, the movement of basic wage rates in the two divisions was not essentially dissimilar.

this period coincided with the increase of 52.4 percent for manufactures as a whole; the increase in nondurable goods was 38.3 percent.<sup>20</sup>

#### AVERAGE HOURLY EARNINGS, EXCLUSIVE OF PREMIUM PAY FOR OVERTIME

The elimination of the influence of premium pay for overtime on gross average hourly earnings yields a figure that may be termed "straight-time average hourly earnings." For any given distribution of workers among employments, this figure represents an approximation of the average wage rate. Gross average hourly earnings can be corrected for overtime premium pay with reasonable accuracy on an estimated basis.

Estimated straight-time average hourly earnings are shown in the third group of columns in table 4 for various months from 1939 to 1943. Comparison of the gross and estimated straight-time figures in table 4 indicates that premium pay for overtime was relatively unimportant in January 1939; by July 1943, however, overtime premiums raised the level of hourly earnings in manufacturing as a whole by slightly more than 6 percent.

During this period, as the indexes in table 4 show, straight-time average hourly earnings increased by 45.1 percent in all manufacturing, and by 42.9 and 34 percent, respectively, in the durable- and non-durable-goods divisions.

It was suggested above that straight-time average hourly earnings approximate the average wage rate "for any given distribution of workers among employments." This limitation is important. The use of straight-time average hourly earnings to measure changes in levels of wage rates over a period of time is appropriate only if there is no change, or little change, in relative employment in the various industries and occupations. A simple example will make the point clear. In the tabulation below, employment and hourly wage rates are shown for two occupations at two periods of time. Wage rates do not change in either occupation between the two periods, but employment in occupation A is greater in the second period than in the first. Because of this change in the distribution of workers among employments, average hourly earnings were more than 4 cents greater in the second period than in the first.

	<i>First period</i>		<i>Second period</i>	
	<i>Employment</i>	<i>Hourly earnings</i>	<i>Employment</i>	<i>Hourly earnings</i>
Occupation A.....	10	\$1. 00	20	\$1. 00
Occupation B.....	10	. 75	10	. 75
Both occupations.....	20	. 875	30	. 917

The very great changes that occurred in the structure of manufacturing employment between 1939 and 1943 prevent the use of straight-time average hourly earnings to measure, even in the most approximate sense, the changes that took place in the level of wage rates.

<sup>20</sup> The fact that the percentage increase in average hourly earnings between January 1939 and July 1943 was the same for manufacturing as a whole and for the durable-goods division, but lower for the nondurable-goods division, at first glance may appear surprising. The basic explanation of this apparent anomaly is the relatively large increase in the weight of the durable-goods division over this period. An examination of table 4 reveals instances in which the rate of increase in all manufacturing is greater than for either of its components separately.

## ESTIMATED CHANGES IN AVERAGE WAGE RATES

The fourth group of columns in table 4 shows, for various months from 1939 to 1943, straight-time average hourly earnings corrected for shifts in the distribution of workers among industries. Subject to the qualifications discussed below, these data broadly reveal the movement of average wage rates over this period. The correction for shifts in the distribution of workers was made by weighting straight-time average hourly earnings for each of the selected months by man-hours of employment in the major divisions of manufacturing industry for January 1939.<sup>21</sup> This procedure eliminates changes in the level of straight-time average hourly earnings resulting simply from the increasing importance (over this particular period) of relatively high-wage industries.

In manufacturing as a whole, average wage rates, as estimated in this manner, increased by 32.1 percent between January 1939 and July 1943, as compared with a 45.1-percent increase in the level of straight-time average hourly earnings and 52.4 percent in the level of gross average hourly earnings. The increases in estimated average wage rates for the durable- and nondurable-goods divisions were 33.7 and 30.8 percent, respectively. This close correspondence in the movement of estimated basic wage rates in the two broad categories of manufacturing enterprise is arresting, and testifies to the pervasive pressures on the basic wage structure during this period.

Examination of the data in table 4 indicates that employment shifts contributed little to the movement in the level of straight-time average hourly earnings within the nondurable-goods division. Thus, straight-time average hourly earnings in nondurable goods were 76.9 cents in July 1943 as compared with 75.1 cents after correction for employment shifts. This result could have been broadly anticipated, since, as pointed out earlier, alterations in the distribution of employment were not strikingly great in this division. In durable-goods industries, however, shifts in the distribution of employment between January 1939 and July 1943 added more than 6 cents to the level of straight-time average hourly earnings.

The fact must be emphasized that the changes in estimated average wage rates shown in table 4 represent approximations. They do not take into account (1) changes in the proportion of workers on late shifts with rate differentials; (2) changes resulting from the possible shift of workers during this period from low-wage to high-wage or from high-wage to low-wage plants and occupations within industries; (3) increasing or decreasing labor productivity under incentive methods of wage payment; (4) upgrading and individual promotions; or (5) the influx of many inexperienced workers into manufacturing.

## CHANGES IN WAGE RATES, OCTOBER 1942-JULY 1943

Particular interest attaches to the movement of wage rates after October 1942, when the wage-stabilization program became effective. Between January 1939 and October 1942, the level of estimated wage rates (straight-time average hourly earnings corrected for interindustry shifts in employment) increased by 25.5 percent in manufacturing as

<sup>21</sup> Weighting by man-hours in individual industries rather than in major industry groups (such as iron and steel and their products) would have had a negligible effect on the results.

a whole (table 4). Most of this increase occurred after January 1941. In fact, between January 1941 and October 1942, the level of estimated wage rates increased by 20.7 percent—an average of approximately 1 percent a month. Between October 1942 and July 1943, the estimated level of rates in all manufacturing advanced by 5.2 percent, which represents an average increase of less than six-tenths of 1 percent a month.<sup>22</sup>

It will be recalled that the data on changes in average wage rates represent approximations of the true average rates and reflect, among other things, the influence of premium pay for late-shift work. A special investigation was made of the effect of such premiums on gross average hourly earnings in all manufacturing for September 1942 and for the spring of 1943. For this purpose, data in the files of the Bureau on the size and extent of shift-differential payments in the more important industries in which shift premiums are found, together with data from the War Production Board on the volume of shift employment, were utilized. On the basis of these data, it was estimated<sup>23</sup> that the payment of shift differentials increased the level of gross average hourly earnings in all manufacturing by about 1.2 cents in September 1942 and by about 1.6 cents in the spring of 1943,<sup>24</sup> an increase of four-tenths of 1 cent over this period. The effect on certain individual industries, notably aircraft and shipbuilding, was, of course, much greater.

When the increase of four-tenths of 1 cent attributable to shift differentials is taken into account,<sup>25</sup> the increase in estimated average wage rates between October 1942 and July 1943 is reduced to 4.7 percent. In the durable- and nondurable-goods divisions, estimated average wage rates, uncorrected for shift differentials, increased by 5.9 and 4.9 percent, respectively, during this period. Shift premiums are found principally in the durable-goods division; when correction is made for the influence of this factor, the increase in estimated average wage rates in durable goods is reduced to 5.4 percent.<sup>26</sup>

These figures of estimated wage-rate changes are extremely significant, even when their approximate nature is taken fully into account. It is clear that the upward movement of wage rates was slowed measurably after October 1942 when the wage-stabilization program was inaugurated. There is every reason to believe that, in the absence of social control, wage rates would have advanced more rapidly in the months after October 1942 than in the preceding period.

Actually, only a portion of the apparent increase of 4.7 percent in estimated average wage rates in manufacturing was, in fact, the result of increases in basic rates. As previously pointed out, these data are influenced by wage adjustments of various kinds affecting individual workers (promotions, upgrading); by changes in labor productivity, which affect directly the straight-time earnings of incentive workers; and by changes in occupational structures within plants and indus-

<sup>22</sup> As compared with an increase of 5.2 percent in the level of estimated wage rates between October 1942 and July 1943, average weekly earnings increased by approximately 10 percent; gross average hourly earnings by 7.9 percent; and estimated straight-time average hourly earnings, by 7.7 percent.

<sup>23</sup> The estimates were made by Bernard Mandel of the Bureau's Division of Wage Analysis.

<sup>24</sup> These figures undoubtedly represent slight underestimations of the contribution of shift premiums to gross average hourly earnings in all manufacturing, since industries in which shift premiums are unimportant were not considered in the preparation of the estimates.

<sup>25</sup> It is reasonable to assume that there was no significant change in the level of shift-premium payments between the spring and summer of 1943.

<sup>26</sup> It is estimated that shift premiums contributed 2.1 cents to the level of gross average hourly earnings in durable-goods manufacture in September 1942 and 2.5 cents in the spring of 1943.

tries. At present, the effect of these factors cannot be confidently estimated, and their individual movements are not necessarily in the same direction.<sup>27</sup>

In substance, the increase in average basic wage rates both before and after the advent of wage stabilization has been somewhat less than the data set forth in this article indicate. Nevertheless, these data, despite their limitations, are of extraordinary value in showing the trend of wage rates.

### *Changes in Average Real Earnings and Estimated Wage Rates, 1939-43*

The average living costs of factory workers, as measured by the Bureau's cost-of-living index for all large cities combined, increased by 24.2 percent between January 1939 and July 1943. This substantial increase in the cost of the items that enter into the consumption of wage earners should be taken into account in evaluating the changes in average money earnings and estimated wage rates discussed above. In addition, other circumstances growing out of the war affect the real content of the money income of workers.

#### CHANGES IN REAL EARNINGS AND RATES

Table 5 shows indexes of real average earnings and wage rates for selected months between January 1939 and July 1943. These indexes were obtained by dividing the indexes of money earnings and rates in table 4 by the cost-of-living index for the appropriate months.

Reference to table 5 indicates that real average weekly earnings in all manufacturing increased by 48.5 percent between January 1939 and July 1943. It will be recalled that average weekly money earnings advanced by 84.4 percent during the same period. The increases in real average weekly earnings in the durable- and nondurable-goods divisions were 55.2 percent and 27 percent, respectively.

For all manufacturing, as well as for the durable-goods division, gross average hourly earnings, adjusted for changes in the cost of living, increased by 22.7 percent between January 1939 and July 1943; the increase in the nondurable-goods division was 11.6 percent. Estimated straight-time average hourly earnings, reduced to a "real" basis, advanced by 16.8 percent in all manufacturing, 15.1 percent in durable goods, and 7.9 percent in nondurable goods.

The increase in estimated average wage rates over this period was relatively modest when deflated for changes in the cost of living. Thus, the increase in all manufacturing amounted to 6.4 percent, as compared with 7.6 percent in durable goods and 5.3 percent in nondurable goods. Between October 1942 and July 1943, estimated real average wage rates, uncorrected for shift differentials, increased by 1.2 percent in all manufacturing. It is clear that changes in wage rates did not contribute largely to the rather striking advances in real weekly earnings.

<sup>27</sup> For example, technological or other changes may result in alterations in the skill composition of the labor force in a given industry that depress the level of hourly earnings despite the maintenance or even the increase of basic wage rates.

TABLE 5.—*Indexes of Average Real Earnings and Wage Rates of Workers in Manufacturing, Selected Months, 1939-43*<sup>1</sup>

[January 1939=100]

Month and year	Average weekly earnings			Average hourly earnings			Estimated straight-time average hourly earnings			Estimated straight-time average hourly earnings weighted by January 1939 employment		
	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods	All manufacturing	Durable goods	Non-durable goods
January 1939.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
January 1940.....	106.1	108.3	102.2	103.8	103.2	102.8	103.6	102.4	102.8	102.1	101.5	102.8
January 1941.....	113.6	119.0	104.4	106.9	106.4	103.5	105.4	103.8	103.6	102.9	102.2	103.4
July 1941.....	120.9	126.7	110.4	110.1	110.9	104.7	107.6	107.4	104.0	104.7	106.2	103.6
January 1942.....	128.2	137.0	111.3	112.8	113.9	105.1	108.9	108.1	103.9	104.2	104.8	103.5
July 1942.....	133.8	142.9	114.3	115.3	116.2	106.0	110.6	106.0	104.0	103.7	104.8	103.0
October 1942.....	140.5	149.8	119.0	118.3	119.1	107.9	112.8	111.9	105.5	105.1	105.8	104.4
January 1943.....	144.7	152.2	122.9	120.0	120.6	108.8	113.9	113.0	105.5	105.1	106.4	104.1
April 1943.....	147.1	154.3	125.1	120.0	120.0	108.8	113.6	111.7	105.2	104.2	104.7	103.7
July 1943 <sup>2</sup> .....	148.5	155.2	127.0	122.7	122.7	111.4	116.8	115.1	107.9	106.4	107.6	105.3

<sup>1</sup> These indexes were constructed by dividing the index numbers of average earnings and estimated wage rates shown in table 4 by the Bureau's index of living costs (all large cities combined) for the selected months. For this purpose the cost-of-living index as published by the Bureau was converted to a January 1939 base. The index numbers for January 1939 and January 1940 were estimated, since for several years prior to September 1940 the cost-of-living index was computed only four times a year—March, June, September, and December.

<sup>2</sup> Preliminary.

#### SOME OTHER FACTORS AFFECTING REAL INCOME

It would be a mistake to conclude, on the basis of the data on real weekly earnings, that the average employed factory worker was able to advance his standard of life by almost 50 percent between 1939 and 1943. The nature of a full war economy precludes such an achievement. The scope of this article does not permit consideration of the supporting evidence, but three points can be stated briefly.

1. The proportion of the income of the average wage earner actually available for expenditure on consumption goods was affected more heavily by taxes in 1943 than in 1939. Moreover, the rate of saving among wage earners in 1943 was materially greater than in 1939, and was undoubtedly above the level that would have been dictated by purely private economic decisions in normal times.

2. Many types of goods available for consumption in 1939 were either not available in 1943 or were available in reduced quantities.

3. The conditions of consumption were different for many wage earners in 1943 as compared with 1939. For example, relatively more wage earners were separated from their families. Urban congestion, on the whole, was much greater. In the service trades, standards of performance had deteriorated.

## Part II—The Level of Factory Wage Rates in Wartime

### *Summary*

OVER 8 million factory wage earners, or about 60 percent of the total, received from 50 cents to \$1 per hour in June 1943. About 370,000, or 3 percent, earned \$1.50 or more. Ten percent were paid less than 50 cents and about 2 percent less than 40 cents. Thirty months earlier, in January 1941, only 12 percent of all factory workers were paid \$1 per hour or more, while 17 percent received less than 40 cents, and 31 percent received less than 50 cents. It should be noted that these estimates apply only to wage earners in manufacturing industries and do not include those in nonmanufacturing pursuits.

As would be expected, workers in the war industries (which are types of industries that normally pay better than average rates) were concentrated at higher wage levels in the summer of 1943 than were the workers in nonwar industries. Forty-one percent of the war workers, but only 15 percent of the nonwar group, were paid \$1 per hour or more. Only 4 percent of the former group but 17 percent of the latter received less than 50 cents. Workers paid \$1 per hour or more were relatively most numerous in the war transportation-equipment industries, rubber, machinery, and printing and publishing. Workers receiving less than 40 cents per hour were relatively most numerous in lumber and timber, the food industries, tobacco, and leather.

For the most part, the highest wage rates in manufacturing industry are paid for supervisory ability, unusual skill, or high productivity under an incentive-payment plan. The highest-paid workers are almost exclusively men, and many of them are employed in establishments with union agreements. Although most numerous in northern cities, the highest-paid workers are represented in all parts of the United States.

The lowest-paid workers—those receiving less than 40 cents per hour—include many women. They are concentrated largely in the South and few of them are union members. They are engaged primarily in simple, routine jobs that can be mastered by an inexperienced worker in a few days. The wage status of the lowest paid, however, reflects not only the unskilled nature of the operations performed, but other important factors, including the lack of legal or trade-union protection, the isolation and immobility of the workers, and, in some cases, low levels of productive efficiency.

### *Purpose and Nature of Analysis*

A review of the economic scene as of the summer of 1943 reveals much evidence of high wages. The "help wanted" columns of metropolitan newspapers list scores of jobs paying more than \$1 per hour. The service trades and other low-paid industries are losing many of their workers. Factory towns that have been stagnating since the 'twenties are suddenly prosperous. Employers and union officials appear together before the War Labor Board to request authority for further wage increases.

The story of high wages is well known. The earnings of workers in the shipyards and munitions plants are discussed widely, often with gross exaggeration. Not all American workers are in the high-wage class, however. For one reason or another, millions of employees in stores and factories receive scarcely half the pay scales of the growing war industries. Their wages have risen since the outbreak of the war, but are still moderate or low, even by pre-war standards.

The wide dispersion that characterizes American wage structure is of considerable significance in the determination of public policy. In the control of price levels, for example, it is essential to take account of the incomes of the lowest- as well as the highest-paid workers. Wage differences aggravate the manpower problem. They must be considered in planning a tax program or launching a campaign of Government borrowing. They are of enormous importance in the field of post-war planning, because they may obstruct the necessary transfer of millions from wartime to peacetime jobs.

The extent of the variation in the wage rates of American workers is apparent from scores of surveys of wages in single localities and industries.<sup>1</sup> In the interest of valid perspective, however, it is desirable from time to time to turn away from such limited studies and review in broad outline the structure of wages in the economy as a whole. Unfortunately, this goal is not wholly attainable at the present time. Little is known regarding the nature of parts of that structure. As a first step, however, it is possible to describe with reasonable accuracy the distribution of wages in the important segment comprising manufacturing industry.

The composite figures presented in later sections of this article are based on detailed studies by the Bureau of Labor Statistics covering 58 manufacturing industries. Although many of these studies are now out of date, they have been corrected and extended, on an estimated basis, by means of the Bureau's monthly reports on average hourly earnings.<sup>2</sup> Voluminous current material regarding wage rates in individual occupations has been used in checking and interpreting the estimated distributions and in describing the jobs of the highest- and lowest-paid workers.

Although believed to be dependable as a basis for general conclusions, the estimated distributions presented here are subject to a considerable margin of error and should be used with caution. They are, of course, representative only of manufacturing industries. Wages of nonmanufacturing workers are, with important exceptions, lower than those of manufacturing workers, and have risen considerably less since the outbreak of the war. In the summer of 1943 more than two-fifths of all nonagricultural employees were engaged in manufacturing.

It is important to note that the wages referred to in this article are *wage rates* or their equivalent, rather than average hourly earnings or other gross measures. As far as possible, premium payments for overtime and for late-shift<sup>3</sup> work have been excluded, together with non-

<sup>1</sup> Many of the studies of the Bureau of Labor Statistics have been summarized in the pages of the Monthly Labor Review. Others have been presented in unpublished form for the administrative use of the War Labor Board.

<sup>2</sup> For a brief description of the methods involved in the preparation of the estimates see "Distribution of Factory Workers by Hourly and Weekly Earnings," Monthly Labor Review, June 1942. Joseph M. Sherman of the Bureau's Division of Wage Analysis gave special assistance in preparing the estimates for June 1943.

<sup>3</sup> Actually, adjustments to offset shift premiums have been practicable only in the war transportation-equipment, machinery, and electrical-equipment industry groups. It is unlikely that the level of average earnings in other groups is appreciably influenced by shift premiums.

production bonus payments. Production bonuses and other incentive earnings, however, are included. The figures used for workers paid on an incentive basis consequently represent straight-time average hourly earnings.

### *Distribution of Factory Workers by Hourly Rates*

The range of factory wage rates in June 1943 is apparent from table 6, in which the nearly 14,000,000 workers employed at that time are distributed by 10-cent wage classes. An estimated 370,000 workers, representing the highest-paid manufacturing wage earners in the Nation, earned \$1.50 per hour or more. Even in this high-wage period, however, approximately 220,000 workers, or about 1 out of 50, earned less than 40 cents. The largest concentration of workers, only 1,820,000, received 80 to 90 cents per hour, while no fewer than 7 of the 10-cent wage classes included a million or more workers each. Wage rates of \$1 or more per hour were received by about one-third of the workers.

TABLE 6.—*Estimated Distribution of Workers in Manufacturing Industries by Hourly Wage Rates, January 1941 and June 1943*

Hourly rate	June 1943		January 1941	
	Number of workers	Percent	Number of workers	Percent
Under 40 cents.....	220,000	2	1,580,000	17
40 and under 50 cents.....	1,050,000	8	1,390,000	14
50 and under 60 cents.....	1,640,000	12	1,450,000	15
60 and under 70 cents.....	1,530,000	11	1,460,000	15
70 and under 80 cents.....	1,700,000	12	1,140,000	12
80 and under 90 cents.....	1,820,000	13	870,000	9
90 and under 100 cents.....	1,580,000	11	620,000	6
100 and under 110 cents.....	1,230,000	9	460,000	5
110 and under 120 cents.....	960,000	7	280,000	3
120 and under 130 cents.....	930,000	7	330,000	4
130 and under 140 cents.....	470,000	3	(1)	(1)
140 and under 150 cents.....	320,000	2	(1)	(1)
150 cents and over.....	370,000	3	(1)	(1)
Total.....	13,820,000	100	9,580,000	100

<sup>1</sup> Included in "120 and under 130 cents" class; the number of workers receiving 120 cents or more was too small to permit further subdivision.

It is apparent from these figures that the much-discussed \$100 weekly wage is extremely rare among American factory workers. A first-shift<sup>4</sup> worker putting in a 50-hour week at \$1.50 per hour, and with time and one-half for all hours in excess of 40, earns only \$82.50. Workers employed at \$1 per hour during a 50-hour week earn only \$55. Toward the other end of the scale are substantial numbers of workers who put in 40 hours at 40 cents per hour and earn only \$16.

Table 1 also presents striking evidence of the shift in wage rates since January 1941, the base month for the "Little Steel" formula. In that month approximately one-sixth of all factory workers received less than 40 cents per hour, many of them being paid exactly 30 cents, the statutory minimum under the Fair Labor Standards Act. One-third of the workers in January 1941, but only one-tenth in June 1943, earned less than 50 cents. Only one-eighth of the workers in the

<sup>4</sup> Long hours of overtime are uncommon for second- or third-shift workers.

earlier period had rates of \$1 or more per hour, as compared with about one-third in the later period.

It is not the purpose of this article to discuss the wartime trend of factory wages or the causes underlying that trend. It is appropriate, however, to call attention to two factors that have greatly influenced the distribution of wage rates since the outbreak of the war. One of these is the extension of the 40-cent minimum wage by administrative action, as authorized by the Fair Labor Standards Act. In early 1941 the 40-cent minimum applied to only a few industries, but by June 1943 this minimum had been established in the bulk of the low-wage industries. Because of the general upward movement of wages, to be sure, the minimum wage probably determined the rates of fewer workers in the latter period than in the former.

The other factor is the movement of millions of workers, new and old, into the highly paid war industries. This trend, which has been facilitated by drastic changes in the technology of the war industries, has permitted the wage level to move upward independently of any actual increases in wage rates. This shift has consequently been greater than can be accounted for by wage increases alone.

### *Wage Rates by Industry Group*

The wide variation in wage rates revealed in table 1 does not, of course, reflect differences in pay for the same type of work in similar localities. Wage rates in the same industry and locality show much greater concentration, and workers in the same occupation in a given city often receive identical rates. It is of interest, therefore, to segregate various groups of factory workers for further examination.

The material at hand, unfortunately, does not lend itself to segregation by geographic region. It is known, of course, from various wage studies that many establishments in the South and in parts of New England pay relatively low wages, while the highest wages are generally found on the Pacific Coast and in the vicinity of the Great Lakes. The detail presented in tables 2 and 3 permits a comparison of the wage structures of broad industry groups.

**TABLE 7.—Estimated Distribution of Workers in War and Nonwar Industries by Hourly Wage Rates, June 1943**

Hourly rate	War industries <sup>1</sup>		Nonwar industries	
	Number of workers	Percent	Number of workers	Percent
Under 40 cents.....	120,000	1	100,000	2
40 and under 50 cents.....	280,000	3	770,000	15
50 and under 60 cents.....	440,000	5	1,200,000	23
60 and under 70 cents.....	720,000	8	810,000	16
70 and under 80 cents.....	1,080,000	13	610,000	12
80 and under 90 cents.....	1,280,000	15	530,000	10
90 and under 100 cents.....	1,200,000	14	380,000	7
100 and under 110 cents.....	950,000	11	280,000	5
110 and under 120 cents.....	780,000	9	170,000	3
120 and under 130 cents.....	810,000	10	120,000	2
130 and under 140 cents.....	390,000	5	80,000	2
140 and under 150 cents.....	250,000	3	70,000	1
150 cents and over.....	270,000	3	100,000	2
Total.....	8,600,000	100	5,220,000	100

<sup>1</sup> Includes the following major industry groups: Iron and steel, electrical equipment, machinery other than electrical, war transportation equipment, nonferrous metals, lumber and timber, chemicals and rubber. All other industry groups, including "miscellaneous industries," are classified as nonwar.

In table 7 the war industries are segregated from the nonwar industries. This segregation is made on the basis of major industry groups and is admittedly somewhat arbitrary. Some products of the machinery industry, classified here as a "war industry," are used for purely peaceful and domestic purposes, while clothing manufacture, a "nonwar industry", includes the production of uniforms. In general, however, the war industries are those that are largely engaged in the direct production of fighting equipment or war transportation equipment or of their basic materials.

It is apparent that wage earners in the war industries are concentrated at considerably higher wage levels than those in nonwar industries. This is not surprising, since the war industries are primarily the heavy industries and customarily pay the higher wages even in peacetime. Forty-one percent of the "war workers" received \$1 or more per hour, while the largest proportion in any 10-cent wage class, 15 percent, earned 80 to 90 cents per hour; only 1 worker out of 25 was paid less than 50 cents per hour. Among the nonwar workers only 15 percent earned \$1 or more per hour, while 17 percent earned less than 50 cents; almost one-quarter were concentrated in the 50- to 60-cent class.

Estimates for individual industry groups are less dependable than those for all manufactures or for the war and nonwar industries combined. The summary figures presented in table 3, however, although not permitting precise comparisons, are of considerable interest. It is notable that many of these groups, unlike manufacturing as a whole, show a marked concentration of workers at one level or another in the wage structure. The contrast among the individual wage patterns is pronounced.

TABLE 8.—Estimated Percentage Distribution of Workers in Major Industry Groups, by Hourly Wage Rates, June 1943

Industry group	Approximate number of workers <sup>1</sup>	Percent of workers earning—						
		Total	Under 40 cents	40 and under 60 cents	60 and under 80 cents	80 cents and under \$1.00	\$1.00 and under \$1.20	\$1.20 and over
<b>War industries:</b>								
War transportation equipment.....	2,970,000	100	( <sup>2</sup> )	1	13	29	27	30
Rubber.....	190,000	100	( <sup>2</sup> )	17	21	22	14	26
Machinery.....	1,250,000	100	( <sup>2</sup> )	9	22	29	24	16
Iron and steel.....	1,720,000	100	( <sup>2</sup> )	5	29	35	15	16
Electrical equipment.....	700,000	100	1	21	28	22	12	16
Nonferrous metals.....	420,000	100	( <sup>2</sup> )	7	28	36	16	13
Chemical, petroleum, and coal products.....	870,000	100	2	12	26	29	18	13
Lumber and timber.....	480,000	100	18	40	10	15	9	8
<b>Nonwar industries:</b>								
Printing and publishing.....	330,000	100	2	20	15	18	13	32
Leather.....	330,000	100	3	33	32	16	9	7
Apparel.....	850,000	100	2	51	21	12	7	7
Paper.....	320,000	100	1	34	35	20	6	4
Food.....	950,000	100	4	27	33	24	8	4
Furniture.....	360,000	100	1	45	28	16	6	4
Textiles.....	1,230,000	100	1	54	30	8	4	3
Tobacco.....	90,000	100	4	55	17	13	8	3
Stone, clay, and glass.....	360,000	100	1	27	22	29	19	2

<sup>1</sup> Excludes approximately 400,000 workers in miscellaneous minor industries for which information is not available by industry group.

<sup>2</sup> Less than five-tenths of 1 percent.

Table 8 brings out the great importance of the "war transportation equipment" group, which includes shipbuilding, airframes and engines, the converted automobile industry, locomotives, and railway cars. Thirty percent of the workers in this group earned \$1.20 or more per hour. In war transportation equipment alone, more than half (57 percent) of the workers received \$1 or more. Among war industry groups, only lumber and timber employed a substantial proportion of its working force at less than 40 cents per hour. Most of these workers were in the South, whereas much higher wages prevailed on the Pacific Coast.

Printing and publishing, a relatively small group, paid by far the highest wages in the nonwar category. Nearly one-third of the workers in this group earned \$1.20 or more, as compared with only 7 percent in the next highest nonwar group. All of the nonwar industry groups showed substantial concentrations below 60 cents per hour, but none showed as many as 1 worker out of 20 receiving less than 40 cents. The highest proportions in this low-wage class were in the tobacco (4 percent) and food (4 percent) industries.

### *The Highest-Paid Workers*

The wide differences in wage rates which prevail even within the same industry groups could be explained in large part if it were possible to analyze the material at hand in terms of location and size of factory, skill, sex, and race of worker, and certain other factors. Unfortunately this material does not permit further analysis. It is enlightening, however, to examine the occupational characteristics of the highest- and lowest-paid workers. The contrast between these groups can be expected to be relatively sharp, and their small size facilitates analysis. As a basis for this examination, current occupational wage rates are available from representative manufacturing establishments in all parts of the United States.

For present purposes, the highest-paid factory workers are considered to be represented by the nearly 700,000 wage earners estimated to have earned \$1.40 or more per hour in June 1943. Most of these workers, as has been seen, are in the war industries. A review of current occupational rates from many thousands of manufacturing plants indicates that they fall largely into four major classes: (1) Working supervisors, (2) craftsmen of high and unusual skills, (3) workers paid on an incentive basis, and (4) workers in dangerous or unpleasant occupations. These classes, it will be noted, involve some overlapping. For example, some jobs require skill and involve danger, in addition to being paid on an incentive basis. The number of highest-paid workers who are not included in one or more of these groups, however, is negligible.

#### SUPERVISORY WORKERS

Supervisory workers, as discussed here, include working foremen, set-up men, leaders, lay-out men, and similar groups (but not full-time supervising foremen, who are customarily salaried employees and not considered as wage earners). These workers assign work, specify tools or methods, instruct beginners, prepare machines for new tasks, and perform similar functions. Many of them spend most of their time setting up machines for less experienced workers and perform a mini-

mum of supervisory work. Generally, however, they are experienced workers who, in addition to mastering their own jobs, have demonstrated qualities of leadership and the ability to instruct others.

Supervisors very generally receive higher wages than the workers they train and direct, but thousands of supervisors in low-wage industries are poorly paid. A majority of the supervisors in manufacturing industry receive considerably less than \$1.40 per hour. Highly paid supervisors are numerous in certain war industries, however, where the accession of thousands of new workers has enormously enlarged the task of training and directing. Working supervisors consequently account for an appreciable proportion of the highest-paid factory workers.

Supervisory workers in shipbuilding comprise approximately 7 percent of all wage earners, although not all of these supervisors receive as much as \$1.40 per hour. Working foremen in shipyards are sometimes paid in excess of \$2. In a recent pay-roll period, however, the average wage for such workers in Atlantic Coast construction yards was only \$1.64 and the averages for the other zones were somewhat lower.

Highly paid supervisors are rather numerous in the manufacture of airframes and engines, in rubber tires and tubes, and in most of the metal-working industries. On the whole, however, this group of highly paid workers probably shows less concentration by industry than those discussed below. At least a few of these workers are to be found among the largest establishments of the majority of industries.

#### HIGHLY SKILLED CRAFTSMEN

A substantial majority of the highest-paid workers consists of skilled craftsmen or "specialists," whose occupational preeminence has required many years of training and experience. Practically all of these workers are men, and a large proportion are union members. There are hundreds of skilled jobs in each of which a few highly paid workers may be found. Those in which rates of \$1.40 or more are typical or common are more limited in number, but still too numerous to permit discussion in full. The nature of these jobs may be indicated, however, by the presentation of several examples.

The loftsmen in the shipbuilding industry provides an excellent example of a highly skilled craftsman in a war job. This workman lays out to full scale on the floor of his "loft" the lines of a ship planned for construction. He develops patterns or molds—often of paper or of wood—to guide the efforts of other workers. He not only must possess judgment, imagination, and a knowledge of geometric construction, but must also be expert in the use of many tools and machines. Like others of the skilled workers mentioned below, loftsmen rank high on the War Manpower Commission's list of critical jobs. First-class loftsmen in ship-construction yards on the Atlantic Coast, however, have recently averaged about \$1.40 per hour, and in some zones their average has been less.<sup>5</sup>

The rollers of the iron and steel industry (rolling mills) have long been among the highest paid of all American wage earners. While

<sup>5</sup> Somewhat below the level of the highest-paid workers under discussion, but deserving of mention because of their number, are the "first-class skilled mechanics" of the shipyards. These workers, who number about a quarter of a million, include carpenters, electricians, machinists, riveters, welders, and a score or more of other craftsmen of comparable skill. Under the terms of the shipbuilding stabilization agreements they receive a base rate of \$1.20 per hour, but a few crafts, such as the anglesmiths, commonly receive higher rates of pay.

the number of rollers in the basic iron and steel industry is not large, their earnings frequently average \$3 per hour or more. There are several varieties of rollers, but their work typically involves the operation of stands of rolls, which level and reduce heavy steel stock into rods, bars, sheets, and other products. The roller's expert knowledge must enable him to control the amount and speed of reduction, to estimate the gage of the material, and to recognize defects by inspection. Rollers direct their assistants and other workers, but are not primarily supervisors. Rollers' assistants, themselves, deserve to be listed among the highest-paid workers. Other iron and steel workers in this class include the melters, steel pourers, vesselmen, heaters, straighteners, and roughers.

Somewhat lower than rollers in the wage scale, but more important numerically, are the tool and die makers, prominent in the manufacture of aircraft and in many other of the metal-working industries. These workers do not ordinarily engage in production but specialize in the construction and repair of tools, jigs, and fixtures and the preparation of dies for forging, forming, and stamping. Their work requires the utmost precision, tolerances of  $\frac{1}{10,000}$  of an inch or less being specified frequently. They must be expert in the use of many types of machinery. The average wage rate in job shops in Detroit, probably the greatest center of tool and die work in the world, is about \$1.77 per hour. Tool and die makers in most other localities are paid lower rates than this, but the majority undoubtedly earn more than \$1.40 per hour.

Patternmakers also rank high among the skilled workers in the metal trades. Working either with wood or with metal, and responsible for adhering rigidly to the specifications of a blueprint, these craftsmen prepare the master patterns or forms from which molds are made for the manufacture of parts. Obviously, their work has much in common with that of the loftsmen, mentioned above. Patternmakers usually serve a long and strict apprenticeship. Their work requires a practical knowledge of mathematics and other scientific fields; for example, a patternmaker must be able to make appropriate allowance for the contraction of cooling metal. So costly and so vital to his work are the patternmaker's tools that the Pattern Makers' League of North America has established a mutual insurance system to provide protection against their destruction or loss. Patternmakers' wage rates average a little less than those of tool and die makers; substantial numbers, however, receive more than \$1.40.

Among other high-wage occupations in the metal trades are those of lead burners, in nonferrous smelting and other industries, and various precision inspectors—for example, tool inspectors and service and flight inspectors (aircraft).

The rubber industry includes a number of skilled and highly paid jobs, of which the most important numerically is that of tire builder. This worker builds up tire casings by hand on a mechanically rotated drumlike form. A considerable amount of skill and great physical endurance are required to assure the strength and durability of the tire and to guard against defects. Although the tire builder's job can be mastered more quickly than most of the other jobs discussed in this section, his earnings are generally raised by incentive payments. Tire builders in Akron average approximately \$1.50 per hour.

Mention should also be made of the stillmen in the petroleum-refining industry. These workers operate the units in which crude or

other oils are broken down by distillation to obtain gasoline and other products. Rates of \$1.40 or more per hour are not uncommon, even in the Southwest, where general wage levels are lower than in the Nation as a whole.

Among the highest-skilled and highest-paid workers in nonwar industries are the cutters in the men's clothing industry, who cut one or more layers of cloth to be tailored into finished garments. Most cutters also lay out the cloth and mark it for cutting; great pains must be taken with patterned cloth, particularly plaids, to assure that the various pieces will match when they are assembled. The cutters are known as the aristocrats of the industry, and in the early years arrived at their workrooms in frock coats. The standard rate for cutters in New York City is \$1.81 per hour; somewhat lower rates prevail in most of the other centers.

Several skilled crafts in the printing trades commonly carry earnings of \$1.40 an hour or more; these include the pressmen, compositors, electrotypers, engravers, and finishers. Cloth-printing-machine operators in the dyeing and finishing industry are outstanding because of their high rates among the relatively low rates paid in the industry in general. Brushers, plushers, and machine stakers are highly paid jobs in tanneries.

#### INCENTIVE WORKERS

Appreciable numbers of workers attain the highest-wage brackets not because of supervisory ability or extraordinary skill, but as a result of high productivity under an incentive-payment system. Incentive workers quite generally earn more than time workers,<sup>6</sup> but, because of differences in the systems of payment, the efficiency and energy of the workers, the efficiency of management, and other factors, the extent of the difference varies widely.

Incentive-wage payment is in itself no guaranty of high wages. Indeed, the sweatshops of earlier years usually employed a piece-payment system, and even today many thousands of low-paid workers in textiles, clothing, and other industries are paid piece rates or other incentive wages.

Many skilled and a few semiskilled workers, however, who might earn 90 cents to \$1.20 per hour at straight-time rates, average \$1.50 or more as a result of incentive payment. Thus, first-class molders and first-class riveters, who in other shipyards receive the standard \$1.20 rate, have recently averaged \$1.56 and \$1.77, respectively, in the Atlantic Coast yards, where incentive payment is common. Large numbers of high-wage incentive workers are found in steel works and rolling mills. Incentive payment accounts in part for the relatively high wages in the rubber industry, electrical equipment, machinery manufacture, and the primary fabrication of nonferrous metals.

#### WORKERS IN DANGEROUS AND UNPLEASANT JOBS

As a result of union agreements or in order to attract workers, dangerous jobs and those involving unusual fatigue or unpleasantness sometimes carry a wage premium. Such premiums may also be paid for outside work and irregular work. A few of the highest-paid workers in manufacturing industry owe their wage advantage in part to such factors.

<sup>6</sup> See "Effect of Incentive Payments on Hourly Earnings" in the *Monthly Labor Review* for May 1943.

It is doubtful whether a numerically important job can be found in manufacturing in which wages of \$1.40 or more per hour are paid for semiskilled or unskilled work solely because of accompanying danger or unpleasantness. A number of relatively skilled jobs, however, fall in the highest-wage class partly as a result of such factors. One of these is the occupation of rougher in the steel industry. The rougher guides heated steel bars, rods, or sheets into the roughing mill. In addition to being somewhat dangerous, this work involves strenuous exertion under conditions of intense heat. Roughers frequently average more than \$1.50 per hour. The wet wheelers of the leather industry are highly paid workers whose jobs are extremely unpleasant. They grind and smooth on a wheel the flesh side of green hides. In certain non-ferrous-metal foundries noxious gases, noise, and dirt undoubtedly account in part for the relatively high wages.

Most workers in dangerous or unpleasant jobs, however, appear to receive moderate or low rates of pay. In chemical and explosives plants the workers handling acids and explosives typically receive lower rates than the skilled maintenance men, whose jobs are much safer. Truck drivers often receive a premium of only 5 to 10 cents per hour when hauling high explosives.

### *The Lowest-Paid Workers*

For present purposes, the lowest-paid workers are defined as those receiving less than 40 cents per hour. It has been seen that such workers numbered about a quarter of a million in June 1943, or included approximately 1 manufacturing wage earner out of 50. They are found in substantial proportions in manufacturing only in certain branches of the lumber, food, chemical, textile, clothing, and tobacco industry groups. Many of the lowest-paid workers are women, and relatively few are employed in plants with union agreements. Large proportions are employed in the South.

#### TYPICAL JOBS

There is little romance in the lowest-paid jobs. With few exceptions, they are simple, repetitive, and monotonous. Typically they involve no supervision of other workers, and can be mastered immediately or after a few days' experience. Many of the jobs are paid on a piece basis—with or without a minimum guaranty. The working conditions of some of the jobs are dangerous, or extremely unpleasant.

It is significant to note that the lowest-paid jobs usually involve specialized operations, and by no means consist entirely of "common labor." Relatively few common laborers, in fact, receive wages lower than 40 cents per hour, and these are often found in establishments that pay even lower wages to certain other employees. On the other hand, the standard entrance rate for common labor in most of the steel industry is 78 cents per hour, and entrance rates of \$1 or more are not unknown.

Many of the lowest-paid workers are found in the logging camps and sawmills of the South, which cut and process light, second-growth timber. These workers are exclusively men, and include large numbers of Negroes. One of the numerous low-paid jobs is that of the swamper, who with various hand tools clears the ground of underbrush and other obstructions in preparation for the construction of a logging

road. Fallers and buckers cut down trees with an axe or a hand crosscut saw (men usually working in pairs) and cut felled trees into logs of the desired length. The lumber piler stacks lumber by hand in a yard or shed for storing or drying. Both in logging camps and in sawmills there is frequent shifting from one job to another.

A number of the food industries are also represented among the lowest-paid workers—particularly the canning, drying and preserving of fruits and vegetables and of sea foods. In these industries, wages as low as 25 cents an hour are sometimes encountered. Thousands of low-paid women work in these industries as washers, sorters, peelers, boners, slicers, packers, and so forth. These women usually take their work from a table or moving belt before them and, after performing their simple operation, place the product on another table or belt or in special receptacles. They are often paid by the piece or by the pound. Their working conditions are sometimes unpleasant, owing to the sloppiness of floors and tables and to the pressure of their seasonal work. Numerous low-paid workers are also found in the poultry industry and the manufacture of nonalcoholic beverages, artificial ice, and cottonseed products.<sup>7</sup>

Of the various industries included in the chemical group, only the fertilizer industry employs numerous workers at less than 40 cents per hour. Many of these are laborers, who shovel and haul in wheelbarrows the chemicals, bone, manure, and other ingredients to be mixed. Even lower paid than the laborers, on the average, are the den diggers, who work in a damp and fume-laden atmosphere and whose job it is to shovel superphosphate out of the den room to be conveyed to trucks. The fertilizer industry employs large numbers of Negro workers.

The lowest-paid workers also include numerous girls and women in the apparel industries—many of them classified as "learners." Most of these workers are stitchers, performing simple sewing-machine operations, and paid by the piece.

Among the remaining lowest-paid workers are the brick tossers and other unskilled workers in brickyards and the strippers (leaf stemmers) employed in the processing of cigar tobaccos. A thin sprinkling of errand boys and girls, sweepers, janitors and similar workers are employed in many industries at less than 40 cents.

#### COMMON CHARACTERISTICS

It will be apparent from the preceding discussion that the lowest-paid jobs involve, for the most part, simple, repetitive work, capable of being performed by inexperienced workers with little or no training. There is little in the nature of these jobs, however, to explain their low level of pay. Hundreds of jobs of no greater skill pay wages considerably higher. It is necessary, therefore, to look beyond the nature of their jobs and to examine certain characteristics of the industries, of the workers, and of the areas in which the workers live.

In the first place, it should be noted that nearly all of these workers are in industries with limited or no legal protection of the wage rate. The minimum-wage laws of many of the States give only partial protection and may be inoperative. Some of the low-wage industries,

<sup>7</sup> The 40-cent minimum became effective in the cottonseed and peanut-crushing industry on August 16, 1943. Other industries in which the 40-cent minimum was applied between June 30 and September 30, 1943, include vegetable fats and oils; metal, plastics, machinery, instruments and allied industries; embroideries; mattresses, bedding, and related products; and miscellaneous textile, leather, fur, straw, and related products.

such as the preparation of seafoods, do not appear to be subject to the minimum-wage provisions of the Federal Fair Labor Standards Act. Others—for example, the ice industry—include large numbers of local establishments which are exempt because they do not engage in interstate commerce. In a few of the industries that are generally covered by the Federal act the minimum has not yet been raised to 40 cents; prominent examples are the lumber industry, fertilizer, brick and tile, poultry, and canning and preserving.<sup>8</sup> “Learners” and handicapped workers in a number of industries are permitted to earn less than the established minimum. Learners are most numerous in the apparel industries in which during the first 6 months of 1943 certificates were issued covering over 12,000 learners and a small number of handicapped workers.

It is also significant that many of these industries draw upon isolated and immobile labor supplies that are insensitive to the bids of higher-wage trades. Some of the industries are seasonal and depend on housewives and other part-time or irregular workers who cannot accept year-round jobs. Many are in small towns where there are few competitors for the local labor supply and where the higher rates outside may not be known. The lumber camps and sawmills draw heavily on the farming population. Thus, many of the lowest-paid workers in manufacturing industries are unfamiliar with the favorable employment opportunities elsewhere, or are unable to take advantage of them.

Finally, in addition to those whose low wages result from limited opportunities, the lowest-paid group includes a substantial proportion of the least efficient and the least productive workers. Among these are the learners and handicapped workers, who in most industries must be officially certified if they are to receive less than the minimum wage. Some of the lowest-paid workers enter the labor market only sporadically and with no intention of learning a trade or becoming proficient at their jobs. Some are continually in the labor market but are marginal workers—persons of limited capacity who cannot get a job at all except in periods of great industrial activity.

The availability of labor at low wages, it should be noted, has permitted many firms to operate with obsolete equipment in competition with firms using modern equipment with higher-paid labor. For example, the hand stemming of tobacco survived for a considerable period in many plants because low wages offset the advantage of machine stemming. Similarly, because the level of wages was low, a number of seamless-hosiery mills operated nonautomatic equipment that required large amounts of labor.<sup>9</sup>

Low wages, therefore, do not necessarily imply low labor cost. The advantage to the employer may be more than offset by low labor productivity. This fact, together with the inefficiency of management found in many of the lowest-wage establishments, explains why competing establishments are able to stay in business while paying much higher wages.

<sup>8</sup> The industry committees for all of the remaining manufacturing industries with a minimum wage lower than 40 cents have recommended establishment of the 40-cent minimum.

<sup>9</sup> Both of these situations have been changed in some degree by the Fair Labor Standards Act. Today a 40-cent minimum prevails in the hosiery industry.