
UNITED STATES DEPARTMENT OF LABOR

Frances Perkins, *Secretary*

BUREAU OF LABOR STATISTICS

Isador Lubin, *Commissioner (on leave)*

A. F. Hinrichs, *Acting Commissioner*



Earnings and Hours in the Paperboard Industry



Prepared by the

DIVISION OF WAGE AND HOUR STATISTICS

of the Bureau of Labor Statistics



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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington, D. C., June 15, 1941.

The SECRETARY OF LABOR:

I have the honor to transmit herewith a report on earnings and hours in the paperboard industry. The report was prepared in the Division of Wage and Hour Statistics, in response to a request of the Wage and Hour Division.

A. F. HINRICHS, *Acting Commissioner.*

HON. FRANCES PERKINS,
Secretary of Labor.

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PREFACE

This bulletin presents the results of the Bureau's second survey of earnings and hours in the paperboard industry, the first study having been made in 1925. The earlier survey, although limited to the "paper boxboard industry," embraced substantially the same class of establishments as that covered by the present report.

The survey was made at the request of the Wage and Hour Division, to supply information for the use of an industry committee which was appointed to recommend a minimum-wage rate for the pulp, paper, and paperboard industries.

The Bureau is indebted to the many manufacturers who have supplied the confidential information upon which this report is based. Without the cordial cooperation of these employers, the task would have been impossible. Thanks are due also to the officials of the National Paperboard Association who volunteered a wealth of valuable information and sound advice.

This report was prepared by H. E. Riley, with the assistance of Dorothy S. Smith and Samuel E. Cohen.

Earnings and Hours in the Paperboard Industry

Summary

This bulletin presents the results of a survey of earnings and hours in the paperboard industry. The survey was made by the Bureau of Labor Statistics during the last 2 months of 1939. Average hourly earnings for all employees in the industry, exclusive of extra payments for overtime work, were found to be 59.8 cents. Regional differences in earnings were quite substantial, the averages ranging from 73.8 cents an hour in the Pacific States to 51.6 cents in the South.

Wage levels were generally higher in union than in nonunion establishments. For the country as a whole, hourly earnings averaged 63.1 cents in union plants, as compared with 57.7 cents in nonunion plants.

The workweek averaged 42.6 hours for the industry as a whole. Weekly hours averaged 43.7 in the Northeast, 41.8 in the South, 42.5 in the Midwest, and 40.0 in the Pacific region.

Weekly earnings, exclusive of extra overtime pay, averaged \$26.45 in the northeastern region, \$21.60 in the southern region, \$26.48 in the midwestern region, and \$29.51 in the Pacific region. With the addition of extra payments for overtime, the respective averages of weekly earnings were \$27.54, \$22.29, \$27.60, and \$30.55.

The data were obtained through a field survey, which was made by the Bureau of Labor Statistics during November and December 1939. Field representatives visited the selected plants to interview plant officials and copy the required pay-roll records.

The survey covered 16,332 wage earners, employed in 134 establishments, representing approximately 50 percent of the industry. In selecting the plants to be scheduled, consideration was given to significant characteristics of the industry, including type of product, geographical location, corporate affiliation, size of mill, size of community, and unionization.

The data on average hourly earnings cover all wage earners in each plant, including working foremen and factory clerks, but excluding the higher grades of plant supervisors and the central-office employees. For each person scheduled, the Bureau obtained the occupational description, sex, color, and method of wage payment, together with the number of hours worked and the total earnings

for one pay-roll period.¹ Earnings at regular rates of pay were separated from payments at extra rates for overtime work.² This separation was made at the request of the Wage and Hour Division in order that the figures might be of more value to the industry committee which was to make a minimum-wage recommendation for the industry under the Fair Labor Standards Act. Unless otherwise noted, the data shown include only earnings at regular rates of pay. However, an analysis of total earnings including extra payments for overtime is also shown in this report.

For practically all plants, the pay-roll period covered fell within the months of November or December 1939. In three establishments the survey included figures for periods prior to October 24, 1939, the date on which the 30-cent hourly minimum-wage rate became effective under the provisions of the Fair Labor Standards Act. The data show, however, that the adjustment to the 30-cent minimum required little if any change in the wage structures of these particular plants.

Scope and Method of Survey

Definition of Industry

As defined for the purpose of this survey, the paperboard industry includes the manufacture of container boards, boxboards, building boards and papers, felt papers, and related products. The survey also included the preparation of pulp from waste paper, straw, and rags, but it did not cover those departments in which wood-pulping operations were performed. The first processing of waste paper, straw, and rags for paperboard purposes is usually done in the paperboard mill, and, consequently, it forms an integral part of paperboard manufacture. Most of the wood pulp used, however, is supplied by independent pulp mills, as few of the board plants engage in the primary pulping operations on this raw material. For this reason the wood-pulp departments that were found occasionally among the plants scheduled were excluded from the coverage.

Some of the establishments scheduled also made various types of paper in addition to paperboard, and some produced asbestos board and similar materials. The workers involved in the making of products other than paperboard were excluded from the coverage in all except a few plants, where the paper or asbestos-board operations could not be segregated.

Many paperboard establishments were found to be engaged in converting operations, involving the manufacture of such products

¹ Only 22 females were employed (exclusive of central-office employees) at the time of the survey by the plants scheduled.

² At the time of the survey, the Fair Labor Standards Act required the payment of time and a half for time worked beyond 42 hours per week, but a number of the plants paid extra rates for time worked beyond 40 hours per week.

as folding boxes, set-up boxes, corrugated and solid-fiber shipping containers, cans, tubes, and cones. Employees in the converting departments were also excluded from the survey.

Description of Industry

Information is not available to furnish a comprehensive picture of the paperboard industry, as defined in this bulletin. The reports of the United States Census of Manufactures covering number of wage earners employed, volume of wage payments, cost of materials, and similar items, combine the manufacture of paperboard with the manufacture of paper. Some evidence as to the significance of the paperboard industry may be obtained, however, from the detailed census tabulation of volume and value of paper and paperboard, respectively. According to the latest report of the Census of Manufactures, the total United States production of paper and paperboard in 1939 amounted to 13,493,476 short tons, valued at \$847,276,506. Of this output, paperboard accounted for 6,104,968 tons, or nearly half the volume of product. Since paperboard has a lower average value per ton than paper, the output of paperboard accounted for only \$248,578,602, or about 30 percent of the combined value of product. The principal types of paperboard manufactured in 1939, according to the census report, were as follows:

	<i>Quantity</i>	<i>Value</i>
Container boards----- tons---	3, 361, 441	\$118, 201, 691
Folding boxboards-----do----	1, 359, 961	60, 868, 626
Set-up boxboards-----do----	865, 485	30, 109, 385
Bristol board-----do----	79, 474	8, 989, 582
Wallboard and related products		
tons---	114, 505	5, 554, 534
Cardboard-----do----	58, 874	4, 840, 432
Binder's board-----do----	28, 054	1, 760, 450
Leatherboard-----do----	25, 714	1, 978, 283
Pressboard-----do----	7, 619	1, 328, 645
Other boards-----do----	203, 841	14, 946, 974

In view of the fact that the selection of plants to be scheduled was made in such a way as to obtain a representative cross section of the industry, a description of the characteristics of the establishments surveyed will indicate the outstanding features of the industry, in addition to those revealed by the census data.

As shown by table 1, the paperboard industry is widely distributed throughout the United States. In terms of wage earners scheduled, Michigan is the most important State, with 9.9 percent of the total. Next in size is Louisiana, with 9.2 percent of the workers covered. Of almost equal importance are the States of New York, Illinois, New Jersey, and Ohio.

TABLE 1.—Number of plants and workers included in survey of the paperboard industry, by region and State, November–December 1939

Region and State	Number of plants	Workers	
		Number	Percentage
United States.....	134	16, 332	100. 0
Northeastern region.....	57	4, 990	30. 5
Connecticut.....	11	780	4. 8
Massachusetts.....	7	617	3. 8
New Jersey.....	11	1, 392	8. 5
New York.....	16	1, 460	8. 9
Pennsylvania.....	7	563	3. 4
Other States ¹	5	178	1. 1
Southern region.....	23	3, 958	24. 3
Florida.....	3	847	5. 2
Louisiana.....	5	1, 501	9. 2
Maryland.....	5	289	1. 8
Tennessee.....	3	230	1. 4
Other States ¹	9	1, 091	6. 7
Midwestern region.....	45	6, 412	39. 2
Illinois.....	10	1, 406	8. 6
Indiana.....	7	765	4. 7
Michigan.....	7	1, 614	9. 9
Ohio.....	12	1, 349	8. 2
Other States ²	9	1, 278	7. 8
Pacific region.....	9	972	6. 0
California.....	6	693	4. 3
Other States ⁴	3	279	1. 7

¹ Includes 2 plants in Maine and 3 plants in New Hampshire.

² Includes 2 plants in Virginia, 1 in West Virginia, 1 in Alabama, 1 in Arkansas, 1 in Georgia, 1 in North Carolina, and 2 in South Carolina.

³ Includes 2 plants in Iowa, 1 in Kansas, 2 in Minnesota, 1 in Missouri, and 3 in Wisconsin.

⁴ Includes 1 plant in Oregon and 2 plants in Washington.

Most of the establishments in the paperboard industry are relatively small in size, as measured by the number of workers employed. On the basis of average monthly employment during 1939, including all the wage earners in each plant, 3 of the mills scheduled had fewer than 21 employees, 23 had from 21 to 50, 25 had from 51 to 100, 39 had from 101 to 250, 17 had from 251 to 500, 19 had from 501 to 1,000, and 8 had from 1,000 to 2,500 wage earners. It will be observed that over two-thirds of the plants employed less than 250 wage earners each.

Although the single-plant company predominates in the paperboard industry, there are a number of important producers with two or more plants. Several large companies have mills located in nearly every important producing area. Many of these establishments are also substantial producers of converted paper and paperboard products.

The majority of the paperboard plants are located in relatively small communities. Over half (72) of the establishments surveyed were in communities of less than 50,000 population; 39 plants were found in places of under 10,000 population. Of the remaining mills, 18 were in communities of 50,000 to 250,000, 15 in places of 250,000 to 500,000, 9 in communities of 500,000 to 1,000,000, and 20 in metropolitan areas of 1,000,000 and over. Only 2 of the plants in places of 500,000 and over were situated in the South.

Of the 134 establishments covered by the survey, 71 had neither pulp-making nor converting departments, 14 made wood pulp but did no converting, 45 did not have pulp departments but were engaged in converting, while only 4 plants had both wood-pulp mills and converting departments.

A complete classification of the plants by type of product cannot be made, because of the fact that a large proportion of these establishments produce several types of paperboard. On the basis of available information, about four-fifths of the plants scheduled may be classified as engaged primarily in the production of a single type of paperboard. Of this number, 6 made wallboard; 15 made fiberboard for shoes, chair seats, wastebaskets, etc.; 16 mills produced boards of various thicknesses in which wood pulp was the chief raw material; 47 mills reported their principal products to be various types of chipboard and newsboard made of waste paper; 9 establishments made strawboard, chiefly for corrugating; and 16 manufactured felts for roofing and similar purposes. The remaining 25 plants could not be classified or did not report which of several products constituted the bulk of their output. The manufacture of most of the products was found to be widely distributed geographically. However, the manufacture of strawboard was found to be confined almost entirely to the Midwest, and the manufacture of fiberboard, especially shoe board, was found to be concentrated in the northeastern region.

Union organization is fairly extensive in the paperboard industry. Of the 134 plants surveyed, 48, or about one-third, had agreements with nationally affiliated unions. The proportion of wage earners employed in plants having agreements ranged from 22.2 percent of the total number scheduled in the northeastern region to virtually 100 percent of those scheduled in the Pacific States. Union plants employed 36.4 percent of the wage earners covered in the southern region and 49.1 percent of those scheduled in the midwestern area. The most important labor organizations in the industry are the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite, and Paper Mill Workers, both of which are affiliated with the American Federation of Labor. These organizations frequently negotiate joint agreements with employers. In some areas, particularly in the Pacific States, the negotiations are conducted with associations of employers. The International Union of United Paper, Novelty and Toy Workers (C. I. O.) also has jurisdiction over the industry and has negotiated a few agreements covering paperboard workers. A few plants were found to have agreements with labor organizations commonly identified with other industries. Both A. F. of L. and C. I. O. affiliates were included among these organizations.

Average Hourly Earnings

Methods of Wage Payment

A majority of the workers in the paperboard industry are paid straight hourly rates. Of the 134 establishments surveyed, 100 employed this method exclusively. This total included 33 of the 48 union and 67 of the 86 nonunion plants. Among the remaining 34 establishments, 12 employed piece workers, 20 had some form of production-bonus system, and 2 combined piece-rate and bonus systems. In no instance, however, were all of the employees in a plant under a piece-rate or bonus method of wage payment. For the most part, piece workers made up only a small proportion of the labor force in establishments which did employ that system. Of the plants with piece-rate or bonus systems, 15 were union and 19 were non-union.

Only 2.8 percent of the workers scheduled were paid piece rates. The piece workers were found in small numbers in several occupations, and did not exceed 15 percent of the total number scheduled in any occupational group. About one-tenth of the workers received some bonus earnings during the pay-roll period surveyed. These employees were likewise scattered throughout the labor force, some of them being found in nearly every occupational group.

None of the establishments scheduled had shift differentials in wage rates, although 3-shift operation was reported by 103 of the 134 plants covered by the survey.

Earnings of All Workers

The hourly earnings of all wage earners scheduled averaged 59.8 cents at the time of the survey. (See table 2.) As shown by table 3, however, the earnings of individual employees were widely dispersed, ranging from less than 32.5 cents to more than \$1.10 an hour. Over three-fifths of the workers (61.9 percent) received hourly earnings within the 25-cent range between 42.5 and 67.5 cents an hour. One-eighth of the workers (12.7 percent) averaged less than 42.5 cents, but fewer than 2 percent of the total were paid less than 35 cents an hour. At the opposite extreme, one-fourth of the workers scheduled averaged 67.5 cents or more, a considerable number receiving better than \$1 an hour.

TABLE 2.—Average hourly earnings of workers in paperboard industry, by region and skill, November–December 1939

Region	All workers	Skilled	Semi-skilled	Unskilled
Average hourly earnings ¹				
United States.....	\$0. 598	\$0. 789	\$0. 597	\$0. 516
Northeastern region.....	. 606	. 768	. 594	. 530
Southern region.....	. 516	. 787	. 529	. 408
Midwestern region.....	. 622	. 787	. 624	. 552
Pacific region.....	. 738	. 920	. 724	. 655
Number of workers				
United States.....	16, 332	3, 457	4, 643	8, 232
Northeastern region.....	4, 990	1, 169	1, 461	2, 360
Southern region.....	3, 958	717	1, 162	2, 079
Midwestern region.....	6, 412	1, 348	1, 730	3, 334
Pacific region.....	972	223	290	459
Percentage of workers				
United States.....	100. 0	21. 2	28. 4	50. 4
Northeastern region.....	100. 0	23. 4	29. 3	47. 3
Southern region.....	100. 0	18. 1	29. 4	52. 5
Midwestern region.....	100. 0	21. 0	27. 0	52. 0
Pacific region.....	100. 0	22. 9	29. 8	47. 3

¹ Excluding extra overtime payments.

TABLE 3.—Percentage distribution of workers in paperboard industry, by average hourly earnings, region, and skill, November–December 1939

Average hourly earnings	United States				Northeastern region				Southern region			
	All	Skilled	Semiskilled	Unskilled	All	Skilled	Semiskilled	Unskilled	All	Skilled	Semiskilled	Unskilled
Under 32.5 cents.....	0.7	-----	0.2	1.3	-----	-----	-----	-----	2.8	-----	0.6	5.0
32.5 and under 35.0 cents..	.4	-----	.1	.7	0.3	-----	0.1	0.6	.8	-----	.1	1.5
35.0 and under 37.5 cents..	4.2	0.1	.8	7.8	.4	0.1	-----	.8	16.3	0.4	2.8	29.3
37.5 and under 40.0 cents..	2.6	(¹)	1.2	4.4	.4	-----	.2	.8	9.7	.1	4.3	16.0
40.0 and under 42.5 cents..	4.8	.8	4.1	6.8	4.3	1.8	3.8	5.8	11.7	.7	10.5	16.2
42.5 and under 47.5 cents..	9.5	1.8	9.3	12.9	8.7	1.4	6.8	13.6	17.6	3.9	24.0	18.5
47.5 and under 52.5 cents..	13.9	3.4	12.1	19.5	17.4	6.4	11.7	26.4	10.5	4.5	18.8	8.0
52.5 and under 57.5 cents..	14.4	5.4	16.4	17.3	20.6	4.0	22.0	27.8	7.2	9.5	12.1	3.7
57.5 and under 62.5 cents..	13.2	7.0	16.3	14.1	14.0	6.2	20.6	13.8	4.3	9.8	7.1	.9
62.5 and under 67.5 cents..	10.9	9.2	14.6	9.5	9.9	9.8	14.9	6.7	3.3	8.8	5.2	.4
67.5 and under 72.5 cents..	7.7	12.3	11.5	3.5	7.6	16.5	10.1	1.7	3.3	10.3	4.9	(¹)
72.5 and under 77.5 cents..	5.0	10.5	6.6	1.7	4.6	11.0	4.7	1.4	2.0	6.3	2.4	.3
77.5 and under 82.5 cents..	3.1	9.8	3.2	.2	3.0	9.9	2.1	(¹)	1.3	2.9	2.3	.1
82.5 and under 87.5 cents..	2.9	11.2	1.6	.2	2.5	8.6	1.4	.1	2.2	8.5	2.0	.1
87.5 and under 92.5 cents..	1.9	7.5	.8	.1	1.9	6.5	.8	.3	1.6	8.5	.3	-----
92.5 and under 100.0 cents..	1.7	6.9	.7	(¹)	1.6	6.2	.4	.2	1.7	7.1	1.5	-----
100.0 and under 110.0 cents..	1.6	6.9	.4	(¹)	1.6	6.5	.3	-----	1.8	8.2	1.0	-----
110.0 cents and over.....	1.5	7.2	.1	(¹)	1.2	5.1	.1	-----	1.9	10.5	.1	-----
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Less than 1/10 of 1 percent.

TABLE 3.—Percentage distribution of workers in paperboard industry, by average hourly earnings, region, and skill, November–December 1939—Continued

Average hourly earnings	Midwestern region				Pacific region			
	All	Skilled	Semi-skilled	Unskilled	All	Skilled	Semi-skilled	Unskilled
Under 32.5 cents.....	0.1			0.2				
32.5 and under 35.0 cents....	.3		0.2	.4				
35.0 and under 37.5 cents....	.2		.1	.4				
37.5 and under 40.0 cents....	.2		.2	.3				
40.0 and under 42.5 cents....	1.6		.8	2.6				
42.5 and under 47.5 cents....	6.7	1.4	3.0	10.8				
47.5 and under 52.5 cents....	15.5	.7	10.1	24.4	0.1			0.2
52.5 and under 57.5 cents....	16.5	5.2	17.1	20.6	.4			.9
57.5 and under 62.5 cents....	18.5	7.0	20.9	21.8	11.0	1.8	3.8	20.0
62.5 and under 67.5 cents....	13.0	10.2	19.0	11.0	32.9	.4	24.1	54.0
67.5 and under 72.5 cents....	9.7	11.5	14.8	6.4	11.7	2.7	25.8	7.2
72.5 and under 77.5 cents....	5.4	13.6	8.3	.7	15.6	4.5	22.8	16.6
77.5 and under 82.5 cents....	3.7	12.8	3.6	.1	6.5	13.0	10.0	1.1
82.5 and under 87.5 cents....	3.4	14.3	.8	.2	5.2	14.8	6.2	
87.5 and under 92.5 cents....	1.5	6.2	.6	.1	5.5	17.0	5.2	
92.5 and under 100.0 cents....	1.1	5.0	.3		5.3	20.7	2.1	
100.0 and under 110.0 cents..	1.3	5.9	.1	(1)	2.6	11.2		
110.0 cents and over.....	1.3	6.2	.1	(1)	3.2	13.9		
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Less than 1/10 of 1 percent.

Differences Due to Variations in Skill

The dispersion of individual earnings is due in no small part to variations in pay for work requiring different degrees of skill. Thus, the unskilled employees, who made up one-half (50.4 percent) of the working force, averaged 51.6 cents an hour, as against 59.7 cents for the semiskilled and 78.9 cents for the skilled workers. The semiskilled and skilled classes of workers constituted, respectively, 28.4 percent and 21.2 percent of the wage earners covered by the survey.

The extent of variation in earnings among the three skill-groups is further emphasized by the distributions shown in table 3. It will be observed, for example, that about one-half (49.5 percent) of the skilled employees averaged 77.5 cents or more. In contrast, only 6.8 percent of the semiskilled and less than 1 percent of the unskilled workers received hourly earnings above this level. On the other hand, only 2.7 percent of the skilled, as against 15.7 percent of the semiskilled and 33.9 percent of the unskilled workers averaged less than 47.5 cents an hour.

Regional Differences

Another important source of variations in hourly earnings is found in the wide geographical distribution of the industry. The relationship between the level of earnings in individual establishments and their regional location is well illustrated by table 4, which presents the groups of average hourly earnings of all workers surveyed in each

plant, classified by broad geographical areas. The contrast is particularly marked, for example, between the southern and Pacific regions. None of the plants in the latter area averaged less than 65 cents an hour, whereas only 2 of the 23 establishments surveyed in the southern region had averages above that level. The distributions for the northeastern and midwestern regions occupy a more-or-less intermediate range, indicating a prevailing level of earnings in these areas above that shown for the South, but lower than the average for the Pacific region.

TABLE 4.—*Distribution of paperboard plants by average hourly earnings and region, November–December 1939*

Average hourly earnings	United States	Northeastern region ¹	Southern region ²	Midwestern region ³	Pacific region ⁴
32.5 and under 35.0 cents	1		1		
40.0 and under 42.5 cents	6	3	2	1	
42.5 and under 45.0 cents	6	2	4		
45.0 and under 47.5 cents	8	3	4	1	
47.5 and under 50.0 cents	10	5	2	3	
50.0 and under 52.5 cents	8	7		1	
52.5 and under 55.0 cents	12	3	1	8	
55.0 and under 57.5 cents	12	8	3	4	
57.5 and under 60.0 cents	11	5	1	5	
60.0 and under 62.5 cents	13	5	3	5	
62.5 and under 65.0 cents	10	6		4	
65.0 and under 67.5 cents	7		1	4	2
67.5 and under 70.0 cents	11	5		4	2
70.0 and under 72.5 cents	5	1	1	3	
72.5 and under 75.0 cents	6	1		2	3
75.0 and under 77.5 cents	1	1			
77.5 and under 80.0 cents	2	1			1
80.0 and under 82.5 cents	1	1			
82.5 and under 85.0 cents	1				1
Total	134	57	23	45	9

¹Includes Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and Delaware.

²Includes Maryland, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

³Includes Ohio, Indiana, Illinois, Missouri, Iowa, Kansas, Nebraska, North Dakota, South Dakota, Montana, Idaho, Wyoming, Nevada, Utah, Colorado, New Mexico, Arizona, Minnesota, Wisconsin, and Michigan.

⁴Includes Washington, Oregon, and California.

The above conclusions as to regional contrasts in earnings are supported by the averages for all workers in the various regions as shown in table 2 (p. 7). The hourly earnings of all workers in the Pacific region averaged 73.8 cents, which was 22.2 cents above the average level (51.6 cents) in the southern States. The level of earnings in the northeastern and midwestern areas fell between these two extremes, the respective averages being 60.6 and 62.2 cents an hour.

A significant feature of the regional averages is the relatively high earnings received in every instance by the skilled employees. This is particularly noticeable in the southern region, where these workers received an average of 78.7 cents an hour, or 1.9 cents above the

average for the skilled group in the northeastern mills, and identical with the average shown for this group in the midwestern region.³ The skilled employees in the Pacific area averaged 92.0 cents an hour, or 13.3 cents more than the earnings of the workers in this class that were employed in the southern and midwestern mills.

The earnings of semiskilled and unskilled employees conform to a more consistent regional pattern, with the highest averages in the Pacific States, followed in order by the averages for the middle western, northeastern, and southern regions. It is worthy of note that the average for unskilled workers in the Pacific area was actually above the average for the semiskilled groups in any of the other regions.

Regional differences in the wage structure are further revealed in the distributions of individual earnings. (See table 3, p. 7.) For example, nearly three-tenths (29.6 percent) of the workers in the southern region averaged less than 40 cents an hour, whereas only 1.1 percent in the northeastern region and fewer than 1 percent in the midwestern region received less than that amount. None of the workers in the Pacific area received as little as 50 cents an hour. The regional contrasts were less pronounced among the workers in higher-wage brackets. The number receiving 87.5 cents or more, for example, amounted to 16.6 percent in the Pacific States, 7.0 percent in the South, 6.3 percent in the northeastern region, and 5.2 percent in the Midwest. In every area the higher earnings were largely confined to employees in skilled occupations.

Earnings in Union and Nonunion Plants

The effect of unionization on the wage level is indicated by the data shown in table 5. For the United States as a whole, the hourly earnings of employees in union plants averaged 63.1 cents, as compared with 57.7 cents for workers in nonunion establishments. The difference in favor of employees in union plants amounted to 6.5 cents an hour for skilled workers, 5.9 cents for semiskilled workers, and 5.8 cents for unskilled workers. It will be observed, however, that the difference for all regions combined is greater than that shown for each of the three chief regions. This was due to the high average in the Pacific area, where virtually all of the employees scheduled were in union establishments. According to table 6, the proportion of workers in the lower-wage groups was substantially greater in the case of nonunion workers than in the case of union workers. Thus, the number of workers who received less than 40 cents an hour amounted to 4.3 percent of the total in the union plants, as compared with 10.3 percent in nonunion establishments. The difference was somewhat less pronounced for the higher-paid workers. The proportion of

³ Members of the industry attribute this condition to the high wages offered by large, newly organized southern mills to induce highly skilled employees to move from the North into the South.

workers who received 87.5 cents or more, for example, represented 7.9 percent of the employees in the union plants, as against 5.9 percent in nonunion plants. It will be observed that this general relationship is also typical of each skill group.

TABLE 5.—Average hourly earnings in the paperboard industry, by region, unionization, and skill, November–December 1939

Region and unionization	All workers	Skilled workers	Semiskilled workers	Unskilled workers
Average hourly earnings				
United States.....	\$0. 598	\$0. 789	\$0. 597	\$0. 516
Union.....	. 631	. 829	. 632	. 550
Nonunion.....	. 577	. 764	. 573	. 492
Northeastern region.....	. 606	. 768	. 594	. 530
Union.....	. 635	. 805	. 625	. 558
Nonunion.....	. 597	. 758	. 585	. 521
Southern region.....	. 516	. 787	. 529	. 408
Union.....	. 542	. 831	. 562	. 424
Nonunion.....	. 503	. 763	. 511	. 400
Midwestern region.....	. 622	. 787	. 624	. 552
Union.....	. 638	. 806	. 638	. 573
Nonunion.....	. 608	. 772	. 610	. 531
Pacific region ¹ 738	. 920	. 724	. 655
Number of workers				
United States.....	16, 332	3, 457	4, 643	8, 232
Union.....	6, 595	1, 348	1, 847	3, 400
Nonunion.....	9, 737	2, 109	2, 796	4, 832
Northeastern region.....	4, 990	1, 169	1, 461	2, 360
Union.....	1, 110	258	313	539
Nonunion.....	3, 880	911	1, 148	1, 821
Southern region.....	3, 958	717	1, 162	2, 079
Union.....	1, 374	249	406	719
Nonunion.....	2, 584	468	756	1, 360
Midwestern region.....	6, 412	1, 348	1, 730	3, 334
Union.....	3, 149	619	841	1, 689
Nonunion.....	3, 263	729	889	1, 645
Pacific region ¹	972	223	290	459

¹ Data insufficient to present figures by unionization.

TABLE 6.—Percentage distribution of workers in paperboard industry, by average hourly earnings, skill, and unionization, November–December 1939

Average hourly earnings	All workers			Skilled workers			Semiskilled workers			Unskilled workers		
	Total	Un-ion	Non-union	Total	Un-ion	Non-union	Total	Un-ion	Non-union	Total	Un-ion	Non-union
Under 32.5 cents.....	0.7	(1)	1.2	-----	-----	-----	0.2	-----	0.3	1.3	0.1	2.2
32.5 and under 35.0 cents..	.4	0.3	.5	-----	-----	-----	.1	-----	.2	.7	.6	.8
35.0 and under 37.5 cents..	4.2	1.6	5.9	0.1	-----	0.2	.8	0.1	1.2	7.8	3.0	11.1
37.5 and under 40.0 cents..	2.6	2.4	2.7	(1)	0.1	-----	1.2	.6	1.6	4.4	4.3	4.4
40.0 and under 42.5 cents..	4.8	2.9	6.0	.8	-----	1.2	4.1	.5	6.5	6.8	5.3	7.8
42.5 and under 47.5 cents..	9.5	7.2	11.1	1.8	.2	2.8	9.3	4.4	12.5	12.9	11.6	13.9
47.5 and under 52.5 cents..	13.9	12.1	15.2	3.4	1.6	4.5	12.1	10.8	13.0	19.5	16.8	21.4
52.5 and under 57.5 cents..	14.4	13.8	14.9	5.4	3.4	6.6	16.4	16.3	16.4	17.3	16.5	17.9
57.5 and under 62.5 cents..	13.2	13.9	12.7	7.0	6.1	7.6	16.3	16.3	16.2	14.1	15.7	13.0
62.5 and under 67.5 cents..	10.9	14.0	8.8	9.2	7.1	10.5	14.6	16.0	13.7	9.5	15.6	5.2
67.5 and under 72.5 cents..	7.7	10.2	5.9	12.3	10.0	13.8	11.5	16.6	8.2	3.5	6.8	1.2
72.5 and under 77.5 cents..	5.0	6.6	3.9	10.5	11.2	10.2	6.6	9.1	4.9	1.7	3.4	.5
77.5 and under 82.5 cents..	3.1	3.5	2.8	9.8	10.2	9.5	3.2	4.9	2.1	.2	.1	.2
82.5 and under 87.5 cents..	2.9	3.6	2.5	11.2	14.6	9.1	1.6	1.9	1.5	.2	.1	.2
87.5 and under 92.5 cents..	1.9	2.2	1.6	7.5	9.2	6.4	.8	1.1	.6	.1	.1	.1
92.5 and under 100.0 cents..	1.7	2.3	1.3	6.9	10.2	4.7	.7	.9	.6	(1)	-----	.1
100.0 and under 110.0 cents.	1.6	1.6	1.6	6.9	7.3	6.7	.4	.5	.4	(1)	-----	(1)
110.0 cents and over.....	1.5	1.8	1.4	7.2	8.8	6.2	.1	-----	.1	(1)	-----	(1)
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Less than $\frac{1}{10}$ of 1 percent.

Influence of Size of Community, Size of Plant, and Product on Hourly Earnings

Among the other factors that are frequently found to have some bearing on the wage structure are size of community, size of plant, and type of product.

A majority of the plants covered by the survey were located in relatively small communities. An examination of the plant-average data reveals that there is little, if any, connection between size of community and the level of hourly earnings. Although there is some evidence of relationship between both product and plant-size with hourly earnings, it is difficult to assess the particular significance of these two factors. In many instances, an apparent contrast in earnings according to type of product is obscured by variations due to the size of establishment, the geographical location, or other factors. For example, the level of earnings was found to be lower among the fiberboard plants than among the establishments making felts. A majority of the fiberboard plants employed less than 50 wage earners, however, whereas most of the paper-felt plants employed more than 100 workers.

An examination of the data for plants reported to be engaged primarily in the manufacture of boxboards made of waste paper indicates that, in general, the level of earnings was somewhat higher in the relatively large establishments than in the smaller establishments. Because of the wide geographical distribution of these

plants, however, it is impossible to be certain that this relationship is due to the factor of size rather than the factor of location.

Among the other product groups, size of establishment appears to have no decisive bearing on the wage structure, possibly because of the influence of other factors which cannot be segregated for a more detailed analysis.

Earnings in Relation to the Minimum-Wage Rate Established by the Administrator of the Fair Labor Standards Act

A minimum-wage rate of 40 cents an hour, applying to all paperboard plants engaged in interstate commerce, became effective on September 16, 1940, under an order issued by the Administrator of the Wage and Hour Division. The direct effect of this minimum wage on the wage structure of the industry is shown by table 3 (p. 7), where the proportion of the workers who were receiving under 40 cents an hour at the time of the survey is given. A total of 7.9 percent of the wage earners were earning various amounts less than 40 cents an hour in November-December 1939. A large majority of these workers were in the southern region, where 29.6 percent of the employees scheduled received less than the minimum that was later established by the Administrator. The number of workers averaging less than 40 cents was negligible in the northeastern and midwestern regions, constituting less than 2 percent of the labor force in the former and less than 1 percent in the latter areas. In the Pacific region, it will be noted, even the lowest-paid workers averaged considerably more than 40 cents an hour.

Occupational Differences

Table 7 presents the earnings data classified by occupational groups. On the basis of regular rates of pay, excluding extra overtime earnings, these figures show that average hourly earnings in the United States as a whole ranged from \$1.086 for foremen in maintenance and power departments to 47.7 cents for the unskilled shipping laborers. The lowest earnings for skilled workers were received by the yard foremen, who averaged 69.6 cents an hour. Among the semiskilled employees, hourly earnings varied from 66.6 cents for the small group of painters, who were engaged in plant maintenance work, to 55.7 cents for both the mechanics' helpers and the subforemen. The highest average for unskilled work was received by the rag-room laborers, who were paid 57.2 cents an hour. This was 9.5 cents above the average of 47.7 cents for shipping laborers, the lowest-paid occupation.

TABLE 7.—Distribution of workers in paperboard industry, by average hourly earnings, region, skill, and occupation

Skill and occupational group	Total number of workers	Average hourly earnings		Number of workers having average hourly earnings of— (Excluding extra overtime earnings)																	
		Including over-time	Excluding over-time	Under 32.5 cents	32.5 and under 35.0 cents	35.0 and under 37.5 cents	37.5 and under 40.0 cents	40.0 and under 42.5 cents	42.5 and under 47.5 cents	47.5 and under 52.5 cents	52.5 and under 57.5 cents	57.5 and under 62.5 cents	62.5 and under 67.5 cents	67.5 and under 72.5 cents	72.5 and under 77.5 cents	77.5 and under 82.5 cents	82.5 and under 87.5 cents	87.5 and under 92.5 cents	92.5 and under 100.0 cents	100.0 and under 110.0 cents	110.0 and over
United States																					
Skilled workers:																					
Back tenders	626	\$0.733	\$0.698			3		15	34	25	58	55	71	109	79	41	67	23	7	30	9
Carpenters	108	.745	.724						2	2	4	9	21	17	19	14	9	7	2	1	1
Electricians	164	.831	.793						2	2	4	13	12	21	15	23	28	8	18	14	4
Engineers	290	.789	.755				3		4	8	27	27	16	58	19	23	26	17	24	27	6
Foremen, beater	323	.807	.775							4	14	26	36	33	44	54	30	28	35	18	1
Foremen, finish and ship	74	.837	.828							2		3	2	8	21	9	9	4	6	4	6
Foremen, maintenance and power	114	1.104	1.086							3	8	9	11	4	5	8	8	9	11	18	50
Foremen, yard	70	.722	.696							3	8	9	11	12	12	6	1	4	1	3	3
Machine tenders	818	.914	.874		1		5	14	49	41	23	50	48	45	50	88	68	75	106	2	155
Machinists	137	.834	.803						4	3	11	6	17	9	20	17	18	28	2		2
Mechanics and repairmen	169	.765	.734					1	6	8	9	29	27	40	14	15	9	5	3	3	3
Millwrights	244	.785	.754				3		2	2	9	35	15	32	30	36	37	14	5	1	1
Pipe fitters	113	.794	.758					2	2	3	4	10	11	15	9	21	14	13	6	1	4
Welders	45	.825	.793						1	1	1	1	10	3	4	5	10	2	4	4	4
Miscellaneous skilled, direct	36	.846	.795			1		1	1	2	2	4	1	5	6	5	4	2	4	2	2
Miscellaneous skilled, indirect	126	.785	.754						1	5	2	9	22	22	10	16	26	7	1	1	4
Semiskilled workers:																					
Beatermen	464	.627	.595		3		16	35	54	94	90	67	57	29	12	6	1				
Calender operators	79	.600	.578				9	11	1	12	11	26	8	1							
Carpenters' helpers	27	.570	.556	1				1	3	4	10	6	4								
Coating-machine operators	25	.616	.577				1	4	3	3	4	3	5								
Crane operators, inside	73	.669	.638					1	8	8	8	4	25	8	6	7	3				
Cutters and trimmers	270	.587	.569		4	6	15	36	62	48	33	35	9	10	4	5	7	3	2		
Electricians' helpers	50	.611	.584		1			1	2	6	7	13	12	3	5			1			
Felt checkers	104	.620	.587		5			1	2	10	34	18	16	15	3						
Firemen	484	.662	.638		4		1	8	38	54	64	52	65	63	40	26	12	3			
Fourth hands	492	.618	.589		3		9	9	34	69	114	60	55	95	32	12					

Inspectors.....	285	.586	.564			1	11	26	29	37	57	46	32	21	9	9	1		4	2
Lining-machine operators.....	28	.652	.628						3	2	1	9	2	4	6	1				
Machinists' helpers.....	39	.629	.610						3	4	5	3	7	4	3	2		3		
Mechanics' helpers.....	98	.580	.557						6	11	24	10	25	14	5	1		1		
Millwrights' helpers.....	130	.617	.586			2	2	2	9	26	21	17	22	16	11	1		1		
Oilers.....	259	.611	.585	2	2		2	25	15	20	40	49	53	32	15			3	1	
Painters.....	38	.679	.666						1		7	5	8	7	6		2	2		
Pasting-machine operators.....	47	.639	.610			2		5	5	5	3	6	4	5	4	5		2		1
Pipe-fitters' helpers.....	42	.644	.603	1			1	1	4	6	7	9	4	6	6	1				
Rag-cutter operators.....	36	.678	.653						4	1	3	3	7	9	6	3				
Rewinders.....	86	.601	.586						4	12	23	23	9	10	2	3				
Rotary-digester operators.....	54	.635	.604						1	13	10	10	9	5	3	2			1	
Shipping and receiving clerks.....	163	.681	.665					2	10	12	22	16	28	27	15	8	8	3	4	5
Subforemen.....	105	.573	.557				1	6	23	15	9	23	10	16	1	1				
Third hands.....	500	.646	.617	3		3	13	18	46	46	63	84	71	48	46	16	20		15	8
Tractor operators, inside.....	120	.645	.624						14	1	20	28	29	11	3	14				
Truck drivers.....	117	.589	.571			2	5	9	13	11	16	16	16	20	6	1		2		
Miscellaneous semiskilled, direct.....	321	.573	.559			1	7	6	20	51	43	51	69	34	15	12	3	5		3
Miscellaneous semiskilled, indirect.....	89	.607	.584				1		9	14	8	10	24	9	3	3			1	1
Unskilled workers:																				
Beater helpers.....	1,964	.555	.532	38	7	71	44	102	244	492	281	213	316	119	37					
Broke men.....	311	.556	.527	9		19	7	21	25	72	40	62	43	13						
Bundlers and wrappers.....	409	.534	.521	3	2	43	11	23	75	40	85	62	26	17	9	4	3	2	4	
Dryermen.....	198	.490	.480			8	10	31	46	35	47	19	2							
Fifth hands.....	469	.598	.564			6		10	13	64	70	93	49	106	52	6				
Firemen's helpers.....	213	.545	.526	4		3	5	17	33	34	49	40	17	3	4		1	3		
Janitors, porters, and sweepers.....	220	.487	.478	2		45	7	28	33	29	21	44	9	1	1					
Rag-room laborers.....	126	.586	.572					14	3	18	29	29	12		21					
Rewinder helpers.....	269	.558	.539			3	1	4	9	38	64	56	16	19	2					
Screenmen.....	147	.593	.562					4	10	44	33	25	18	12		1				
Shipping laborers.....	649	.487	.477	6	6	101	16	102	101	114	89	72	26	4	7	3	2			
Sizemen.....	53	.554	.538			2	2	7	4	13	9	8	8							
Straw-digester laborers.....	200	.548	.519					18	32	55	32	49	10							
Truckers, inside.....	148	.550	.534			8	7		15	32	31	33	18	3	1					
Watchmen.....	244	.501	.488	7	3	13	11	22	42	58	38	28	16	3	3					
Yard laborers.....	989	.536	.520	27	9	61	43	55	117	196	147	177	79	32	41	5				
Miscellaneous unskilled, direct.....	1,311	.497	.485	5	25	213	176	65	141	154	296	158	51	9	6	1	7	4		
Miscellaneous unskilled, indirect.....	312	.498	.481	8		52	5	29	40	82	45	37	8	2	2					1

TABLE 7.—Distribution of workers in paperboard industry by average hourly earnings, region, skill, and occupation—Continued

Skill and occupational group	Total number of workers	Average hourly earnings		Number of workers having average hourly earnings of— (Excluding extra overtime earnings)																	
		Including over-time	Excluding over-time	Under 32.5 cents	32.5 and under 35.0 cents	35.0 and under 37.5 cents	37.5 and under 40.0 cents	40.0 and under 42.5 cents	42.5 and under 47.5 cents	47.5 and under 52.5 cents	52.5 and under 57.5 cents	57.5 and under 62.5 cents	62.5 and under 67.5 cents	67.5 and under 72.5 cents	72.5 and under 77.5 cents	77.5 and under 82.5 cents	82.5 and under 87.5 cents	87.5 and under 92.5 cents	92.5 and under 100.0 cents	100.0 and under 110.0 cents	110.0 cents and over
Northeastern region																					
Skilled workers:																					
Back tenders.....	194	\$0.696	\$0.660				12	4	8	19	22	23	51	33	10	2	5	5			
Carpenters.....	46	.752	.728						1	1	4	7	11	8	6	3	3				
Electricians.....	40	.815	.766						1	1	6	3	3	6	7	6	3				
Engineers.....	87	.793	.769				3		2	6	4	5	17	2	5	11				1	1
Foremen, beater.....	116	.798	.766						3	2	7	22	14	9	17	16	9	13	3	3	1
Foremen, finish and ship.....	30	.850	.841						1		1	2	3	8	2	3	3	2	2	2	3
Foremen, maintenance and power.....	44	1.202	1.197								1	1	1	1	1	4	4	3	5	5	26
Foremen, yard.....	23	(1)	(1)						1	2	5		3	2	1						
Machine tenders.....	331	.837	.805		1		3	8	43	11	9	23	36	22	22	27	31	49	1	1	
Machinists.....	40	.844	.802						2		1	3	5	3	9	7	5	3	1	1	1
Mechanics and repairmen.....	66	.736	.697					1	5	1	4	12	14	16	7	3	3				
Millwrights.....	65	.776	.730				3	2	2	4	4	13	9	9	10	4	2	1	1	1	
Pipe fitters.....	36	.786	.746					1	1	1	1	3	9	4	8	4		1	1		
Welders.....	5	(1)	(1)								2	2	2	2	1						
Miscellaneous skilled, direct.....	12	(1)	(1)								2	2	2	2	1	2	1		2		1
Miscellaneous skilled, indirect.....	34	.793	.755						1	1	3	3	8	2	7	8					
Semiskilled workers:																					
Beatermen.....	173	.600	.570				12	12	16	53	45	14	12	5	4						
Catender operators.....	71	.593	.572				9	11	1	12	9	20	3		1						
Carpenters' helpers.....	11	(1)	(1)					1	1	4	3	2									
Coating-machine operators.....	6	(1)	(1)							4											
Crane operators, inside.....	7	(1)	(1)					4			2	1									
Cutters and trimmers.....	103	.604	.588				1	10	18	26	21	19				1	2	3	2		
Electricians' helpers.....	15	(1)	(1)						3	3	2	3	4	2							
Felt checkers.....	21	(1)	(1)						3	3	8	7			3						
Firemen.....	192	.654	.633				7	13	2	16	23	22	34	19	12	13	5				
Fourth hands.....	187	.693	.574				5	11	21	60	45	27	10	4	4						

Inspectors.....	50	.649	.606						12	4	16	9	6	2	1				
Lining-machine operators.....	14	(1)	(1)						1	1	8		1	3					
Machinists' helpers.....	10	(1)	(1)						2	4		1		2	1				
Mechanics' helpers.....	31	.570	.548				3	2	8	3	13	1	1						
Millwrights' helpers.....	36	.641	.600				1		8	9	6	3	3	6					
Oilers.....	61	.603	.573	1			5	2	8	17	8	7	7	6					
Painters.....	18	(1)	(1)							1	3	4	2	5		2	1		
Pasting-machine operators.....	10	(1)	(1)					1			5	1		1			2		
Pipe-fitters' helpers.....	14	(1)	(1)						1	1	4	2	3	3					
Rag-cutter operators.....	17	(1)	(1)								1	5	8	3					
Rewinders.....	19	(1)	(1)						8	7	4								
Rotary-digester operators.....																			
Shipping and receiving clerks.....	53	.688	.668					1	2	4	8	5	7	11	4	5	1	1	3
Subforemen.....	17	(1)	(1)								3	8	4	2					
Third hands.....	159	.610	.580				3	6	17	18	31	34	25	17		4	4		
Tractor operators, inside.....	22	(1)	(1)						1	1	10	7		3					
Truck drivers.....	51	.617	.595					3	4	4	9	5	11	14	1				
Miscellaneous semiskilled, direct.....	73	.662	.581	1				1	7	3	23	17	15	3	1			2	
Miscellaneous semiskilled, indirect.....	20	(1)	(1)					1		2	4	5		1					
Unskilled workers:																			
Beater helpers.....	638	.554	.534	3		3	41	89	192	138	83	54	9	26					
Broke men.....	150	.591	.559				1	17	33	32	38	22	7						
Bundlers and wrappers.....	124	.543	.532		1	1	9	23	14	52	10	5	2	1			2	4	
Dryermen.....	155	.491	.481					46	31	33	14								
Fifth hands.....	130	.582	.547	3	1		30	12	35	52	9	3	12	4					
Firemen's helpers.....	81	.561	.545			3		11	9	29	21	6	2						
Janitors, porters, and sweepers.....	44	.540	.524		1		2	8	9	8	16								
Rag-room laborers.....	39	.590	.556					2	8	10	17	2							
Rewinder helpers.....	29	.564	.536	3				6	3	17									
Screenmen.....	57	.547	.523				4	3	23	19	8								
Shipping laborers.....	145	.530	.511		3	2	12	18	38	51	18	3							
Sizemen.....	13	(1)	(1)					1	2	3	4	2	1						
Straw-digester laborers.....																			
Truckers, inside.....	37	.538	.522					4	25	8		8							
Watchmen.....	64	.509	.496		3	4	8	10	16	8	8	5	2						
Yard laborers.....	293	.551	.530				16	29	93	93	23	32	5						
Miscellaneous unskilled, direct.....	303	.547	.532	6	2	4	11	44	67	106	33	13	2	3	1	3	4		
Miscellaneous unskilled, indirect.....	58	.547	.522		2	2	2	2	20	16	9	5							

¹ Not a sufficient number of workers to permit the presentation of an average.

TABLE 7.—Distribution of workers in paperboard industry, by average hourly earnings, region, skill, and occupation—Continued

Skill and occupational group	Total number of workers		Number of workers having average hourly earnings of— (Excluding extra overtime earnings)																		
	Including over-time	Excluding over-time	Under 32.5 cents	32.5 and under 35.0 cents	35.0 and under 37.5 cents	37.5 and under 40.0 cents	40.0 and under 42.5 cents	42.5 and under 47.5 cents	47.5 and under 52.5 cents	52.5 and under 57.5 cents	57.5 and under 62.5 cents	62.5 and under 67.5 cents	67.5 and under 72.5 cents	72.5 and under 77.5 cents	77.5 and under 82.5 cents	82.5 and under 87.5 cents	87.5 and under 92.5 cents	92.5 and under 100.0 cents	100.0 and under 110.0 cents	110.0 cents and over	
Southern region																					
Skilled workers:																					
Back tenders.....	127	\$0. 765	\$0. 734			3		3	14	10	17	6	4	18	4		9			30	9
Carpenters.....	27	. 695	. 685						2	1	3	3	5	4	1	2	1			2	
Electricians.....	57	. 821	. 798						2	1	3	7	2	7	2	10				11	10
Engineers.....	48	. 748	. 703						1		10	6	1	14	3	3				8	2
Foremen, beater.....	37	. 799	. 754							1	6	6	4		1	5	3			11	
Foremen, finish and ship.....	7	(1)	(1)							1					3		1				2
Foremen, maintenance and power.....	16	(1)	(1)											3		1	1			2	6
Foremen, yard.....	5	(1)	(1)								1			3		1				3	
Machine tenders.....	146	. 970	. 925				2	6	6	14	3	17	9	8	3	5	10			6	57
Machinists.....	38	. 782	. 765							2	8	1	5	2	3	3	5	9		1	
Mechanics and repairmen.....	17	(1)	(1)							1				3	1	7	3	2			
Millwrights.....	81	. 763	. 743							2	5	21	5	5	8	7	25			2	1
Pipe fitters.....	36	. 742	. 713					1	2	3	5	6	2	2	2	6	4	3		3	
Welders.....	20	(1)	(1)							1	1	4		2	2	3	2	3		4	
Miscellaneous skilled, direct.....	7	(1)	(1)				1	1	1	2	1	4			1	1	1				1
Miscellaneous skilled, indirect.....	48	. 751	. 740					1	4	1	4	11	3	4	4	7	7			1	1
Semiskilled workers:																					
Beatermen.....	74	. 549	. 522			3		4	17	25	12	2	3	1	3	4					
Calender operators.....	8	(1)	(1)			1				2	4		1								
Carpenters' helpers.....	6	(1)	(1)						1	2		3									
Coating-machine operators.....	15	(1)	(1)					1	4	8	1			1							
Crane operators, inside.....	15	(1)	(1)					1	4	8	1			1							
Cutters and trimmers.....	80	. 477	. 459			4	6	13	25	29	1		1	1							
Electricians' helpers.....	23	(1)	(1)			1			10	2	2	2		1	3						
Felt checkers.....	15	(1)	(1)			5			1	2	3	3		1							
Firemen.....	68	. 564	. 539			4			18	17	10	5	6	2		3	2				
Fourth hands.....	100	. 586	. 558				9	4	16	18	12	6	9	7	11	8					

TABLE 7.—Distribution of workers in paperboard industry, by average hourly earnings, region, skill, and occupation—Continued

Skill and occupational group	Total number of workers	Average hourly earnings		Number of workers having average hourly earnings of— (Excluding extra overtime earnings)																	
		Including over-time	Excluding over-time	Under 32.5 cents	32.5 and under 35.0 cents	35.0 and under 37.5 cents	37.5 and under 40.0 cents	40.0 and under 42.5 cents	42.5 and under 47.5 cents	47.5 and under 52.5 cents	52.5 and under 57.5 cents	57.5 and under 62.5 cents	62.5 and under 67.5 cents	67.5 and under 72.5 cents	72.5 and under 77.5 cents	77.5 and under 82.5 cents	82.5 and under 87.5 cents	87.5 and under 92.5 cents	92.5 and under 100.0 cents	100.0 and under 110.0 cents	110.0 cents and over
Midwestern region																					
Skilled workers:																					
Back tenders.....	262	\$0. 723	\$0. 687						16	7	22	24	44	40	36	25	45	3			
Carpenters.....	33	. 763	. 738										9	2	10	5	4	1			
Electricians.....	49	. 819	. 775										7	11	7	9	9	3	1	3	
Engineers.....	151	. 795	. 760					3				11	17	10	14	20	12	17	5	13	3
Foremen, beater.....	143	. 800	. 773									6	13	10	19	34	24	7	8	10	12
Foremen, finish and ship.....	32	. 809	. 799												5	9	7	5	1	2	1
Foremen, maintenance and power.....	51	1. 052	1. 022											1	4	7	3	4	5	9	18
Foremen, yard.....	37	. 700	. 667							2		5	4	11	1	10	2	1	1		
Machine tenders.....	290	. 950	. 904									16	10	10	14	25	59	28	34	36	58
Machinists.....	43	. 839	. 799									1	2	2	7	3	11	6	4		
Mechanics and repairmen.....	78	. 759	. 735									7	5	14	12	17	7	8	4	1	2
Millwrights.....	77	. 788	. 757									2	10	6	14	13	8	16	2	2	3
Pipe fitters.....	32	. 813	. 775										4	2	3	10	4	6			
Welders.....	18	(1)	(1)										4	4	3	2	2	6		1	
Miscellaneous skilled, direct.....	14	(1)	(1)											1	1	3	5	2	2		
Miscellaneous skilled, indirect.....	38	. 797	. 749										2	8	10	4	5	8			1
Semiskilled workers:																					
Beatermen.....	184	. 668	. 632					6	13	29	43	37	30	21	4			1			
Calender operators.....	5	(1)	(1)									2	3								
Carpenters' helpers.....	3	(1)	(1)									3	1	1							
Coating-machine operators.....	13	(1)	(1)									1	3	5							
Crane operators inside.....	39	. 721	. 680									2	23	4	1	7					
Cutters and trimmers.....	87	. 651	. 629					1	1	15	21	12	14	7	7	2	4	3			
Electricians' helpers.....	19	(1)	(1)									1	3	7	7	1					
Felt checkers.....	60	. 633	. 604									4	23	18		15					
Firemen.....	202	. 686	. 661						7	9	28	36	22	28	39	22	6	1	3		
Fourth hands.....	164	. 633	. 602									3									

TABLE 7.—Distribution of workers in paperboard industry, by average hourly earnings, region, skill, and occupation—Continued

Skill and occupational group	Total number of workers	Average hourly earnings		Number of workers having average hourly earnings of— (Excluding extra overtime earnings)																		
		Including over-time	Excluding over-time	Under 32.5 cents	32.5 and under 35.0 cents	35.0 and under 37.5 cents	37.5 and under 40.0 cents	40.0 and under 42.5 cents	42.5 and under 47.5 cents	47.5 and under 52.5 cents	52.5 and under 57.5 cents	57.5 and under 62.5 cents	62.5 and under 67.5 cents	67.5 and under 72.5 cents	72.5 and under 77.5 cents	77.5 and under 82.5 cents	82.5 and under 87.5 cents	87.5 and under 92.5 cents	92.5 and under 100.0 cents	100.0 and under 110.0 cents	110.0 cents and over	
				Pacific region																		
Skilled workers:																						
Back tenders.....	43	\$0.875	\$0.834								3				6	6	11	15	2			1
Carpenters.....	2	()	()													1						3
Electricians.....	18	()	()													5	3	2	4		1	3
Engineers.....	4	()	()																			3
Foremen, beater.....	27	.894	.851											1		8	7	8	1		3	3
Foremen, finish and ship.....	5	()	()												1			1	3			
Foremen, maintenance and power.....	3	()	()											1				1	1		1	
Foremen, yard.....	5	()	()													2	1	1	1		1	
Machine tenders.....	51	1.049	1.006								1		3	1	1		3	3	10	15	16	1
Machinists.....	16	()	()											1			1	4	9			1
Mechanics and repairmen.....	8	()	()														1		4	1		2
Millwrights.....	21	()	()													6	3	3	9			
Pipefitters.....	9	()	()										1					1	2			4
Welders.....	2	()	()														1					1
Miscellaneous skilled, direct.....	3	()	()									1						1				2
Miscellaneous skilled, indirect.....	6	()	()										1				3		1			1
Semiskilled workers:																						
Beatermen.....	33	.732	.700									13	14									
Calender operators.....	3	()	()									3										
Carpenters' helpers.....																						
Coating-machine operators.....																						
Crane operators, inside.....	12	()	()									1	4	4			3					
Cutters and trimmers.....	9	()	()									2	1	2	2			2				
Electricians' helpers.....	2	()	()								1								1			
Felt checkers.....	8	()	()									2										
Firemen.....	22	()	()									2	3	3	3							
Fourth hands.....	41	.721	.688								3	3	29	6	6	4	4					

Inspectors.....	21	(1)	(1)							2	11	3		1			4
Lining-machine operators.....	5	(1)	(1)							1	2	2					
Machinists' helpers.....	7	(1)	(1)								2	1		1		3	
Mechanics' helpers.....	4	(1)	(1)									1	1	1		1	
Millwrights' helpers.....	8	(1)	(1)								1	1	5	1			
Oilers.....	14	(1)	(1)								1	4	7			1	1
Painters.....	2	(1)	(1)								1					1	
Pasting-machine operators.....	3	(1)	(1)											3			
Pipe-fitters' helpers.....	3	(1)	(1)										2	1			
Rag-cutters' operators.....	6	(1)	(1)										3	3			
Rewinders.....	3	(1)	(1)								2			1			
Rotary-digester operators.....																	
Shipping and receiving clerks.....	10	(1)	(1)						1	3		2			4		
Subforemen.....	3	(1)	(1)							2	1						
Third hands.....	38	.785	.746							3	5	26	4				
Tractor operators, inside.....	10	(1)	(1)							2	4		4				
Truck drivers.....	8	(1)	(1)							4	1	1				2	
Miscellaneous semiskilled, direct.....	10	(1)	(1)						3	1	1	4		1			
Miscellaneous semiskilled, indirect.....	5	(1)	(1)							3	1				1		
Unskilled workers:																	
Beater helpers.....	150	.684	.648						7	118	15	10					
Brokemen.....	14	(1)	(1)						1	13							
Bundlers and wrappers.....	18	(1)	(1)						9	7		2					
Dryermen.....	2	(1)	(1)							2							
Fifth hands.....	44	.674	.630						2	42							
Firemen's helpers.....																	
Janitors, porters, and sweepers.....	12	(1)	(1)						2	9	1						
Rag-room laborers.....	31	.710	.706						4	6		21					
Rewinder helpers.....	4	(1)	(1)							3		1					
Screenmen.....	10	(1)	(1)				1			3	5	1	1				
Shipping laborers.....	21	(1)	(1)						20	1							
Sizemen.....	1	(1)	(1)						1								
Straw-digester laborers.....																	
Truckers, inside.....	10	(1)	(1)						6		3	1					
Watchmen.....	23	(1)	(1)						7	8	1	3					
Yard laborers.....	59	.733	.719						5	10	4	36	4				
Miscellaneous unskilled, direct.....	58	.645	.644						26	26	4	2					
Miscellaneous unskilled, indirect.....	2	(1)	(1)						2								

¹ Not a sufficient number of workers to permit the presentation of an average.

A comparison of the averages for the different occupational groups reveals that all of the skilled occupations received higher earnings than any of the semiskilled or unskilled groups. Thus, the yard foremen, who had the lowest average among the skilled workers, nevertheless received 3.0 cents more per hour than the average for the best-paid semiskilled occupation. As between semiskilled and unskilled occupations, on the other hand, the differential was not always in favor of the more highly skilled workers. The rag-room laborers, for example, received slightly more than the cutters and trimmers, the inspectors, the mechanics' helpers, the subforemen, the truck drivers, and the group of miscellaneous semiskilled direct labor. Likewise, the fifth hands and the screenmen, both unskilled, received higher averages than were shown for some of the semiskilled jobs. Despite these variations, however, the general pattern of earnings within each occupation, as shown by the distributions, appears to be consistent with the differences noted between the averages for the three skill-groups.

Although the occupational averages differed in detail among the four regions, it will be observed that the relative earnings status of the various jobs remained about the same in each area as in the country as a whole. Thus, the maintenance and power foremen and the machine tenders show the highest earnings in every region where a sufficient number were scheduled to permit the presentation of averages.

Earnings of Machine Tenders

As shown by table 7, the machine tenders constitute one of the largest and best-paid occupational groups in the paperboard industry. Because of their special importance in the manufacturing process, an attempt has been made to analyze the hourly earnings of these employees in greater detail, classifying the data by type of product, region, and width of paper machine used. The results of this analysis are shown in table 8.

The lowest general level of hourly earnings for machine tenders was found in the plants making wet board. Most of these establishments were relatively small in size and were equipped with paper machines less than 100 inches wide. The influence of regional location and size of machine is evident in the data for products other than wet board. With one exception, hourly earnings of machine tenders ranged higher in the northern than in the southern plants, within each of the product groups for which available data permitted a regional comparison. The exception was in the case of plants making wood-pulp board. Of the 46 machine tenders in northern wood-pulp board establishments, only 9 received as much as \$1.10 or more, while 25 averaged less than 72.5 cents. By contrast, 41 of the 61 tenders in southern wood-pulp

TABLE 8.—*Distribution of machine tenders in paperboard industry, by average hourly earnings, product, region, and width of machine, November–December 1939*

Average hourly earnings	Chipboard				Wet board ³	Straw-board ³		Wood-pulp board		Felts ³		Wall-board ⁴		Miscellaneous products ⁵		
	Northern region ¹		Southern region			Under 100 inches	100 inches and over	Northern region ¹		Under 100 inches	100 inches and over	Northern region ¹	Southern region	Under 100 inches	100 inches and over	
	Under 100 inches	100 inches and over	Under 100 inches	100 inches and over				Under 100 inches	100 inches and over							Southern region ⁴
35.0 and under 37.5 cents.....					1											
37.5 and under 40.0 cents.....					3											
40.0 and under 42.5 cents.....			2		6											
42.5 and under 47.5 cents.....					33				2							
47.5 and under 52.5 cents.....	3								7							
52.5 and under 57.5 cents.....	3		5		11	12					5			4	1	
57.5 and under 62.5 cents.....	7		3		11	1						1				
62.5 and under 67.5 cents.....	12		4	3	9	3	3			6	6		1	1	3	
67.5 and under 72.5 cents.....	8		6	1	12			16				3	3	2		
72.5 and under 77.5 cents.....	5	1		5	12	1	8	1		3	4	3	1		1	
77.5 and under 82.5 cents.....	12	4		2	3		2	2	1		1	6	6	1	10	
82.5 and under 87.5 cents.....	5	9		5	5	13	4			1	8		1		28	
87.5 and under 92.5 cents.....	11	9								10	15		10		6	
92.5 and under 100.0 cents.....	5	25								7	15		5		11	
100.0 and under 110.0 cents.....	10	34		6			4	1				15			9	
110.0 cents and over.....	11	35	3	13				1	8	41			3		37	
Total.....	92	117	23	35	106	29	22	30	16	61	55	24	30	19	76	83

¹ Includes northeastern, midwestern, and Pacific regions.

² All plants scheduled were located in northern regions. There were too few wide machines to warrant separate analysis.

³ All plants scheduled were located in northern regions.

⁴ Data insufficient to warrant analysis by size of machine.

⁵ Insufficient data in South to warrant separate analysis.

board plants received \$1.10 or more and only 6 received less than 72.5 cents. This unusual contrast probably arises from the fact that the more recently organized wood-pulp board plants in the South have been forced to bid for their machine tenders from the northern part of the country.

It will be observed also that tenders on machines 100 inches wide and over generally received higher wages than were paid to tenders on narrower machines. For example, in northern chipboard plants about one-third of the tenders in plants with narrow machines averaged less than 72.5 cents, whereas none of the tenders in plants with wide machines received less than that amount. Likewise, in the southern region, only 3 of the 23 tenders in chipboard plants with narrow machines averaged over 72.5 cents, while only 4 of the 35 tenders in plants employing wide machines were paid less than 72.5 cents an hour. A similar relationship between tenders on narrow and wide machines is found in the other products, with the exception of the miscellaneous products group. In the latter instance, the comparison by size of

machine is probably not valid because of the variety of products included in the group.

Overtime Earnings

Under the provisions of the Fair Labor Standards Act in effect at the time of the survey, manufacturing establishments engaged in interstate commerce were required to pay $1\frac{1}{2}$ times the regular wage rate for all time worked after 42 hours a week. Overtime policies in about one-half of the plants surveyed conformed to this provision, while the remaining mills scheduled had somewhat more liberal rules governing overtime pay. Extra pay for time worked beyond 8 or 9 hours in any day, or for any work performed on Sundays or holidays, was common. In addition, about one-sixth of the plants covered paid extra overtime rates after 40 hours a week. This latter basis for overtime pay became compulsory under the Fair Labor Standards Act on October 24, 1940.

Extra wages for overtime work accounted for a substantial proportion of the paperboard workers' earnings at the time of the survey. Thus, as against an industry hourly average of 59.8 cents based on regular rates alone, the actual average, including all overtime pay, amounted to 62.2 cents, or a difference of 2.4 cents an hour. The additional hourly pay derived from extra overtime earnings averaged 4.3 cents for skilled, 2.4 cents for semiskilled, and 1.8 cents for unskilled employees. The increase in average hourly earnings that resulted from overtime rates amounted to 2.5 cents in the northeastern region, 1.7 cents in the southern region, 2.7 cents in the midwestern region, and 2.6 cents in the Pacific region. Examination of table 7 reveals that most of the occupational groups in the industry received a substantial amount of extra overtime pay.

Weekly Hours

The 40-hour week was quite common in the paperboard industry at the time of the survey. Of the 134 plants covered, 81 were operating on a 40-hour basis, while 6 had a normal workweek of 36 hours. Among the remaining plants surveyed, 25 had a 42-hour week, which was the maximum permitted under the Fair Labor Standards Act without the payment of extra overtime wages. A normal week of 48 hours was reported by 14 plants, and 8 mills had workweeks which ranged from 44 to as high as 56 hours per week.

The actual workweek averaged 42.6 hours. (See table 9.) The average of hours worked per week varied geographically from 43.7 in the northeastern region to exactly 40 in the Pacific region. Hours of work varied according to skill of the workers, but this difference was not pronounced. Thus, for the country as a whole, skilled workers

averaged 43.8 hours, which was one-half hour longer than the average workweek of the semiskilled wage earners. In turn, the unskilled employees averaged 41.6 hours, or 1.7 hours less than the average for the semiskilled workers. It will be observed that a similar relationship was found in each region.

TABLE 9.—Average actual weekly hours of workers in paperboard industry, by region and skill, November–December 1939

Region	All workers	Skilled workers	Semi-skilled workers	Unskilled workers
United States.....	42.6	43.8	43.3	41.6
Northeastern region.....	43.7	44.5	44.4	42.8
Southern region.....	41.8	43.9	43.0	40.4
Midwestern region.....	42.5	43.6	43.0	41.9
Pacific region.....	40.0	41.0	40.6	39.1

Table 10 presents further evidence of the relatively high level of activity in the industry at the time of the survey. Only one-sixth (16.3 percent) of all employees received less than 40 hours of work during the week covered, while less than 5 percent had less than 32 hours of work. One-fourth (24.9 percent) worked exactly 40 hours, and about one-fifth (19.0 percent) had 42 hours of employment. Over one-seventh (15.1 percent) of the wage earners worked from 48 to 52 hours. This latter group consisted chiefly of the employees of the 14 establishments that were operating on a 48-hour basis. One-tenth (10.4 percent) of the employees surveyed were working for 52 hours or more during the week. In each region, it will be observed, a large proportion of the workers were employed for exactly 40, 42, or 48 hours. The concentration at 40 hours was much more pronounced in the Pacific States than in the other regions. This is probably accounted for by the more widespread observance in the Pacific States of the 40-hour week as provided in the union contracts.

TABLE 10.—Percentage distribution of workers in paperboard industry, by actual weekly hours and region, November–December 1939

Weekly hours	United States	North-eastern region	Southern region	Midwest-ern region	Pacific region
Under 16 hours.....	0.9	0.4	1.6	0.7	0.9
16 and under 24 hours.....	1.2	.9	1.7	.9	1.5
24 and under 32 hours.....	2.2	1.7	3.3	1.9	1.6
32 and under 36 hours.....	5.9	4.5	3.8	8.5	4.5
36 and under 40 hours.....	6.1	2.4	7.6	8.4	3.6
Exactly 40 hours.....	24.9	27.4	23.4	20.5	50.4
Over 40 and under 42 hours.....	3.7	3.8	4.6	3.2	2.4
Exactly 42 hours.....	19.0	16.0	27.0	15.5	24.8
Over 42 and under 44 hours.....	1.7	1.8	1.2	1.9	1.6
44 and under 48 hours.....	8.9	8.3	5.6	12.6	1.5
48 and under 52 hours.....	15.1	21.4	10.7	14.1	6.8
52 and under 56 hours.....	2.4	3.1	2.2	2.3
56 and under 60 hours.....	6.7	6.3	5.9	8.6	.4
60 hours and over.....	1.3	2.0	1.4	.9
Total.....	100.0	100.0	100.0	100.0	100.0

Weekly Earnings

Total weekly earnings, including extra overtime pay, averaged \$26.47 for all workers covered by the survey. (See table 11.) The skilled employees averaged \$36, which was \$9.09 above the average for the semiskilled workers. The unskilled workers received \$22.22, or \$4.69 less than the average for the semiskilled group.

TABLE 11.—Average weekly earnings¹ of workers in paperboard industry, by region and skill, November–December 1939

Region	All workers	Skilled workers	Semi-skilled workers	Unskilled workers
United States.....	\$26.47	\$36.00	\$26.91	\$22.22
Northeastern region.....	27.54	35.60	27.58	23.52
Southern region.....	22.29	35.79	23.54	16.94
Midwestern region.....	27.60	35.93	28.02	24.02
Pacific region.....	30.55	39.17	30.39	26.46

¹ Including extra overtime earnings.

On a geographical basis, weekly earnings varied from \$22.29 in the southern region to \$30.55 in the Pacific region. An outstanding feature of the regional data is the low weekly average (\$16.94) for unskilled workers in the South, as contrasted with the relatively high average (\$35.79) for the skilled workers in the same area. This contrast can be shown in a more striking fashion by comparing the earnings of the skilled and unskilled workers in the southern and Pacific regions. Thus, the skilled workers averaged \$3.38 more in the Pacific than in the southern States. For the unskilled workers, however, the difference in favor of those in the Pacific region amounted to \$9.52. It will be observed that the difference between the weekly earnings of semiskilled and of skilled workers was also considerably greater in the southern than in the other regions.

According to the distribution shown in table 12, only 6.6 percent of the workers scheduled averaged less than \$15 a week. On the other hand, one-sixth (16.3 percent) of the workers received \$35 or more, and a small percentage averaged better than \$50 per week. The extent of the regional variations in weekly earnings is indicated by the areas of greatest concentration of earnings in each distribution. Thus, the largest percentage (29.7) of workers in the northeastern region received between \$20 and \$25. This interval also contained the largest group (25.8 percent) in the midwestern region. In the southern States, the major concentration (37.4 percent) occurred in the lower-wage class of \$15 to \$20, while for the Pacific area the modal group (35.4 percent) received from \$25 to \$30 per week.

TABLE 12.—Percentage distribution of workers in paperboard industry, by weekly earnings and region, November–December 1939

Weekly earnings ¹	United States	North-eastern region	Southern region	Mid-western region	Pacific region
Under \$5.....	0.6	0.3	1.2	0.5	0.7
\$5 and under \$10.....	1.2	0.7	2.5	.8	.4
\$10 and under \$15.....	4.8	2.1	13.8	1.9	1.6
\$15 and under \$20.....	18.8	13.3	37.4	14.2	1.3
\$20 and under \$25.....	24.2	29.7	17.5	25.8	12.7
\$25 and under \$30.....	20.3	22.0	9.4	23.4	35.4
\$30 and under \$35.....	13.8	14.9	6.8	15.4	26.6
\$35 and under \$40.....	7.9	7.6	4.7	9.7	10.9
\$40 and under \$45.....	4.1	4.4	3.3	4.0	5.6
\$45 and under \$50.....	1.8	1.9	1.2	2.0	2.9
\$50 and under \$55.....	1.2	1.1	.6	1.5	1.4
\$55 and under \$60.....	.5	.7	.6	.4	.3
\$60 and over.....	.8	1.3	1.0	.4	.2
Total.....	100.0	100.0	100.0	100.0	100.0

¹ Including extra overtime earnings.

Historical Comparisons

The only previous survey of the paperboard industry made by the Bureau of Labor Statistics covered selected pay-roll periods in the first 6 months of 1925.⁴ The survey included 70 representative establishments employing 9,985 wage earners. In view of the fact that the industry as defined for the earlier study coincides fairly closely with that covered in the present survey, a comparison of the results obtained in both surveys may reveal the general nature of the changes in the wage structure of the industry over the 14-year period 1925–39.

The hourly earnings of all workers scheduled in the 1925 survey averaged 51.7 cents. The average, including extra overtime earnings, in 1939 amounted to 62.2 cents, indicating a rise of 20 percent in the industry's hourly wage level over the 14-year period. In 1925 the employees worked an average of 51.6 hours per week, as compared with an average of 42.6 hours in 1939. This represented a decline of 17.4 percent in the length of the workweek.⁵ Average weekly earnings show a slight decline over the period, dropping from \$26.70 in 1925 to \$26.47 (including overtime pay) in 1939.

According to the United States Census of Manufactures, the output of paperboard in 1925 totaled 3,287,000 tons, as against a total production of 6,105,000 tons in 1939. In view of the rapid growth of the industry it is to be expected that substantial changes may have occurred in the manufacturing processes used. These shifts would be likely to cause changes in the relative importance of various occupational groups and in the nature of the employees' duties. Nevertheless, it is

⁴ Bureau of Labor Statistics Bull. No. 407: Labor cost of production and wages and hours of labor in the paper boxboard industry.

⁵ Bull. No. 407 does not present the averages of actual weekly hours and earnings for 1925. These figures have been computed from occupational averages of actual hours worked and earnings received in a 2-week period surveyed.

of interest to examine the data for the 2 years covering those occupations which have retained their general characteristics over the period. Table 13 presents figures for the leading occupational classes that appear to have had approximately the same functions in 1939 as in 1925. A significant fact revealed by the table is that the relative pay status of the occupations shown has not changed greatly during the 14 years. Thus, machine tenders received the highest hourly average in 1925 and in 1939, while beater foremen ranked second in this respect in both years. The third highest average both at the beginning and at the end of the period was received by the back tenders.

TABLE 13.—Average hourly earnings, weekly hours, and weekly earnings of selected occupations in the paperboard industry, 1925 and 1939

Occupation	Number of employees		Average hourly earnings		Average weekly hours		Average weekly earnings	
	1925	1939	1925	1939	1925	1939	1925	1939
Back tenders.....	307	626	\$0.582	\$0.733	51.8	44.1	\$30.16	\$32.33
Beater foremen ¹	227	323	.669	.807	53.8	43.0	35.99	34.69
Beatermen ²	69	464	.520	.627	57.4	44.4	29.85	27.85
Beater helpers.....	1,873	1,964	.462	.555	46.2	42.5	21.31	23.58
Brakemen.....	187	311	.438	.556	48.8	42.7	21.36	23.76
Cutters.....	38	279	.514	.587	51.2	41.7	26.31	24.45
Felt checkers.....	57	104	.435	.620	53.9	43.7	23.47	27.07
Machine tenders.....	300	818	.799	.914	54.5	43.8	43.51	39.99
Rewinders.....	28	86	.493	.601	58.8	42.7	28.97	25.70
Third hands.....	154	500	.519	.646	49.8	43.3	25.82	27.97

¹ Termed head beatermen in Bull. No. 407.

² Termed assistant head beatermen in Bull. No. 407.

Comparison of the average weekly hours worked in 1925 and in 1939 shows that the length of the workweek of the various occupational groups is much more uniform at the present time than it was in the earlier year. In 1925, the average workweek among the selected occupational groups ranged from 46.2 hours for beater helpers to 58.8 hours for rewinders, a difference of 12.6 hours. In 1939, however, the range was from 41.7 hours for cutters to 44.4 hours for beatermen, a variation of only 2.7 hours. This development is to be expected in view of the restrictions on hours imposed by the Fair Labor Standards Act and the extension of the limitation of hours through the process of collective bargaining.

