

UNITED STATES DEPARTMENT OF LABOR

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BUREAU OF LABOR STATISTICS

Isador Lubin, *Commissioner (on leave)*

A. F. Hinrichs, *Acting Commissioner*



Wages in the Basic Lumber Industry in the Far West, 1944



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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington, D. C., August 3, 1945.

The SECRETARY OF LABOR:

I have the honor to transmit herewith a report on wages in the basic industry in the Far West, 1944. This report was prepared in the Bureau's Wage Analysis Branch by Victor S. Baril assisted by Norbert J. Prager and John Standish. J. W. C. Harper and Leonard Linsenmayer, regional wage analysts in the Bureau's Seattle and San Francisco offices, directed the collection of the data on which the report is based.

A. F. HINRICHS, *Acting Commissioner.*

HON. LEWIS B. SCHWELLENBACH,
Secretary of Labor.

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Wages in the Basic Lumber Industry in the Far West, 1944¹

Summary

Workers in the basic lumber industry in the Far West earned an average of \$1.19 an hour in August 1944. Approximately three-fifths of the workers earned between 90 cents and \$1.20 an hour and nearly a fourth earned between 90 cents and \$1.00 an hour. Only a tenth of the workers received less than 90 cents an hour, while a sixth earned \$1.50 or more.

The highest wages (averaging \$1.45) were paid in shingle mills and the next highest (\$1.38) were paid in logging camps. Workers in sawmills and in plywood mills received much lower wages, their respective earnings per hour being \$1.05 and \$1.03.

Among the individual occupations, the highest earnings were received by saw filers in sawmills and shingle mills and by such incentive workers as fallers and buckers in logging camps, lumber pilers in sawmills, and shingle sawyers and packers in shingle mills. The next highest earnings were generally received by skilled maintenance and processing workers. Helpers on machines were among the lowest-paid workers in the industry.

The trend in wages in the basic lumber industry in the Far West has been sharply upward since 1939, straight-time hourly earnings increasing nearly 55 percent and gross hourly earnings increasing about 61 percent. Most of the increase took place after January 1, 1941. Straight-time earnings have risen about 41 percent since that date and gross earnings nearly 47 percent.

The largest absolute increase in earnings (55 cents) between 1939 and 1944 occurred in logging camps, the next largest (48 cents) in shingle mills, and the smallest (27 cents) occurred in plywood mills. The earnings of incentive workers increased much more than did those of time workers. Within branches of the industry, there was a marked degree of uniformity in absolute increases among occupations, regardless of level of skill, largely because most of the general increases granted since 1939 have been flat "across-the-board" increases.

Characteristics of Basic Lumber Industry in Far West

Forest lands constitute the most important natural resource of the Far West, and in normal times lumber production is the leading industry of the region. A substantial proportion of the population

¹ The full report on the Nation-wide study of wages in the basic lumber industry in 1944 will be published in a later issue of the Monthly Labor Review. The most recent previous Nation-wide survey of the lumber industry was made during the winter of 1939-40 (see Monthly Labor Review July 1941: Hourly Earnings in the Lumber and Timber Products Industry).

depends directly or indirectly on this industry for a livelihood. It is estimated that approximately 130,000 workers, or somewhat more than one-fourth of the total in the basic lumber industry, are employed in the Far West.

More than three-fifths of the remaining saw-timber stand in this country is in the Far West; Oregon alone accounts for a fourth, Washington for a sixth, and California for an eighth. Fully seven-eighths of this saw-timber stand is mature old growth and virtually all is composed of soft woods²; much of it however, is not commercially available at present.

Since 1927, the Far West has led all other regions in lumber production and in 1943 it accounted for 43 percent of the national output. Oregon alone produced 19 percent of all of the lumber in 1943, while Washington produced 13 percent, California 7 percent, and Idaho and Montana 4 percent.

Lumbering in the Far West is, on the whole, a seasonal operation. Although both logging and sawmilling follow roughly the same seasonal pattern, logging appears to be somewhat less stable than sawmilling. Because of climatic conditions which either impede or prohibit operations, production of logs is generally lowest during the winter months; it also falls off in the summer months when it is often necessary to close logging camps because of fire hazards. The available supply of logs and, particularly, market conditions determine the operation of sawmills. Many sawmills, however, are able to build up log reserves which enable them to operate for a somewhat longer season than do the logging camps. Sawmill production is lowest during the winter months when building activity is at a low level and when many logging operations are closed.

Because of dependence on the building and construction industry which, in normal times, consumes more than half of the lumber produced, the lumber industry has been profoundly affected by the wide fluctuations that have characterized the building and construction industry in the past. Equally serious has been the problem of overcapacity and overproduction. The availability of very great quantities of standing timber, the constant pressure to liquidate these holdings at the first opportunity, and excess sawmill capacity have been responsible for chronic overstocking of the market and intermittent unemployment.

LOCATION OF THE INDUSTRY

Douglas Fir region.—Although lumber is produced throughout the Far West, the industry has long been centralized in the Douglas Fir region, which includes those areas of Washington and Oregon situated west of the summit of the Cascade Range. Though smaller in area than most lumber-producing regions of the country, the Douglas Fir region is nevertheless more important than most of them, largely as a result of the density of its forest stand and the great size of its trees. About half of the saw-timber stand in the Far West is in this region, which alone produces more than a fourth of the national lumber output. Douglas fir is the principal species in this region, but many other species, such as spruce, hemlock, and cedar, are also found. Within the Douglas Fir region the industry has attained its greatest

² Forest Statistics—Area, Stand, Growth and Drain (U. S. Department of Agriculture, Forest Service).

development around Puget Sound, Grays and Willapa Harbors, and the Columbia River area. With the gradual exhaustion of the saw-timber stands adjacent to the tidewater in western Washington, the industry has shifted to Oregon and in particular to the Willamette Valley.

Western Pine region.—Next in importance is the Western Pine region which covers 11 Western States, with the exception of the Douglas Fir region in western Washington and western Oregon and the Redwood region along the northern coast of California. Most of the western pine lumber is produced, however, in the States of California, Idaho, Montana, Oregon, and Washington. For purposes of the present survey the Western Pine region is limited to these five States. Three principal species are found in this region. Of these, ponderosa pine is by far the most important and is widely distributed over the region. Sugar pine, one of the largest of the western pines, is next in importance and is largely confined to California and Oregon. The third important species is western white pine which is found in northern Idaho and adjacent territory in Montana and Washington.

Redwood region.—The Redwood region, by far the smallest of the three lumber-producing regions in the Far West, covers a narrow strip of land along the northern coast of California. Five counties are included, namely Del Norte, Humboldt, Mendocino, Sonoma, and Marin. This region has very large trees and a very dense timber stand. Output is dominated by a few large companies.

It should be borne in mind that although one species predominates in each region, such as fir in the Douglas Fir region and pine in the Western Pine region, these same species are also found to some extent in other regions. For example, fir accounts for a substantial percentage of the lumber output of the Redwood region.

ORGANIZATION OF PRODUCTION

Varying degrees of integration are found in the basic lumber industry in the Far West. The variations, however, are largely confined to logging camps and sawmills, as shingle mills and plywood mills are as a rule operated by firms or individuals not connected with lumber manufacture.

In certain sections, particularly in the Douglas Fir region, logging is carried on independently of lumber manufacture, by firms or individuals who either own timber stands or obtain timber from government-owned land. In some areas these operators sell their logs in open market and in others they dispose of them under contract to lumber manufacturers. Some of the sawmills that possess timber stands supply all of their own mill requirements; others are able to supply only part of their needs, obtaining the remainder through purchases in open market or under contract. Many sawmills own no timber, and must buy their logs on the market or on contract either with independent loggers or with integrated operators whose production exceeds their mill requirements.

Much of the logging is done by "gyppo" loggers, i. e., small independent operators who contract to log for a stipulated price per thousand board feet. In some instances only part of the logging operation (such as felling and bucking or hauling) is contracted out, and the owner or principal operator does the yarding, loading, and when not contracted out, the hauling.

Most sawmills in the Douglas Fir and the Redwood regions produce only lumber, which they sell in either rough or finished form. In certain districts of the Western Pine region, however, much of the lumber produced in the sawmill is manufactured into box shooks in box factories operated in conjunction with the mill.

Large sawmills dominate the lumber output in the Far West, whereas in other regions small sawmills account for the bulk of the lumber produced. Of the lumber produced in the Far West in 1943, fully four-fifths came from mills with an annual cut of 10,000,000 board feet or more, two-thirds came from mills with a cut of 25,000,000 or more board feet, and over one-third from mills with a cut of 50,000,000 or more board feet. In Washington, over half of the lumber was produced in mills cutting 50,000,000 or more board feet per year. In the East, on the other hand, less than 15 percent of the lumber produced in 1943 came from mills cutting 10,000,000 or more board feet, whereas more than half was produced in those cutting between 1,000,000 and 10,000,000 board feet and a third was produced in those cutting less than 1,000,000 board feet per year.³

PRODUCTION TECHNIQUES

Production methods in both logging and sawmilling in the Far West are quite different from those used in other lumber-producing regions of the country. These differences, which exert a profound influence on the occupational structure of these two segments of the industry as well as on the level of wages paid, are due very largely to the density of the timber stand, the large size of the trees, and the rugged topography of the area. In the manufacture of shingles and plywood, however, production techniques in the West are much the same on the whole as those used in other regions.

Aside from the felling and bucking operations which are still very largely performed with hand tools, logging in the Far West is highly mechanized. Large power skidders have long been used in the Douglas Fir region to move logs from the cutting area to the landing or loading point; the logs are transported by railroad from the loading point in the woods to their destination. The skidder method of yarding was well suited to this region because of the great density of the timber stand, the large size of the trees, the rugged terrain, and the prevalence of the practice of "clear-cutting." In recent years, however, the trend has been in the direction of more flexible equipment and, as a result, tractors are replacing power skidders, and transportation by truck is replacing that by railroad. In the Western Pine region, tractors are used almost exclusively in yarding operations, and trucks are generally used to move logs either to the mill or to the railroads. Mechanical loaders are generally used in the Far West, owing to the size of the logs. In operations using power skidders, the mechanical loader is generally a part of the skidder unit. Elsewhere, the power loader is a separate piece of equipment which may be either stationary or mobile.

Logging equipment varies widely as to type and size. Mechanical loaders, for example, vary from crude home-made apparatus powered by small gas engines to large steam- or Diesel-powered loaders. Wide differences are also found in yarding and hauling equipment.

³ Census of Forest Products, 1943 (U. S. Department of Commerce, Bureau of Census).

Lumber manufacturing is generally a somewhat more complex process in the Far West than in other regions. As had been pointed out earlier, medium-size and large sawmills account for a very high proportion of the lumber cut in this area. These mills, particularly the large plants, produce a wide variety of items ranging from molding and interior finish to large timbers for heavy construction. The small mills, on the other hand, manufacture few items and do not differ appreciably from the many thousands of small mills operating in other parts of the country.

Sawmills in the Far West may be classified into two broad groups on the basis of the type of head saw used to cut lumber. Large- and medium-size mills generally are equipped with band saws, whereas small mills have circular saws. The larger mills also have resawing equipment to reduce the cants or slabs cut on the head rig to smaller dimensions. The largest mills, for example, may have pony rigs, gang saws and a variety of resaws, whereas the medium-size mills are equipped as a rule only with band or circular resaws. Equally wide variations exist among mills in methods of handling materials both in the mill proper and in the yard.

Finishing facilities are found only in the larger mills. The essential equipment includes sizers, planers, matchers, resaws, and trim saws. Only the larger mills have dry kilns, as most mills air-dry their lumber. Small sawmills dispose of their lumber rough and often without even air-drying it.

Shingle manufacture is carried on in small mills and the process is simple as compared with lumber manufacture. It consists essentially of cutting logs or bolts into blocks, splitting the blocks into quarter sections, cutting the sections on special-purpose saws to produce shingles, packing and drying the shingles, and then loading the bundles onto cars or trucks for shipment.

The making of plywood is entirely different from that of lumber manufacture. The principal operations include the slicing of thin layers (veneer) from logs, the preparation of veneer sheets of the desired size and grade, the assembling of veneer sheets and glue-covered cores into alternate layers which are later pressed to form plywood of the desired thickness, and the preparation of plywood sheets (patching, cutting to size, and sanding) for shipment.

The Labor Force

Lumbering is essentially a man's job. On the whole the work is arduous and hazardous. In many occupations it is highly specialized and the skill requirements are very high. Throughout the war period, the industry has had great difficulty in replacing experienced workers who went into other war industries in the area or were inducted into the armed forces. Inexperienced recruits have been used to fill vacancies in the less-skilled occupations, while vacancies in the more highly skilled occupations have been filled either through upgrading or by combining occupations. For example, separate rigging crews in logging have nearly disappeared, the rigging now being done by the yarding crews; in many camps yarding crews are working short-handed. The employment of women to perform some of the lighter tasks in sawmills and plywood mills has helped to relieve the manpower situation to some extent and has released some men to perform the more arduous work.

LOGGING OCCUPATIONS

As was pointed out earlier, there are four basic operations in logging, namely, cutting, yarding, loading, and transportation. The cutting operation is performed by fallers and buckers who, working in pairs and generally with the aid of hand tools (axe, cross-cut saw, wedge, and hammer), cut down trees, remove limbs and cut the trees into logs of the desired length. Fallers and buckers are highly skilled workers. The work is both hard and dangerous. A third or more of the workers in logging camps are fallers and buckers.

The composition of yarding crews varies, depending on the method of yarding. If tractors are used, the crew generally consists of a tractor driver, a choker setter who secures the cable to one end of the log, and a hooker who attaches the open end of the cable to the tractor. A larger and more diversified crew is found in logging operations using power skidders (high-lead or skidder-slackline). Under normal conditions such a crew consists of the following: A hook tender who is in charge of the yarding and loading operations; an engineer who operates a yarding engine in accordance with signals received from the yarding crew; a head rigging slinger who is second in command in the yarding crew and who selects the logs to be taken out for each load; a second rigging slinger who acts as leadman in the choker-setter crew and who hooks chokers to and unhooks them from the butt-rig; a choker setter who sets the chokers around one end of the log; a chaser who unhooks chokers at the landing and signals to engineer to pull choker from log and return butt-rig to cutting area; and a whistlepunk who relays signals from the yarding crew to the yarding engineer.

The loading crew generally consists of an engineer who operates the loading engine, a head or top loader who selects the logs to make up a load and is responsible for the proper placement of logs on the car or truck, and a second loader who places and releases tongs on logs. Transportation crews vary depending on the type of transport employed. For example, if rail conveyance is used, standard crews (engineers, head brakeman or conductor, and second brakeman or brakeman) are found. Truck drivers constitute the transportation crew if trucks are used; they operate a wide variety of trucks, ranging from light gas-powered trucks to heavy diesel-powered trucks. At times they also help in the loading and unloading. In some areas, water transportation is used, drivers moving the logs downstream either to mills or to points where they are assembled into rafts and towed to their destination.

All logging camps have numerous auxiliary occupations. The larger camps employ bulldozer operators, jackhammer men, powdermen, and road monkeys in the construction or repair of roadways, and maintenance crews which include blacksmiths, saw filers, donkey doctors (skidder-engine repairmen), cat doctors (tractor repairmen), and machinists who maintain and repair logging equipment. Equally important are the cooks who prepare the meals, the bull cooks who perform general chores around the camp, and the flunkeys who assist in the camp kitchen.

MILL OCCUPATIONS

The occupational structure of a sawmill is even more varied than that of a logging camp and is determined largely by the size and the end product of the mill. Small sawmills are manned by a small crew

of men which includes a sawyer in charge of the operation, a carriage operator (when this work is not performed by the sawyer), an off-bearer who removes the slabs from the head rig, possibly a trimmer who cuts boards to length, and one or two lumber handlers who stack the lumber. The duties of most workers in small mills are not clearly defined, and as a result workers perform a number of different tasks about the mill as needed. Larger mills, however, are departmentalized, each department having its own job structure within which workers regularly perform definite tasks.

The most skilled worker in the head mill is the head sawyer who directs the operation of the head rig, estimates the grade and value of lumber in each log, and signals cutting instructions to the carriage crew. The head sawyer is assisted by a crew which generally consists of a setter and a dogger on the carriage, a deckman who lines the logs up on the deck and otherwise prepares them for cutting, and an off-bearer who removes the cants, flitches, or slabs from the head rig, and guides them onto transfer rolls. Among the other important occupations in the head mill are those of the gang sawyer who operates a large resaw known as a gang saw, the resawyer who operates band and circular resaws to reduce lumber to smaller dimensions, the edgerman who cuts boards to the desired width, the trimmer operator who trims boards to length on either a multiple or gang trimmer or on a single or double trim saw, and the green-lumber grader who judges lumber on the green chain and indicates grade and dimension by means of chalk or crayon. Many workers are also employed as line-up men and off-bearers on the various saws and as lumber pullers on the green chain.

Among the several occupations required in the seasoning or drying of lumber, perhaps the most important are lumber pilers (when lumber is air-dried in the yard) and lumber stackers and unstackers, transfer car operators, and kiln tenders (when lumber is dried in kilns). The piling and stacking of lumber is generally done by hand, although a number of the larger mills use special equipment. The principal and more-skilled occupations in the planing mill are those of sizer, planer and matcher operator, set-up man (when this work is not performed by the operator), resawyer, and finished-lumber grader. As in sawmills, a number of workers act as helpers on the various machines, either lining up or off-bearing, and a number are also engaged in pulling lumber from the chains and stacking it on skids or trucks or in bins. Within planing or finishing mills the occupational structure varies somewhat, depending on the products of the mill. Some mills are equipped only with a sizer or a planer to dress lumber, while others have matchers, molders, and a variety of resaws and trim saws.

The material-handling group of occupations varies considerably among mills owing to wide differences in mill practice. In small mills lumber is handled manually and is moved about the mill and yard by means of buggies; in the larger mills, it is handled by means of carriers, tractors and cranes. Conveyors and transfer rolls are used extensively in the more highly mechanized mills to move lumber from one operation to the other.

Sawmills require the services of a number of highly skilled workers to service and maintain mill equipment. One of the most important and highly skilled occupations in this group is that of saw filer; he checks, sharpens, and conditions mill saws. In large mills the filer is

assisted by a helper. Other workers who help to maintain the mill in good running order are blacksmiths, millwrights, electricians, machinists, and carpenters.

Perhaps the simplest occupational structure in the lumber industry is found in shingle mills. The two principal occupations from the standpoint both of skill requirements and number of workers employed are shingle sawyers and shingle packers. The shingle sawyer operates a special saw to cut shingles from quarter sections of cedar blocks and also sorts and trims shingles, while the shingle packer counts out the necessary number of shingles to form a bundle, packs them, and secures them with wood strips and metal bands. Other important occupations in the manufacture of shingles are those of cut-off sawyer who cuts bolts or logs into blocks and the knee bolter and splitter who splits blocks into quarter sections.

A plywood mill consists of two separate units, one engaged in the production of sheet veneer for use in the manufacture of plywood, and the other engaged in the actual manufacture of plywood. The following are the principal occupations in the veneer unit: Lathe operators, who are in charge of the rotary lathes and who are responsible for the production of the desired grade of veneer; lathe helpers, who "spot" the bolts on the lathe and handle the veneer at the back of the lathe, directing it onto the veneer rack; clipper operators, who cut the strips of veneer into sheets of desired size; drier crew (operator, feeder, and off-bearer) charged with the drying of the green veneer; and patchers and tapers, who prepare the sheets for use in the manufacture of plywood. The principal occupations in the plywood unit are those of the feeders and catchers on the glue spreader, who prepare and assemble the various layers of veneer to form plywood of the desired thickness; the press crew (pressmen and helpers), who apply pressure mechanically to the plywood to set it; the patchers, who repair surface defects in the plywood; the sawyers, who cut the sheets of plywood to size; and the graders, who grade the plywood sheets.

UNIONIZATION IN THE LUMBER INDUSTRY

Workers in the basic lumber industry in the Far West are extensively organized. The two principal unions in the field are the International Woodworkers of America, a C. I. O. affiliate, and the United Brotherhood of Carpenters and Joiners, an A. F. of L. affiliate. Under the United Brotherhood, there are chartered loggers, lumber and sawmill workers, plywood and veneer workers, lumber handlers, shingle weavers, etc.

At the time of the Bureau's survey, roughly one-half of the logging camps and sawmills, virtually all of the shingle mills, and all of the plywood mills had collective agreements with labor unions. Well over four-fifths of the workers were employed in unionized operations, indicating that a preponderance of the larger operations were in the unionized group. Most of the large logging camps and sawmills and half or more of the medium-size operations were organized, as compared with less than 5 percent of the small logging camps and sawmills. Of the workers employed in union operations, slightly more than half were members of the International Woodworkers of America (C. I. O.) and slightly less than half were members of the three unions affiliated with the United Brotherhood (Lumber and

Sawmill Workers Union, Lumber Handlers Union, and Washington-Oregon Shingle Weavers District Council.) Less than 1 percent of the workers were members of the Sawdust Makers Union, an independent union which had an agreement with one large mill in central Washington.

Union organization was more prevalent in the Douglas Fir region than in either the Western Pine or the Redwood region, the respective percentages of workers in operations with union agreements being 88, 77, and 77. Within the Western Pine region the proportion of workers in operations with union agreements varied from a little over 70 percent in the Snake River district to fully 80 percent in the central Oregon district.

The numerical strength of the respective unions varied with regions and, in the Western Pine region, with districts. The International Woodworkers of America appear to have enrolled approximately three-fifths of the union workers in the Douglas Fir region, while A. F. of L. unions appear to lead by the same margin in the Western Pine region as a whole. Within the latter region, however, the International Woodworkers of America appear to lead in the Inland Empire and central Oregon districts, while A. F. of L. unions lead in the other districts. At the time of the survey most of the union workers in the pine districts of California and all of those in the Redwood region were members of A. F. of L. unions.

The above statement on the extent of unionization in the basic lumber industry in the Far West reflects conditions at the time of the survey in August 1944. It is understood that more operations have been unionized since that time, particularly in the Redwood region, where an active organization campaign has been under way.

Scope and Method of Survey

This report is based on wage and related data for workers in four important branches of the basic lumber industry in the Far West—logging camps, sawmills, shingle mills, and plywood mills. No information was obtained for workers in the veneer and cooperage stock mills, as these two segments of the industry are comparatively unimportant in the Far West.

The wage and related data on which this report is based were obtained by trained representatives of the Bureau, who visited the operations and transcribed the data from pay rolls and other records. The earnings data for most operations relate to a representative pay-roll period in August 1944.

Information was obtained from 464 firms having 654 separate basic-lumber operations⁴ and employing a total of 61,782 workers. Approximately a fourth of all the logging camps and sawmills, half of the shingle mills, and virtually all of the plywood mills⁵ were visited by field representatives of the Bureau. In selecting the sample of firms and operations to be studied in those segments of the industry in which the sampling technique was used, consideration was given

⁴ The term "operation" relates to a single unit, such as a logging camp, a sawmill, a shingle mill, or a plywood mill. In the case of partially or completely integrated companies, each unit was counted separately. For example, a company which did both logging and sawmilling was included in both the logging-camp and sawmill counts.

⁵ The figures for plywood mills do not include two cooperatives in which virtually all workers own stock and receive a uniform rate of pay, regardless of work performed, and another mill which refused to participate in the study. The loss of the latter mill was offset, however, by weighting the data for a comparable plant in the same locality.

to all important factors—such as size and type of operation, corporate affiliation, geographical distribution, and unionization—which might have a bearing on wages. As the various operations in each of the segments of the industry studied were not sampled in the same proportion, it was necessary in combining the data to assign different weights to the various operations so that each type and size studied might be represented in proportion to its importance in the industry. The figures appearing in this report represent the results of the study after appropriate weighting. This weighting yields a total of 2,001 operations and 131,500 workers, which is believed to represent the approximate size of the four segments of the basic lumber industry in the Far West (table 1).

TABLE 1.—Operations Surveyed and Estimated Total Operations and Workers in Key Occupations Studied, by Region and Branch of Industry, August 1944

Region and type of operation	Number of operations		Estimated total number of workers represented ¹	Region and type of operation	Number of operations		Estimated total number of workers represented ¹
	Actually surveyed	Estimated total represented			Actually surveyed	Estimated total represented	
Far West.....	654	2,001	85,155	Western Pine region.....	291	862	33,553
Logging camps.....	320	998	34,890	Logging camps.....	150	437	12,737
Sawmills.....	286	904	44,705	Sawmills.....	139	423	20,743
Shingle mills.....	20	70	1,678	Plywood mills.....	2	2	73
Plywood mills.....	28	29	3,882				
Douglas Fir region.....	334	1,057	48,487	Redwood region.....	29	82	3,115
Logging camps.....	158	527	20,898	Logging camps.....	12	34	1,255
Sawmills.....	130	433	22,102	Sawmills.....	17	48	1,860
Shingle mills.....	20	70	1,678				
Plywood mills.....	26	27	3,809				

¹ These figures relate to the estimated total number of workers in the Far West employed in the selected key occupations studied. It is estimated that in all occupations there are approximately 131,500 workers, of whom 73,000 are in the Douglas Fir region, 50,500 in the Western Pine region, and 8,000 in the Redwood region.

Occupational wage data were obtained only for selected key occupations which are believed to be representative of the skill and earnings levels of the four segments studied. Approximately two-thirds of all the workers are employed in these key occupations.

In order to insure as full comparability as possible among operations, the Bureau's field representatives used uniform job descriptions in classifying workers in the selected occupations studied. The field representatives also made a very careful check of significant duties performed in each of the occupations, actually observing operations in many instances, and reporting any important variations. On the basis of this supplementary information on duties performed by workers, it was possible for the Bureau to overcome interplant variations to a considerable extent and to arrive at dependable occupational classifications as a basis for the wage information.

The wage data presented in this report are straight-time average hourly earnings, exclusive of premium overtime and shift-differential payments. These earnings reflect incentive earnings resulting from piece work and production bonuses, but do not reflect earnings from nonproduction bonuses.

Wage-Payment Practices

Workers in most occupations of the basic lumber industry are paid on a time-work basis. The few exceptions are fallers and buckers in logging camps, shingle sawyers and packers in shingle mills, and car loaders, lumber pilers, stackers and unstackers in sawmills, all or part of whom are paid on a piece-work basis. Production-bonus systems (as distinguished from simple piece rates) are seldom found in the lumber industry, and when found, consist generally of a flat amount paid to workers in certain occupations for production in excess of a specified quota.

Nonproduction bonuses are rarely found in the industry. One large firm which has both logging and sawmilling operations paid its workers a length-of-service bonus which amounted to 3 percent of their earnings after 1 year of service and 7 percent after 5 years of service. A second plant paid its truck drivers an additional 2½ percent after 6 months of service with the firm, 5 percent after 2 years, and 7½ percent after 3 years, the bonus being paid quarterly.

The most common work schedule in the basic lumber industry at the time of the survey was 8 hours per day and 48 hours per week; nearly three-fourths of the logging camps, two-thirds of the sawmills, and all but three of the plywood mills had such a schedule. Some logging camps and sawmills had an 8-hour day and a 40-hour week, while others had a 9-hour day and a 54-hour week. Shingle mills had only a 6-hour day and a 36-hour week.

Overtime in logging camps, sawmills, and plywood mills was generally paid for at the rate of time and a half after 40 hours per week. In addition, nearly half of the logging camps and more than a third of the sawmills also paid time and a half after 8 hours per day. Most shingle mills paid time and a half after 36 hours per week and many also paid that rate after 6 hours per day. Payment of overtime after 40 hours per week and 8 hours per day in shingle mills was confined very largely to a few mills operated in connection with sawmills.

The entrance rates of pay of common laborers in logging camps, sawmills, and plywood mills followed very closely the minimum rates of pay set by the West Coast Lumber Commission for unskilled workers in the various wage-stabilization districts in the Far West. These rates are 90 cents in the Douglas Fir region and 82.5 cents in the Redwood region. In the Western Pine region the rates range from 80.0 cents in the central Washington district to 87.5 cents in the Central Oregon and northern California districts. The rates set for the other three pine districts are 82.5 cents in the Inland Empire and Snake River districts and 85.0 cents in the central California district. Of the 49 shingle mills reporting entrance rates for common laborers, 33 paid 95 cents an hour and 16 paid 90 cents an hour. The remaining mills either did not employ common laborers or failed to report on the entrance rates paid to such workers.

Multiple-shift operations were found in about a sixth of the sawmills, in more than three-fifths of the shingle mills, and in all but two of the plywood mills. In logging camps it is not feasible to work more than one shift, as operations must be conducted during the daytime. Of the 128 sawmills operating more than one shift—virtually all of which were large mills—102 operated two shifts and 25 operated three shifts. Two-thirds of these mills paid shift differentials, varying from

2½ to 4 cents an hour for work on the second shift and from 3 to 7 cents an hour for work on the third shift. The most common shift differential in sawmills was 3 cents an hour, paid in 53 mills for work on the second shift and in 13 mills for work on the third shift. Certain other mills paid a differential of 3½ cents on both shifts. All plywood plants working more than one shift paid a shift differential which was 4 cents an hour in all but 2 of the 27 plywood plants working a second shift and 7 cents an hour in all 23 plants operating a third shift. Forty-four of the shingle mills operated a second shift, but only 4 paid a shift differential to shingle sawyers and packers; this amounted to 1 cent per square. Although no shingle mills operated a third shift at the time of the survey, a few indicated that they paid a differential of from 3 to 5 cents an hour when a third shift was worked.

Paid vacations were granted to workers by somewhat more than half of the logging camps and sawmills. Of the operations with paid-vacation plans, nearly two-thirds of the logging camps and nearly half of the sawmills granted 1 week of vacation with pay after 1,400 hours' work; a vast majority of these same operations also gave workers 4 days paid vacation after 1,120 hours' work and 3 days vacation after 840 hours' work. The next most common vacation plan provided for 1 week after a year's service; a fifth of the logging camps and more than a third of the sawmills with paid-vacation plans were in this group. At the time of the survey, paid vacations in logging camps and sawmills were much more common in the Douglas Fir region than in either the Western Pine or the Redwood regions.⁶

All 29 plywood plants granted 1 week of paid vacation after service periods ranging from 36 weeks in 1 plant to 1 year in 20 plants. In addition, 4 plants also granted 4 days of paid vacation after 1,120 hours of work and 3 days after 840 hours of work. All but 4 of the shingle mills gave a paid vacation of 1 week, but during the war period all workers elected to remain on the job and to accept, instead, a flat pay increase of 3 cents an hour.

Wage Structure of the Industry

Workers in the basic lumber industry in the Far West earned an average of \$1.19 an hour in August 1944 (table 2). This figure represents the average level of straight-time hourly earnings of 85,155 workers in 165 selected key occupations in logging camps, sawmills, shingle mills, and plywood mills. Despite the wide range in the earnings of individual workers, approximately three-fifths of all workers earned between 90 cents and \$1.20 an hour, and nearly a fourth earned between 90 cents and \$1 an hour. Only a tenth of the workers received less than 90 cents an hour, and less than 2 percent had earnings under 80 cents an hour. In contrast, a sixth of the workers earned \$1.50 or more an hour, and nearly 5 percent \$2.00 or more.

Widely different wage levels were found among the four branches of the industry studied. Workers in shingle mills had the highest straight-time average hourly earnings, \$1.45, and workers in logging camps had the next highest earnings, \$1.38, while workers in plywood mills received the lowest earnings, \$1.03. The average earnings of

⁶ Of the logging camps studied, 70 percent in the Douglas Fir region, as against 40 percent in the Western Pine region and 50 percent in the Redwood region, provided vacations with pay. Among the sawmills, the percent varied from 62 percent in the Douglas Fir region to 43 percent in the Western Pine region and to 44 percent in the Redwood region.

sawmill workers, \$1.05, were only 2 cents above those of plywood workers. Equally wide variations in earnings of individual workers are indicated by the distributions shown in table 2 for each branch. For example, less than a tenth of the workers in both shingle mills and logging camps had earnings under \$1 an hour, while somewhat over half of the workers in sawmills and plywood mills earned less than that amount. In contrast, well over a fourth of the workers in logging camps and not far from half of those in shingle mills earned \$1.50 or more an hour, whereas no workers in plywood mills and only 6 percent of the sawmill workers received earnings as high as these.

TABLE 2.—*Distribution of Workers in Basic Lumber Industry in Far West by Straight-Time Average Hourly Earnings and Branch of Industry, August 1944*

Average hourly earnings	Percentage distribution				
	All branches	Logging camps	Saw-mills	Shingle mills	Plywood mills
Under 80.0 cents.....	1.2	0.1	2.3	-----	(¹)
80.0 and under 82.5 cents.....	.8	2	1.3	-----	-----
82.5 and under 85.0 cents.....	2.4	.8	4.0	-----	-----
85.0 and under 87.5 cents.....	2.6	.6	4.6	-----	0.3
87.5 and under 90.0 cents.....	3.1	1.3	4.9	-----	4
90.0 and under 92.5 cents.....	8.2	2.5	11.8	-----	20.1
92.5 and under 95.0 cents.....	5.3	1.3	8.2	-----	11.2
95.0 and under 97.5 cents.....	6.4	.8	10.3	2.4	11.5
97.5 and under 100.0 cents.....	4.2	2.1	5.4	3.7	9.0
100.0 and under 102.5 cents.....	7.3	4.9	9.6	3.8	4.7
102.5 and under 105.0 cents.....	3.3	2.1	4.1	3.3	4.3
105.0 and under 107.5 cents.....	4.2	5.1	3.6	4.1	2.6
107.5 and under 110.0 cents.....	3.6	3.8	3.6	2.1	3.2
110.0 and under 112.5 cents.....	3.7	4.8	2.8	1.2	5.0
112.5 and under 115.0 cents.....	2.8	2.9	2.7	2.3	3.9
115.0 and under 117.5 cents.....	4.1	4.4	3.5	1.3	9.6
117.5 and under 120.0 cents.....	3.0	5.0	1.5	1.5	2.3
120.0 and under 122.5 cents.....	2.6	3.8	1.7	2.1	3.9
122.5 and under 125.0 cents.....	1.6	2.3	1.1	1.9	1.2
125.0 and under 127.5 cents.....	3.9	6.2	2.1	2.0	4.4
127.5 and under 130.0 cents.....	1.6	2.8	.7	2.0	1.5
130.0 and under 135.0 cents.....	2.6	4.1	1.5	3.9	.7
135.0 and under 140.0 cents.....	2.2	3.6	1.3	5.0	.1
140.0 and under 145.0 cents.....	1.9	3.0	.9	5.4	.1
145.0 and under 150.0 cents.....	1.6	2.6	.7	6.6	(¹)
150.0 and under 155.0 cents.....	2.7	5.0	1.1	5.4	-----
155.0 and under 160.0 cents.....	1.5	2.5	.6	7.4	-----
160.0 and under 165.0 cents.....	1.2	1.7	.8	4.6	-----
165.0 and under 170.0 cents.....	.9	1.3	.4	6.0	-----
170.0 and under 175.0 cents.....	.7	1.2	.3	2.6	-----
175.0 and under 180.0 cents.....	1.1	2.0	.4	4.1	-----
180.0 and under 185.0 cents.....	.7	1.3	.3	3.5	-----
185.0 and under 190.0 cents.....	.9	1.8	.1	3.1	-----
190.0 and under 195.0 cents.....	.6	1.3	.1	2.7	-----
195.0 and under 200.0 cents.....	.6	1.1	.1	1.8	-----
200.0 cents and over.....	4.9	9.7	1.6	4.2	-----
Total.....	100.0	100.0	100.0	100.0	100.0
Total number of workers.....	85,155	34,890	44,705	1,678	3,882
Average hourly earnings.....	\$1.19	\$1.38	\$1.05	\$1.45	\$1.03

¹Less than a tenth of 1 percent.

Significant differences in earnings as between regions and districts are found in the logging camps and sawmills of the Far West. In logging camps the earnings of workers in the Douglas Fir region were 11 cents higher than those of workers in the Redwood region and 20 cents higher than those of workers in the Western Pine region. More-

over, within the Western Pine region, earnings were somewhat higher on the whole in central Oregon and California than in the remainder of the region. Important geographic variations were found also in the earnings of sawmill workers.

OCCUPATIONAL AVERAGE HOURLY EARNINGS

The figures presented in tables 3-6 for selected key occupations in each of the four branches of the industry studied indicate that inter-branch variations in wage levels result very largely from basic differences in occupational structure and in skill requirements. Logging, for example, requires the services of highly specialized workers and for that reason the occupational structure of this branch of the industry is radically different from that of either sawmills, shingle mills, or plywood mills. This factor no doubt accounts to a considerable extent for the comparatively high level of earnings in most occupations in logging camps.

TABLE 3.—*Straight-Time Average Hourly Earnings of Workers in Logging Camps in Far West, by Occupation, Region, and District, August 1944*

Occupation	Total Far West	Douglas Fir region	Western Pine region						Redwood region	
			All districts	Inland Empire	Snake River	Central Washington	Central Oregon	Northwestern California		Central California
Total, selected occupations.....	\$1.38	\$1.45	\$1.26	\$1.17	\$1.24	\$1.14	\$1.36	\$1.32	\$1.21	\$1.34
Blacksmiths.....	1.21	1.28	1.10	1.09	1.10	.98	1.19	1.12	(1)	1.18
Brakemen, head.....	1.14	1.18	1.07	(1)	(1)	(1)	1.14	1.07	1.01	1.07
Brakemen, second.....	1.03	1.07	.98	(1)	(1)	(1)	1.03	1.01	.91	.95
Bull buckers.....	1.48	1.53	1.40	1.17	1.73	(1)	1.24	1.59	1.23	1.21
Bulldozer operators.....	1.36	1.44	1.29	1.24	1.31	1.16	1.34	1.33	1.29	1.29
Cat doctors.....	1.29	1.39	1.24	1.10	1.15	1.06	1.34	1.29	1.28	1.25
Cat drivers (tractor).....	1.30	1.40	1.24	1.14	1.10	1.31	1.27	1.29	1.28	1.22
Chasers, high-lead and skidder-side.....	1.12	1.12	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Choker setters, cat side.....	1.06	1.10	1.00	.91	.95	1.00	1.03	1.06	1.01	1.06
Donkey doctors.....	1.36	1.36	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Engineers—										
High-lead and skidder-slackline.....	1.34	1.34	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Mechanical loading.....	1.30	1.33	1.27	1.22	1.12	1.19	1.54	1.30	1.20	1.16
Rail transportation.....	1.20	1.23	1.17	(1)	(1)	(1)	1.24	1.17	1.11	1.11
Fallers and buckers, hand.....	1.70	1.78	1.58	1.43	1.58	1.30	1.87	1.72	1.35	1.29
Fallers and buckers, power.....	1.85	1.97	1.61	1.25	1.34	(1)	1.77	1.55	1.79	1.90
Fillers, woods.....	1.36	1.43	1.17	1.00	1.06	1.00	1.30	1.30	1.17	1.19
Firemen, rail transportation.....	.99	1.01	.96	(1)	(1)	(1)	.99	.98	.91	.92
Head loaders, mechanical loading.....	1.34	1.38	1.29	1.27	1.14	1.32	1.45	1.30	1.25	1.20
Head rigging slingers, high-lead and skidder-slackline.....	1.31	1.31	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Hook tenders, cat side.....	1.41	1.47	1.26	(1)	(1)	(1)	1.39	1.26	1.31	1.36
Hook tenders, high-lead and skidder-slackline.....	1.52	1.52	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Limbers and knotters.....	1.08	(1)	1.08	.94	(1)	.92	1.03	1.22	1.11	(1)
Motor patrol operators.....	1.18	1.21	1.16	1.07	1.13	.95	1.22	1.29	1.18	(1)
Powdermen.....	1.12	1.20	1.02	1.01	(1)	.93	1.03	1.04	1.04	1.08
Rigging slingers, cat side.....	1.12	1.24	1.02	.94	(1)	(1)	1.08	1.10	1.04	1.21
Scalers, woods.....	1.17	1.29	1.03	.93	.96	.96	1.18	1.09	1.04	1.09
Second loaders, mechanical loading.....	1.13	1.20	1.08	1.10	1.03	.99	1.12	1.09	1.03	1.07
Second rigging slingers, high-lead and skidder-slackline.....	1.18	1.18	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Section hands.....	.88	.90	.85	.83	.83	(1)	.88	.87	.83	.85
Tire and grease men.....	1.02	1.06	.97	.91	.99	(1)	1.01	1.02	.99	(1)
Truck drivers, hauling.....	1.12	1.18	1.07	1.00	.94	1.03	1.10	1.14	1.10	1.10
Truck mechanics.....	1.22	1.26	1.15	1.08	1.10	1.04	1.11	1.27	1.19	(1)
Whistlepunks, high-lead and skidder-slackline.....	1.07	1.07	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

¹ Number of workers and/or plants insufficient to justify presentation of an average.

² No information obtained for workers in this occupation, as the high-lead or skidder-slackline method of yarding is seldom found in this region.

The very wide range in occupational earnings in three of the four branches is due in part to high incentive earnings in some occupations, such as fallers and buckers in logging camps, and in part to the high earnings of some very skilled workers such as saw filers in sawmills and shingle mills. In three-fourths of the occupations, however, workers earned between \$1.05 and \$1.40 in logging camps and between 90 cents and \$1.25 in sawmills. The total range in earnings in plywood mills was from 90 cents for watchmen to \$1.27 for machinists.

Among the highest-paid workers in the basic lumber industry are head filers in sawmills and shingle mills, who are perhaps the most skilled workers in the industry, and shingle sawyers in shingle mills and fallers and buckers in logging camps who are incentive workers. Earnings in these occupations averaged \$1.70 or more an hour. Other workers who earned \$1.50 or more an hour were hook tenders on a skidder side in logging, filers' helpers in shingle mills, and second filers, head rig sawyers and yard pilers in sawmills. Pilers are very often paid on an incentive basis and this explains their high earnings.

The next highest wages are generally paid to skilled maintenance workers and to skilled workers in a number of processing occupations, most of which are in logging camps. In logging camps, earnings between \$1.20 and \$1.40 were received by all maintenance workers and by engineers operating yarding, loading, and railroad engines, by cat and bulldozer operators, and by head loaders and head rigging slingers. Maintenance workers in the other branches earned somewhat less, their earnings varying from \$1.10 to \$1.25 in sawmills and from \$1.15 to \$1.30 in plywood mills.

TABLE 4.—*Straight-Time Average Hourly Earnings of Workers in Sawmills in Far West, by Occupation, Region, and District, August 1944*

Occupation	Total Far West	Douglas Fir region	Western Pine region						Redwood region	
			Total all districts	Inland Empire	Snake River	Central Washington	Central Oregon	North-east California		Central California
Total, selected occupations.....	\$1.05	\$1.03	\$1.06	\$0.97	\$1.03	\$0.90	\$1.12	\$1.14	\$1.15	\$1.06
Sawmills, including planing mills:										
Blacksmiths.....	1.15	1.21	1.11	1.13	1.05	1.05	1.16	1.15	1.05	1.11
Car loaders.....	1.15	1.06	1.26	1.13	1.08	.85	1.42	1.53	1.16	1.40
Carpenters.....	1.12	1.16	1.11	1.02	(1)	(1)	1.09	1.16	1.23	1.05
Carrier drivers.....	1.04	1.05	1.01	.94	1.00	.95	1.01	1.05	1.03	.99
Clean-up men.....	.88	.90	.86	.83	.82	.81	.88	.88	.87	.85
Cut-off-saw operators.....	.96	.98	.91	.90	.84	.84	.93	.99	.94	.99
Deckmen.....	.96	.98	.94	.91	.89	.88	.98	.96	1.01	.92
Doggers, head rig.....	.96	.97	.96	.96	.92	.88	1.03	.93	.95	.98
Dragsaw men.....	.98	.99	.96	.91	.86	(1)	1.03	1.00	.92	1.07
Edgermen.....	1.14	1.16	1.11	1.03	1.03	1.05	1.16	1.15	1.16	1.26
Edger-off-bearers.....	.91	.93	.89	.84	.85	.86	.93	.91	.87	.90
Electricians.....	1.20	1.21	1.20	1.24	(1)	(1)	1.20	1.22	1.12	1.12
Filers, bench.....	1.34	1.37	1.31	1.25	1.23	1.20	1.40	(1)	(1)	1.23
Filers, head.....	1.88	1.80	1.98	1.87	1.82	1.63	2.49	1.92	1.90	1.68
Filers' helpers, floor.....	1.10	1.12	1.07	.99	1.04	(1)	1.13	1.14	1.05	1.01
Filers, second.....	1.56	1.46	1.64	1.58	1.69	1.55	1.77	1.59	1.56	1.42
Firemen.....	.96	.99	.94	.90	.91	.86	.97	.96	.97	.97
Gang-saw off-bearers.....	.97	.97	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Gang-saw spotters.....	.94	.94	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Gang sawyers.....	1.13	1.13	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Garage mechanics.....	1.14	1.15	1.13	1.00	1.01	.99	1.18	1.26	1.15	1.25
Graders, finish chain.....	1.10	1.07	1.15	1.03	1.12	1.03	1.28	1.30	(1)	.99
Graders or markers, green chain.....	1.09	1.07	1.11	.95	.99	.94	1.23	1.18	1.19	1.10
Graders, rough dry chain.....	1.14	1.06	1.16	1.00	1.03	(1)	1.34	1.27	1.19	(1)

See footnotes at end of table.

TABLE 4.—*Straight-Time Average Hourly Earnings of Workers in Sawmills in Far West, by Occupation, Region, and District, August 1944—Continued*

Occupation	Total Far West	Douglas Fir region	Western Pine region						Redwood region	
			Total all districts	Inland Empire	Snake River	Central Washington	Central Oregon	North-east California		Central California
Sawmills, including planing mills—Continued.										
Hog feeders.....	\$0.91	\$0.95	\$0.86	\$0.84	\$0.81	\$0.80	\$0.92	\$0.89	\$0.86	\$0.88
Kiln tenders.....	1.06	1.06	1.05	(1)	(1)	(1)	1.08	1.07	(1)	1.11
Knife grinders.....	1.17	1.17	1.19	1.09	(1)	(1)	1.26	1.25	1.30	1.11
Machinists.....	1.21	1.25	1.19	1.09	(1)	(1)	1.21	1.25	1.23	1.18
Matcher feeders.....	.97	1.01	.91	.89	.91	(1)	.96	.91	(1)	1.02
Matcher off-bearers.....	.90	.94	.86	.84	.87	-----	.91	(1)	(1)	.88
Millwrights' helpers.....	1.02	1.04	.95	.92	.94	.89	.95	1.01	1.01	.99
Off-bearers, head rig.....	.95	.96	.92	.90	.88	.89	.96	.94	.94	1.02
Oilers.....	.96	1.00	.92	.90	.89	.89	.96	.95	.94	1.01
Operating engineers.....	1.08	1.13	1.05	1.00	.97	1.04	1.10	1.11	1.00	1.11
Operating millwrights.....	1.19	1.20	1.15	1.11	1.01	.99	1.19	1.19	1.20	1.33
Pilers, yard.....	1.57	.97	1.78	1.19	1.87	1.15	2.16	1.98	2.08	1.12
Pipefitters.....	1.18	1.14	1.23	1.16	(1)	-----	1.22	1.27	(1)	1.06
Pondmen.....	.99	1.02	.95	.89	.89	.87	.97	1.05	.95	.94
Pullers, dry chain.....	1.02	.93	1.07	1.04	.95	-----	.99	1.24	.95	(1)
Pullers, green chain.....	1.02	.97	1.12	.89	.91	.96	1.18	1.25	1.52	.90
Resaw off-bearers, planing mill.....	.90	.92	.87	.83	.89	-----	(1)	.89	(1)	.92
Resawyers, head mill.....	1.09	1.10	1.05	(1)	.93	(1)	1.04	1.13	1.09	1.01
Resawyers, planing mill.....	.99	.98	1.01	.89	1.10	-----	1.01	1.05	(1)	(1)
Sawyers, head rig.....	1.50	1.54	1.47	1.38	1.42	1.38	1.66	1.53	1.52	1.46
Setters, head rig.....	1.09	1.07	1.11	1.04	1.06	1.03	1.17	1.18	1.12	1.11
Set-up men, planing mill.....	1.16	1.18	1.14	1.09	1.10	(1)	1.20	1.23	(1)	(1)
Sizer feeders.....	.96	.99	.93	(1)	(1)	(1)	.94	.93	(1)	(1)
Sizer off-bearers.....	.92	.94	.87	(1)	(1)	(1)	-----	.89	.89	(2)
Sizer operators.....	1.13	1.10	1.17	-----	-----	(1)	1.18	1.31	1.19	(1)
Slipmen.....	.94	.97	.90	.88	.83	.84	.94	.93	.93	.91
Sorters, planed lumber.....	.91	.93	.87	.83	.91	.80	.91	(1)	(1)	(2)
Stacker-carrier operators.....	1.03	1.07	.97	.91	.91	(1)	1.01	1.02	1.02	1.25
Stackers, dry kiln.....	1.23	1.05	1.38	1.13	1.25	(1)	1.55	1.65	(1)	1.26
Straighteners, green chain.....	.93	.93	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Tallymen.....	1.05	1.06	1.03	.94	.99	(1)	1.11	1.10	.96	1.06
Timber handlers.....	.93	.93	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Transfer-car operators, dry kiln.....	.95	.97	.94	.85	.87	(1)	.98	1.00	(1)	(2)
Trimmermen, head mill.....	1.02	1.05	.98	.95	.92	.91	1.04	1.00	.99	1.12
Trimmermen, planing mill.....	.96	.98	.92	.88	.94	.86	.95	.91	(1)	.89
Trimmer spotters.....	.96	.97	.94	.88	.84	(1)	.98	.98	.91	.88
Truck drivers, yard.....	1.00	1.04	.98	.94	.94	.87	.99	1.00	1.06	(1)
Unstackers, dry kiln.....	1.11	.98	1.19	.88	.92	(1)	1.36	1.29	(1)	(1)
Utility men.....	.88	.90	.85	.82	.84	.81	.87	.88	.85	.90
Watchmen.....	.84	.87	.81	.77	.78	.69	.87	.84	.82	.82
Box factories:										
Car loaders.....	.88	(2)	.88	.80	(1)	.78	.89	.96	.94	(2)
Cut-off-saw off-bearers.....	.81	(2)	.81	.80	(1)	.72	.85	.85	.83	(1)
Cut-off-saw operators.....	1.05	(2)	1.05	.93	(1)	.93	1.11	1.14	1.11	(2)
Machine hikeaways.....	.81	(2)	.81	(1)	-----	-----	.74	.86	.86	(2)
Nailing, stapling, and stitching machine operators.....	.88	(2)	.88	.84	(1)	.80	.92	.94	.91	(2)
Planer feeders.....	.91	(2)	.91	.84	(1)	.83	.97	.94	(2)	(2)
Planermen.....	1.15	(2)	1.15	(1)	-----	(1)	1.20	1.19	(1)	(2)
Resawyers.....	.96	(2)	.96	.90	(1)	.84	1.02	1.04	.99	(2)
Resaw off-bearers.....	.81	(2)	.81	.74	(1)	.74	.86	.87	.84	(2)
Tieing-machine operators.....	.87	(2)	.87	.83	(1)	.79	1.04	1.00	.91	(2)

¹ Number of workers and/or plants insufficient to justify presentation of an average.

² No information obtained for workers in this occupation, which is seldom found in this region.

Most of the machine operators in sawmills and plywood mills and a number of moderately skilled workers in logging had earnings within the 20-cent interval from \$1 to \$1.20. Also included in this group were workers in a number of other occupations such as lumber graders and green and dry chain pullers in sawmills, veneer driers and patchers in plywood mills, choker setters, chasers and truck drivers in logging camps, and deckmen in shingle mills.

Earnings under \$1 an hour were very largely confined to sawmills and plywood mills and were paid to workers in about half of the occupations. In both branches this group of occupations includes

helpers on a wide variety of machines. Also included are such workers as car loaders, hand and power truckers, and veneer graders, matchers, tapers and repairers in plywood mills, and deckmen, firemen, hog feeders, pondmen, slipmen, and some of the lighter machine operations in planing mills and box factories.

TABLE 5.—*Straight-Time Average Hourly Earnings of Workers in Shingle Mills in Douglas Fir Region, by Occupation, August 1944*

Occupation	Number of workers	Average hourly earnings
All selected occupations	1, 678	\$1. 45
Block pilers	151	1. 07
Cut-off-saw operators.....	105	1. 35
Deckmen	54	1. 17
Filers, head	42	2. 00
Filers' helpers.....	22	1. 50
Knee bolters.....	68	1. 48
Loaders, car and truck.....	56	1. 02
Millwrights.....	11	1. 14
Shingle packers.....	485	1. 45
Shingle sawyers.....	548	1. 71
Splitter-men.....	19	1. 11
Tallymen.....	66	1. 08
Watchmen.....	51	. 98

In all selected key occupations in logging camps and in more than half of the occupations in sawmills, earnings were higher in the Douglas Fir region than in either the Western Pine or the Redwood region. In most of the occupations for which comparative figures are shown, the differential in hourly earnings in favor of Douglas Fir workers was between 10 and 20 cents in logging camps and between 5 and 10 cents in sawmills. The differences in occupational earnings between the Western Pine and the Redwood regions were neither consistent nor large. In about half of the occupations earnings were higher in the Western Pine region and in the remainder they either were the same in both regions or were higher in the Redwood region.

TABLE 6.—*Straight-Time Average Hourly Earnings of Workers in Plywood Mills in Far West, by Occupation, August 1944*

Occupation	Number of workers	Average hourly earnings	Occupation	Number of workers	Average hourly earnings
All selected occupations	3, 882	\$1. 03	Pipefitters.....	20	\$1. 20
Barkers	72	1. 11	Plug cutters.....	74	. 95
Blacksmiths.....	7	1. 21	Plywood stock craters.....	27	. 96
Car loaders.....	133	. 95	Pondmen.....	86	1. 09
Carpenters.....	40	1. 17	Pressmen.....	150	1. 10
Clean-up men.....	95	. 90	Pressmen's helpers.....	90	. 95
Clipper-machine operators, auto- matic.....	56	1. 13	Rip-saw operators.....	51	1. 11
Clipper-machine operators, hand.....	54	1. 11	Truckers, hand.....	27	. 97
Crane followers.....	16	. 98	Truckers, power.....	40	. 95
Cranemen.....	67	1. 02	Veneer driers.....	69	1. 05
Cut-off-saw operators.....	58	1. 11	Veneer drier feeders.....	352	. 92
Electricians.....	39	1. 21	Veneer drier-off-bearers.....	277	. 91
Electricians' helpers.....	8	1. 07	Veneer graders.....	179	. 99
Glue-spreader catchers.....	207	1. 20	Veneer jointmen.....	77	. 96
Glue-spreader feeders.....	124	1. 10	Veneer lathe apron men.....	57	. 96
Glue-spreader helpers.....	49	. 95	Veneer lathe operators.....	72	1. 25
Inspectors.....	70	. 96	Veneer lathe spotters.....	70	1. 02
Machinists.....	32	1. 27	Veneer matchers.....	15	. 99
Millwrights.....	102	1. 21	Veneer repairers, automatic plug- gers.....	33	. 94
Millwright's helpers.....	21	1. 03	Veneer repairers, hand plunger.....	241	. 91
Off-bearers, saws.....	77	. 91	Veneer repairers, machine cutters.....	124	. 95
Oilers.....	17	1. 00	Veneer tapers, machine.....	61	. 99
Patchers, plywood and/or panels.....	285	1. 16	Watchmen.....	61	. 90

Within the Western Pine region occupational earnings were generally higher in the central Oregon and the northern and central California districts than in the Inland Empire, Snake River, and central Washington districts.

INFLUENCE OF INCENTIVE EARNINGS ON WAGE STRUCTURE OF INDUSTRY

Although only slightly more than a sixth of the workers in the basic lumber industry are incentive workers, the high earnings of these workers exert considerable influence on the wage structure of the industry. As a group, incentive workers averaged \$1.87 an hour in logging camps or 68 cents more than time workers (table 8). In sawmills and shingle mills the average hourly earnings of incentive workers exceeded those of time workers by 59 and 36 cents, respectively. These differences are borne out by the figures shown in table 7, which indicate that 69 percent of the incentive workers earned \$1.50 or more an hour and only 3 percent earned less than \$1, whereas only 5 percent of the time workers received as much as \$1.50 an hour and as high as 40 percent received less than \$1.

TABLE 7.—Percentage Distribution of Workers in Basic Lumber Industry in Far West, by Hourly Earnings and Method of Wage Payment

Branch of industry	Percent of workers with average hourly earnings of—					
	Under \$1		\$1 and under \$1.50		\$1.50 and over	
	Time workers	Incentive workers	Time workers	Incentive workers	Time workers	Incentive workers
All branches.....	40	3	55	28	5	69
Logging camps.....	12	2	77	21	11	77
Sawmills.....	56	4	41	48	3	48
Shingle mills.....	16	-----	65	38	19	62
Plywood mills.....	53	-----	47	-----	-----	-----

The very uneven distribution of incentive workers among the four branches of the industry studied accounts for some of the differences in wage levels between these branches. There are no incentive workers in plywood mills, and only 6.7 percent of the workers in sawmills are paid on an incentive basis. These two branches, it will be recalled, had respectively the lowest and next lowest general level of wages in the industry. In contrast, in shingle mills where the highest wages were found and in logging camps, next in order, 62 and 28 percent of the workers, respectively, were incentive workers.

To a considerable extent the interregional and interdistrict differences in earnings indicated in tables 3 and 4 for both logging camps and sawmills are also the result of variations in the proportion of incentive workers and in the level of the earnings of these workers. This is true of much of the 8-cent advantage in earnings which logging workers in the Redwood region enjoyed over similar workers in the Western Pine region, as the earnings of time workers in both regions were only 2 cents apart.

TABLE 8.—Straight-Time Average Hourly Earnings in Logging Camps, Sawmills, and Shingle Mills, by Region, District, and Method of Wage Payment, August 1944

Region and district	Logging camps		Sawmills		Shingle mills	
	Time workers	Incentive workers	Time workers	Incentive workers	Time workers	Incentive workers
Total, Far West	\$1.19	\$1.87	\$1.01	\$1.60	\$1.23	\$1.59
Douglas Fir region.....	1.25	1.96	1.02	1.42	1.23	1.59
Western Pine region.....	1.10	1.70	.99	1.69	-----	-----
Inland Empire district.....	1.01	1.53	.94	1.27	-----	-----
Snake River district.....	1.05	1.67	.96	1.83	-----	-----
Central Washington district.....	1.03	1.36	.89	1.40	-----	-----
Central Oregon district.....	1.16	1.87	1.03	1.76	-----	-----
Northern California district.....	1.17	1.88	1.04	1.73	-----	-----
Central California district.....	1.11	1.73	1.04	1.95	-----	-----
Redwood region.....	1.12	1.79	1.02	1.25	-----	-----

COMPARISON OF EARNINGS IN UNION AND NONUNION OPERATIONS

Wages in union operations as a whole were higher than those in non-union, but the difference was very slight. Since the Bureau's 1939-40 study revealed somewhat greater differentials in favor of the union operations, it is apparent that the extraordinary conditions of wartime have operated to the advantage of the lower-paid nonunion workers. In the present study the comparison of earnings between union and nonunion operations is necessarily limited to logging camps and sawmills, as all plywood mills and virtually all shingle mills have collective-bargaining agreements with organized labor.

As may be seen from the figures shown in table 9, earnings in basic lumber operations in the Far West were only slightly higher on the average in union than in nonunion operations, the respective averages being \$1.19 and \$1.18. Union workers earned more than nonunion workers in logging camps (\$1.39 compared to \$1.35), but less in sawmills (\$1.04 to \$1.05). Earnings of union workers were slightly higher than those of nonunion workers in the Douglas Fir region, but slightly lower in the other two regions.

TABLE 9.—Straight-Time Average Hourly Earnings of Workers in Basic Lumber Industry in Far West, by Region, District, and Unionization, August 1944

Region and district	Total all branches		Logging camps		Sawmills		Shingle mills	Plywood mills
	Union	Non-union	Union	Non-union	Union	Non-union	Union ¹	Union
Total, Far West	\$1.19	\$1.18	\$1.39	\$1.35	\$1.04	\$1.05	\$1.45	\$1.03
Douglas Fir region.....	1.23	1.22	1.46	1.43	1.03	1.05	1.45	1.03
Western Pine region.....	1.13	1.15	1.25	1.28	1.07	1.05	-----	-----
Inland Empire district.....	1.05	1.04	1.20	1.11	.96	.98	-----	-----
Snake River district.....	1.13	1.04	1.28	1.15	1.05	.97	-----	-----
Central Washington district.....	.94	1.03	1.12	1.31	.88	.96	-----	-----
Central Oregon district.....	1.18	1.30	1.33	1.50	1.10	1.19	-----	-----
Northern California district.....	1.19	1.25	1.28	1.37	1.15	1.10	-----	-----
Central California district.....	1.18	1.17	1.19	1.32	1.18	1.03	-----	-----
Redwood region.....	1.17	1.20	1.34	1.34	1.03	1.12	-----	-----

¹ Includes earnings of 20 workers in small nonunion mills.

Any discussion of union-nonunion wage differences in the western lumber industry should mention a number of special factors that have tended to reduce or obscure their magnitude. One consideration is the extent and recency of union organization. In the Douglas Fir region union organization is somewhat more extensive and operations have been organized for a longer period of time than in either the Western Pine or the Redwood regions. Other factors which may affect earnings and tend to obscure somewhat the actual influence of unionization on wages are size of operation and type of equipment. Unionization, it will be recalled, has been confined chiefly to the larger operations, whereas the smaller operations have generally been unorganized. It should also be borne in mind that, under the wage-stabilization program, trade-unions have had comparatively limited opportunities to seek wage advances for their members. Furthermore, such general increases as were granted by the War Labor Board to workers in union plants which were parties to dispute cases before the Board were also authorized for all workers in basic lumber operations in the region.

VARIATIONS IN EARNINGS, BY SIZE OF OPERATION

There appears to be no consistent relationship between size of operation and level of wages in the industry. An examination of the data reveals that wages were slightly higher in general in the larger camps than in the smaller camps. In some occupations in sawmills, earnings tended to vary with the size of the mill, but the amount of the difference varied considerably with regions.

Trend in Wage Rates During the War Period

The wage rates of 1944 represent a considerably higher level of wages than prevailed before the outbreak of the war. With the inauguration of the defense program and a sharp increase in demand for all types of lumber and timber products, labor unions in the Douglas Fir region demanded and obtained a series of wage increases. The minimum rate of pay, which had been 42½ cents under the NRA, increased to 50 cents as a result of the strike settlement of 1935; it stood at 62½ cents at the start of the war and rose to 75 cents early in 1941 as a result of a 5-cent increase in 1940 and a 7½-cent increase in 1941. An increase of 7½ cents was granted by the National War Labor Board early in 1942 in connection with dispute cases involving both unions. The latest general increase in wages in the Douglas Fir region (7½ cents) was granted in December 1942 and made retroactive to September of that year by the West Coast Lumber Commission of the National War Labor Board. This raised the minimum rate for the industry in the Douglas Fir region to 90 cents an hour. Wages in this region were further stabilized in 1942 when the War Labor Board approved the report of a special panel which recommended that wages in the Willamette Valley of Oregon be raised to the level of those of the region as a whole.

A special tabulation of data reported monthly to the Bureau's Division of Employment Statistics by a large number of logging and sawmill operations reveals that between January 1939 and October 1944 straight-time average hourly earnings of lumber workers in the

Douglas Fir region have risen by about 53 percent, while gross hourly earnings have advanced by nearly 59 percent (see table 10).⁷ Most of the increase in earnings, however, took place after January 1941, straight-time earnings since that time rising by approximately 40 percent, and gross earnings advancing by about 45 percent.

TABLE 10.—*Weekly Hours and Hourly Earnings in Basic Lumber Industry, Douglas Fir and Western Pine Regions, in Far West, 1939-44*

Year and month	Douglas Fir region			Western Pine region		
	Weekly hours	Hourly earnings ¹		Weekly hours	Hourly earnings ¹	
		Unad-justed ²	Ad-justed ³		Unad-justed ²	Ad-justed ³
1939—January	35.1	\$0.75	\$0.75	35.5	\$0.72	\$0.72
April	34.5	.76	.76	36.2	.71	.70
July	32.9	.75	.75	34.9	.72	.72
October	37.2	.76	.74	39.6	.73	.72
1940—January	34.6	.76	.76	33.1	.75	.75
April	36.0	.77	.76	36.7	.73	.72
July	33.4	.76	.75	35.4	.74	.74
October	36.7	.78	.77	38.5	.75	.74
1941—January	36.0	.82	.82	35.5	.79	.79
April	37.9	.83	.82	36.5	.79	.78
July	35.6	.88	.88	36.6	.84	.83
October	38.2	.91	.89	38.8	.86	.85
1942—January	34.6	.91	.91	35.3	.87	.87
April	37.7	.94	.92	37.1	.89	.88
July	38.0	1.01	1.00	38.2	.98	.96
October	41.3	1.06	1.02	41.7	1.02	.99
1943—January	33.9	1.12	1.12	36.0	1.00	.99
April	40.8	1.15	1.12	40.6	1.06	1.02
July	39.9	1.18	1.14	40.5	1.13	1.09
October	41.9	1.18	1.14	41.9	1.15	1.10
1944—January	39.6	1.18	1.15	39.5	1.11	1.08
April	41.9	1.19	1.14	40.7	1.15	1.11
July	37.9	1.20	1.19	39.6	1.18	1.15
October	41.7	1.19	1.15	43.3	1.18	1.12

¹ Figures for any one month have not been adjusted to include any retroactive wage increases.

² Gross earnings including both premium overtime and shift-differential earnings.

³ Net earnings excluding premium overtime but including shift-differential earnings.

Although the general increases in wages obtained by the unions through collective bargaining or awarded or authorized by Government agencies prior to 1943 pertained only to the Douglas Fir region, it appears that much the same general pattern of increase took place in the Western Pine region. For example, workers in the Western Pine region appear to have received in 1942 increases equivalent to the 7½-cent increase granted by the Commission early in 1942 to the Douglas Fir workers. The most important recent wage increase in the Western Pine region was granted by the West Coast Lumber Commission during the spring of 1943. Workers in the pine operations which were parties to the dispute cases before the Commission were granted a 7½-cent increase, which was retroactive in full to September 1942 and in part to the spring of 1942. Other pine operations not

⁷ The figures for each month are based on wages received for work performed during a pay-roll period nearest to the 15th of that month. No adjustments have been made in the figures to take into account retroactive wage increases, as information is not available regarding the amount of the retroactive payments. The figures for October 1942 and for January and April 1943 for the Western Pine region would undoubtedly be a few cents higher if the increase which was retroactive from May 1943 to September 1942 was included. Similarly the figure for October 1942 in the Douglas Fir region would be a few cents higher if it included the increase which was retroactive from December to September of that year.

parties to the dispute cases were permitted by the Commission to grant a similar increase but, although most of them availed themselves of the opportunity, many did not make the increases retroactive. The Commission, with labor members dissenting, did not establish a single minimum rate for the Western Pine region as a whole, as had been done in the case of the Douglas Fir region, but established instead six labor-market areas and set minimum rates for these areas ranging from 80 cents for central Washington to 87½ cents for central Oregon and northern California. The Commission later recommended a minimum rate of 85 cents for the Redwood region, but this was reduced to 82½ cents by the Director of Economic Stabilization.

The increase in earnings after January 1939 was somewhat greater in the Western Pine region than in the Douglas Fir region. During this period straight-time earnings rose nearly 56 percent and gross earnings rose approximately 64 percent (see table 10). As in the Douglas Fir region, most of the increase in earnings occurred after January 1941. Since that time straight-time hourly earnings have risen by 42 percent and gross earnings by 49 percent.

Although no figures are presented in table 10 for the Redwood region, it is believed that the pattern of change in earnings in that region since 1939 follows that in the other two regions in the Far West.

CHANGES IN OCCUPATIONAL EARNINGS, 1939-44

The comparative figures⁸ presented in table 11 for 46 selected basic lumber occupations, show that the wage increases which have occurred since the fall of 1939 have varied considerably among branches of the industry. The greatest absolute increases during this period, 55 and 48 cents, respectively, took place in logging camps and shingle mills; the smallest increase, 27 cents, occurred in plywood mills.

Workers customarily paid on an incentive basis received much greater increases in earnings than did time workers. The earnings of hand fallers and buckers in logging camps, for example, increased by 83 cents on the average, while those of yard pilers in sawmills rose 76 cents and those of shingle sawyers and packers in shingle mills advanced 54 and 53 cents, respectively. The increases in earnings of time workers were on the whole much more moderate, and were markedly uniform within branches. For most of the selected occupations the wage increase was between 25 and 30 cents in plywood mills and between 30 and 40 cents in logging camps and sawmills. In shingle mills 4 of the 8 selected occupations showed increases in earnings ranging from 25 to 35 cents an hour. The marked uniformity in the absolute increases within departments is due very largely to the fact that most wage increases since 1939 have been flat "across-the-board" increases.

Only in few instances did skilled time workers receive appreciably greater absolute increases in earnings than other workers. In sawmills, for example, filers received a much greater increase in earnings than other time workers (49 cents compared to 35 cents or less for most of the other occupations), but head rig sawyers, also one of the most skilled occupations, had the smallest increase in earnings of any of the

⁸ These figures are based on detailed occupational wage data collected by the Bureau during the course of Nation-wide surveys of the lumber industry, conducted in 1939 and 1944. The two surveys did not cover the same operations in all cases, but both are believed to be representative of the industry as of the time of the study.

occupations (32 cents). In logging camps loading engineers, head loaders, hook tenders and cat drivers received only slightly higher absolute increases in earnings than chasers, second loaders and choker setters who on the whole are somewhat less-skilled workers.

TABLE 11.—Straight-Time Average Hourly Earnings of Workers in Selected Occupations in Basic Lumber Industry in Far West, Fall of 1939 and August 1944

Branch of industry, and occupation	Total number of workers, August 1944	Average hourly earnings		Amount of increase (in cents)	Percent of increase
		August 1944	Fall of 1939		
Total, 46 occupations.....	47, 437	1 \$1. 24	1 \$0. 78	46	59. 0
Logging camps (16 occupations).....	26, 634	1. 39	. 84	55	66. 5
Brakeman, head.....	260	1. 14	. 88	26	29. 5
Brakeman, second.....	227	1. 03	. 76	27	35. 5
Cat drivers (tractor).....	1, 570	1. 30	. 91	39	42. 9
Chasers, high-lead and skidder-side.....	432	1. 12	. 75	37	49. 3
Choker setters, cat side.....	2, 881	1. 06	. 71	35	49. 3
Engineers, mechanical loading.....	1, 191	1. 30	. 91	39	42. 9
Engineers, rail transportation.....	282	1. 20	. 94	26	27. 7
Fallers and buckers, hand.....	10, 785	1. 70	. 87	83	95. 4
Firemen, rail transportation.....	265	. 99	. 73	26	35. 6
Head loaders, mechanical loading.....	1, 049	1. 34	. 96	38	39. 6
Hook tenders.....	946	1. 48	1. 09	39	35. 8
Sealers, woods.....	619	1. 17	. 84	33	39. 3
Second loaders, mechanical loading.....	1, 502	1. 13	. 76	37	48. 7
Truck dryers, hauling.....	3, 677	1. 12	. 71	41	57. 7
Truck mechanics.....	948	1. 24	. 92	32	34. 8
Sawmills (14 occupations).....	17, 694	1. 13	. 72	41	56. 9
Car loaders.....	2, 456	1. 15	. 67	48	71. 6
Deckmen.....	729	. 96	. 58	38	65. 5
Doggers, head rig.....	706	. 96	. 61	35	57. 4
Edgermen.....	1, 241	1. 14	. 80	34	42. 5
Edger off-bearers.....	877	. 91	. 58	33	56. 9
Filers.....	580	1. 62	1. 13	49	43. 4
Filers' helpers, floor.....	252	1. 10	. 75	35	46. 7
Graders or markers, green chain.....	801	1. 09	. 73	36	49. 3
Off-bearers, head rig.....	1, 166	. 95	. 61	34	55. 7
Pilers, yard.....	1, 131	1. 57	. 81	76	93. 8
Pullers, green chain.....	4, 468	1. 02	. 65	37	56. 9
Sawyers, head rig.....	1, 121	1. 50	1. 18	32	27. 1
Setters, head rig.....	1, 139	1. 09	. 75	34	45. 3
Trimmermen, head mill.....	1, 027	1. 02	. 68	34	50. 0
Shingle mills (8 occupations).....	1, 484	1. 45	. 97	48	49. 5
Block pilers.....	151	1. 07	. 73	34	45. 6
Cut-off saw operators.....	105	1. 35	. 87	48	55. 2
Deckmen.....	54	1. 17	. 75	42	56. 0
Loaders, car and truck.....	56	1. 02	. 71	31	43. 7
Shingle packers.....	485	1. 45	. 92	53	57. 6
Shingle sawyers.....	548	1. 71	1. 17	54	46. 2
Splitter men.....	19	1. 11	. 83	28	33. 7
Tallymen.....	66	1. 08	. 78	30	38. 5
Plywood mills (9 occupations).....	1, 625	1. 02	. 75	27	36. 0
Chipper-machine operators.....	110	1. 02	. 76	26	34. 2
Glue-spreader catchers.....	207	1. 20	. 98	22	22. 4
Glue-spreader feeders.....	124	1. 10	. 78	32	41. 0
Pressmen.....	150	1. 10	. 83	27	32. 5
Truckers, hand.....	27	. 97	. 69	28	40. 6
Veneer driers (feeders and off-bearers).....	629	. 92	. 64	28	43. 8
Veneer graders.....	179	. 99	. 72	27	37. 5
Veneer lathe helpers.....	127	. 99	. 69	30	43. 5
Veneer lathe operators.....	72	1. 25	. 97	28	28. 9

¹ In order to insure that the wage level of each branch would be represented in the general average in proportion to its importance in the industry, the averages for each branch which appear in this table were weighted by the total number of workers covered in the branch and not by the actual number in the selected occupations for which figures are presented in this table.