



**UNITED STATES DEPTA** GIPE-PUNE-070759  
**FRANCIS PERKIN.**  
**WOMEN'S BUREAU**  
MARY ANDERSON, Director

**BULLETIN OF THE WOMEN'S BUREAU, NO. 111**

# **HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS**

BY  
**ETHEL L. BEST**



**UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1933**

# CONTENTS

	Page
Letter of transmittal.....	v
Introduction.....	1
Scope and method.....	2
Size of mills.....	3
Summary of survey.....	4
The South Carolina survey.....	7
Numbers.....	7
Night shifts.....	8
Hours.....	9
Scheduled hours.....	9
Operating hours.....	11
Wages.....	12
Full-time women workers on the day shift.....	13
Full-time women workers on the night shift.....	14
Short-shift earnings.....	14
Week's earnings of all women workers.....	14
Day-shift earnings.....	14
Night-shift earnings.....	15
Actual amounts received.....	15
Method of payment.....	15
Learners.....	16
The workers.....	17
Length of service.....	17
Age.....	18
Marital status.....	19
Employment in 1931 and 1932.....	19
Employment in 1931 by department.....	22
Operating changes that affected employment in 1931.....	23
Basis of lay-offs.....	24
Spares or extra workers.....	24
The Maine survey.....	27
Numbers.....	27
Night shifts.....	28
Hours.....	28
Scheduled hours.....	28
Operating hours.....	29
Hours worked.....	29
Wages.....	29
Full-time women workers.....	29
Earnings of all women workers.....	30
Method of payment.....	31
The workers.....	31
Length of service.....	31
Age.....	32
Marital status.....	32
Employment in 1931.....	33
Spares.....	33
Basis of lay-offs.....	33
Changes in 1931.....	34
The Texas survey.....	35
Numbers.....	35
Night shifts.....	36
Hours.....	36
Scheduled hours.....	36
Night workers.....	36
Operating hours.....	36
Wages.....	37
Full-time women workers on day shift.....	37
Full-time women workers on night shift.....	38
Earnings of all women workers.....	38
Day-shift earnings.....	38
Night-shift earnings.....	39
Method of payment.....	39

	Page
The Texas survey—Continued	
The workers.....	39
Length of service.....	39
Age.....	40
Marital status.....	41
Employment in 1931.....	41
Spares or extra workers.....	43
Operating changes in 1931 that affected employment.....	43
All mills in the three States.....	44
Numbers.....	44
Night shifts.....	45
Hours.....	46
Scheduled hours.....	46
Operating hours.....	46
Wages.....	46
Earnings of full-time workers.....	46
Earnings of all workers on day shift.....	47
Method of payment.....	47
Differences in living conditions.....	47
The workers.....	48
Length of service.....	48
Age.....	48
Marital status.....	48
Employment during 1931.....	49
Operating changes in 1931 that affected employment.....	50
Basis of lay-offs.....	50
The narrow-goods survey.....	51
Scope and method.....	51
Numbers.....	52
Scheduled hours.....	53
Daily hours.....	53
Weekly hours.....	53
Night hours.....	54
Wages.....	54
Full-time earnings.....	54
Earnings of all women.....	55
The workers.....	55
Length of service.....	55
Age.....	56
Marital status.....	57
Employment from July 1931 to June 1932.....	57
Changes in 1931-32.....	58
Change in method of payment.....	58
Spare workers.....	59
Appendix—General tables.....	60

#### APPENDIX TABLES

I. Week's earnings and time worked on day shifts, by department— South Carolina.....	60
II. Week's earnings and time worked on day shifts, by department— Maine.....	68
III. Week's earnings and time worked on day shifts, by department— Texas.....	72
IV. Comparison of the night shifts in the 3 States with the number of mills and employees covered in the study, by sex of employees and kind of product.....	77
V. Week's earnings of females in narrow-goods mills, by State.....	78

#### ILLUSTRATIONS

An up-to-date southern mill.....	frontispiece
A mill village, well planned and well built.....	facing page 7

## LETTER OF TRANSMITTAL

---

UNITED STATES DEPARTMENT OF LABOR,  
WOMEN'S BUREAU,  
*Washington, June 19, 1933.*

MADAM: I have the honor to transmit a report on the hours, earnings, and employment of workers in cotton mills in 1932, with certain conditions in 1931 as a background. The survey was made in South Carolina, Maine, and Texas, and it covers approximately two thirds of the women reported in cotton manufacturing in those States by the 1930 Census of Occupations.

The object of the study was to learn something of the effects of the depression on women's employment and earnings. The fact that cotton mills still are outranked only by clothing factories in the numbers of women they employ testifies to the importance of such studies.

The survey was conducted and the report has been written by Ethel L. Best, industrial supervisor.

Respectfully submitted.

MARY ANDERSON, *Director.*

Hon. FRANCES PERKINS,  
*Secretary of Labor.*



AN UP-TO-DATE SOUTHERN MILL.

# HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

## INTRODUCTION

The cotton manufacturing industry is one of vital importance to women. They are employed as workers in nearly all its processes of manufacture, and as consumers they constitute the largest users of its finished products. The census figures for 1930 show 154,763 women employed in cotton mills throughout the country, and more than 60 percent of these were in southern cotton-mill States.<sup>1</sup>

For the past 10 years the cotton-textile industry has been struggling with the problem of contracting markets and cotton spindles in place that have decreased from approximately 38 million in 1923 to 32 million in 1932.<sup>2</sup> During the war the need for all kinds of cotton goods was enormous; mills were enlarged and new ones were built to supply the demand. In the years immediately following the war the demand for goods gradually lessened; competition became keener, with more equipment to produce than market to supply, and a gradual change took place in the location of the mills.

Between 1921-22 and 1929-30 the number of spindles in the South increased by 19 percent, while the number in New England decreased by 28.5 percent. As a cause of this change it has been agreed by various authorities that total manufacturing costs are less in the South, due to lower taxes, lower wages, and longer operating hours. The importance of the difference in hours is expressed by the following statement: "If the movement to shorten working hours in the South, now beginning to be noticeable in some States, materializes, the present great advantage over the North will be eliminated." In the *Textile World* for February 1927 (p. 269) a report was made from questionnaires sent out to mills that had changed location from North to South, as to weekly hours of operation. Some of the replies were as follows: North 54, South 57; North 48, South 110; North 48, South 115; North 48, South 60; North 48, South 107½; North 54, South 60. Not only did the number of spindles increase in the South but through longer operating hours more goods were produced per spindle.

There was also a shift in the type of goods manufactured, from the coarser to the finer product. This change was speeded up by the decreased demand for coarser goods. Mills whose main product had always been sheetings manufactured more print goods; and those making print goods and shirtings began to put out a finer

<sup>1</sup> U. S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, pp. 11 and 13.

<sup>2</sup> U. S. Bureau of the Census. Bulletin 109. Cotton Production and Distribution, Season of 1931-32. Table 14, p. 31.

product, such as lawns, dimities, and voiles. The industry was becoming more and more chaotic, with overproduction in nearly every line.

By the winter of 1930-31 many of the manufacturers realized that some cooperative action was needed, and through the leadership of the Cotton-Textile Institute an agreement was reached by a majority of the mill managements to limit weekly hours of operating to 55 on the day shift and 50 on the night shift and to eliminate women and minors from the night shift. All mills concentrated on the reduction of operating costs, wage cuts were general, and numerous efficiency measures were introduced. The object of the present study was to ascertain to some extent the effect of these various measures on women workers, with special reference to steadiness of employment, lay-offs, hours of work, and earnings.

### SCOPE AND METHOD

It was impossible for the Women's Bureau, with its limited time and money, to make an exhaustive study throughout many States of changing employment conditions, so 3 States were selected, 2 as representative examples and 1 for reasons of economy in a State where a survey of other industries was being made. The three States included in the study were South Carolina, Maine, and Texas, and an effort was made to obtain information from all the cotton-cloth and cotton-yarn mills in each State.

Although Maine and Texas are not large cotton-manufacturing States, they are somewhat similar to South Carolina in their legal limits for women's hours of work in this industry. Each of the three States permits night work for women. As to hours, the South Carolina law fixes a 10-hour day and a 55-hour week but permits 60 hours of overtime in the calendar year to make up time lost by accident or other unavoidable cause; in Maine the limit is a 9-hour day and a 54-hour week, with permission to work longer daily hours if the maximum weekly hours are not exceeded; in Texas the law specifies a 9-hour day and a 54-hour week but permits a 10-hour day and a 60-hour week if double time is paid for all hours over 9 a day. Only cotton-cloth and cotton-yarn mills were included in the study. The following statement gives the number of mills and employees reported in the survey, and the total number of women workers in each State according to census figures. It is clear that the survey covered about two thirds of all the women employed.

State	Number of women in cotton mills		Number of mills surveyed
	From census figures <sup>1</sup>	From present survey	
South Carolina.....	25,330	16,678	132
Maine.....	3,948	3,143	14
Texas.....	1,400	941	13

<sup>1</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics: South Carolina, p. 7; Maine, p. 7; Texas, pp. 10-11.

The hours and earnings of women workers were secured for a representative pay-roll week in 1932. In most instances the week taken

was in January or February, but in a few mills other months were considered more nearly representative of the year, and the data were taken for a week in the month suggested. Actual hours worked were not always kept on the books, and when they were not obtainable a record was made of the number of days on which work was performed and each day or part of such day was counted as a day. Careful note was made of the shift on which the work occurred, whether day, night, or short intermediate. A rough count was made also of the men on the pay roll, and in order to prevent, so far as possible, counting employees more than once (due to the repetition of the names of employees who had worked in more than one department) records of only one day's work have not been included in the count.

To measure the effect of the depression on numbers employed from month to month in 1931, names of men and women were counted on the pay rolls for one week in each month, and the numbers on each shift were recorded. Whenever possible facts were obtained from the managements as to changes in operating, in product, in method of payment, in the system of spare hands, and in methods of lay-off, all of which might affect employment. The women themselves filled out cards recording their age, marital status, and length of time in the mill.

In the South, and to a considerably less extent in the North, the mill village is an adjunct of the mill and much of its cost is borne by the management. In most cases this results in a saving to workers on rents, lights, water, and heat from the normal costs of such items in a locality not owned by the mill.

### SIZE OF MILLS

The size of a mill may be reckoned by the number of employees, by the number of ring spindles, or by the number of pounds or yards of goods produced. The most common method, especially where yarn as well as cloth mills are included, is to estimate the size of the mill by the number of its ring spindles.<sup>3</sup> The number of spindles in place in South Carolina according to 1932 census figures was 5,695,656, and all but 3.1 percent were active.<sup>4</sup>

In the survey in South Carolina, where number of spindles was obtained for 104 mills, one fifth of the mills had 20,000 to 30,000 spindles. The number of large mills with 50,000 spindles and more was about one fifth (21.2 percent) of the total, while mills with fewer than 15,000 spindles composed over one fourth of the total (26 percent). Nine of the 11 largest mills of 70,000 spindles and more were engaged in the manufacture of print goods, broadcloths, and pajama checks, while of the other 2 mills 1 made sheetings and 1 made cord fabrics.

The average number of workers per mill was unusually high when the size of the units is considered. Of the 104 mills reporting the number of spindles, more than half (56.7 percent) had less than 30,000 spindles, so that an average per mill of 389 employees would seem excessive. This high average was, however, largely because of the operating of a night shift in 98 mills and extra shifts in 31 mills.

The proportion of large mills in Maine was much greater than in South Carolina. Of the 14 mills, 10 had over 50,000 spindles and 7

<sup>3</sup> Official American Textile Directory, 1930.

<sup>4</sup> U.S. Bureau of the Census. Cotton Production and Distribution, Season of 1931-32. Bul. 169, p. 32.



#### 4 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

had more than 80,000. As would be expected, the average number of workers was considerably greater than in South Carolina, with 478 per mill, largely employed on the day shift.

The mills in Texas were comparatively small, all the 9 mills reporting on this point having less than 20,000 spindles, 3 mills reporting the number of spindles as less than 10,000. The average number of workers in these mills was the least of the 3 States, 185 per mill.

#### SUMMARY OF SURVEY

[NOTE.—Not all items were reported upon by every mill nor by all women]

WIDE-GOODS MILLS				
<b>Numbers employed:</b>		<i>Total</i>	<i>Males</i>	<i>Females</i>
South Carolina (132 mills).....	51, 338	34, 660	16, 678	
Maine (14 mills).....	6, 691	3, 548	3, 143	
Texas (13 mills).....	2, 409	1, 468	941	
<b>Proportion women:</b>				<i>Percent of total</i>
South Carolina.....				32.5
Maine.....				47.0
Texas.....				39.1
<b>Chief product:</b>		<i>Number females</i>		<i>Percent females</i>
<b>South Carolina:</b>				
Print cloths, broadcloths, and pajama checks.....	7, 998			48.0
Sheetings.....	3, 515			21.1
Fine goods.....	1, 904			11.4
<b>Maine:</b>				
Sheetings.....	1, 339			42.6
Fine goods.....	964			30.7
Texas, toweling, osnaburgs, and ducks.....	544			57.8
<b>Extent of night work:</b>	<i>Total</i>	<i>Males</i>		<i>Females</i>
South Carolina (98 mills).....	13, 141	11, 215		1, 926
Maine (7 mills).....	325	325		---
Texas (4 mills).....	( <sup>b</sup> )	( <sup>b</sup> )		86
<i>Scheduled hours of work</i>				
<b>Daily:</b>				
South Carolina.....				10 hours in 127 mills.
Maine.....				9¾ hours in 10 mills.
Texas.....				10 hours in 11 mills.
<b>Weekly:</b>				
South Carolina.....				55 hours in 122 mills.
Maine.....				54 hours in all 14 mills.
Texas.....				55 hours in 10 mills.
<b>Nightly:</b>				
South Carolina.....				11 hours in 66 mills; 10 hours in 30 mills.
Maine.....				12 hours in 2 mills. <sup>c</sup>
Texas.....				11 hours in 2 mills.
<i>Earnings of women on day shift</i>				
<b>All workers:</b>				<i>Week's median</i>
South Carolina (14,136 reported).....				\$7. 70
Maine (3,193 reported).....				11. 10
Texas (855 reported).....				7. 60
<b>Full-time workers:</b>				
South Carolina (4,340 reported).....				9. 65
Maine (1,534 reported).....				13. 00
Texas (225 reported).....				11. 10

<sup>a</sup> One mill did not report number of men on day or night shift; in the 3 that did report this, there were 187 men on the night shifts.

<sup>b</sup> No women on night work.

## WIDE-GOODS MILLS—continued

*Earnings of women on day shift—Continued*

Proportion of women working full time:	Percent
South Carolina.....	31.6
Maine.....	48.0
Texas.....	27.4

*1931 employment conditions*

Mills with short time or shut-downs lasting a month or more:	
South Carolina.....	46 of 90 reporting.
Maine.....	8 of 10 reporting.
Texas.....	8 of 10 reporting.
Mills with night shift lasting a month or more:	
South Carolina.....	63 of 84 reporting.
Maine.....	8 of 13 reporting.
Texas.....	6 of 9 reporting.

*Personal information about women workers*

Length of service with present employer:	<i>Under 1 year</i>	<i>5 years and over</i>
South Carolina (6,513 reporting)..... percent..	13.3	42.6
Maine (1,803 reporting)..... do.....	15.8	49.4
Texas (710 reporting)..... do.....	13.7	50.2
Age:	<i>Under 20 years</i>	<i>40 years and over</i>
South Carolina (6,513 reporting)..... do.....	25.1	14.3
Maine (1,808 reporting)..... do.....	15.0	22.6
Texas (719 reporting)..... do.....	13.2	19.7
Marital status:		<i>Percent married</i>
South Carolina (6,606 reporting).....		43.8
Maine (1,810 reporting).....		41.2
Texas (724 reporting).....		51.5

## NARROW-GOODS MILLS

Numbers employed:	<i>All employees</i>	<i>Percent women</i>
Pennsylvania (14 mills).....	1,111	75.9
Massachusetts and Rhode Island (5 mills).....	400	54.8
North and South Carolina (3 mills).....	225	38.7

*Scheduled hours of work*

Daily:	
Prevailing hours for the majority of women:	
Pennsylvania.....	Over 8 and including 9 hours.
Massachusetts and Rhode Island.....	8 hours.
North and South Carolina.....	10 hours.
Weekly:	
Prevailing hours for the majority of women:	
Pennsylvania.....	48 and less than 50 hours.
Massachusetts and Rhode Island.....	40 to 44 hours.
North and South Carolina.....	55 hours.
Night shift:	
Only 2 mills employed women:	
Massachusetts and Rhode Island (1 mill, 6 women).....	Hours not recorded.
North and South Carolina (1 mill, 6 women).....	11 hours, 5 nights a week.

*Earnings of women*

Full-time workers:	<i>Week's median</i>
Pennsylvania.....	\$13.85
Massachusetts and Rhode Island.....	12.40
North and South Carolina.....	9.55
All localities.....	12.85

6 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

NARROW-GOODS MILLS—continued

<i>Earnings of women—Continued</i>		<i>Week's median</i>
All workers:		
Pennsylvania.....		\$12. 15
Massachusetts and Rhode Island.....		11. 35
North and South Carolina.....		9. 15
All localities.....		11. 55

*Employment for 12 months, July 1931 to June 1932*

Average number employed in first 6 months of 1932 was 8 percent below average in last 6 months of 1931.

Difference between largest and smallest number employed in the 12 months was 16.3 percent; largest number in July 1931, smallest in June 1932.

On night work the largest number of men employed was 62 and the smallest 49; of women the largest number was 23 and the smallest 10.

In Pennsylvania no women were employed at night during the year; in Massachusetts and Rhode Island the largest number was 6; in North and South Carolina the number varied from 7 to 17.

*Personal information about women workers*

Length of service with present employer:

Proportion of women with service of 5 years and over:

Largest, 59.4 percent, in New England.

Smallest, 4.2 percent, in the South.

Age:

Largest proportion under 20 years, 26.3 percent, in the South.

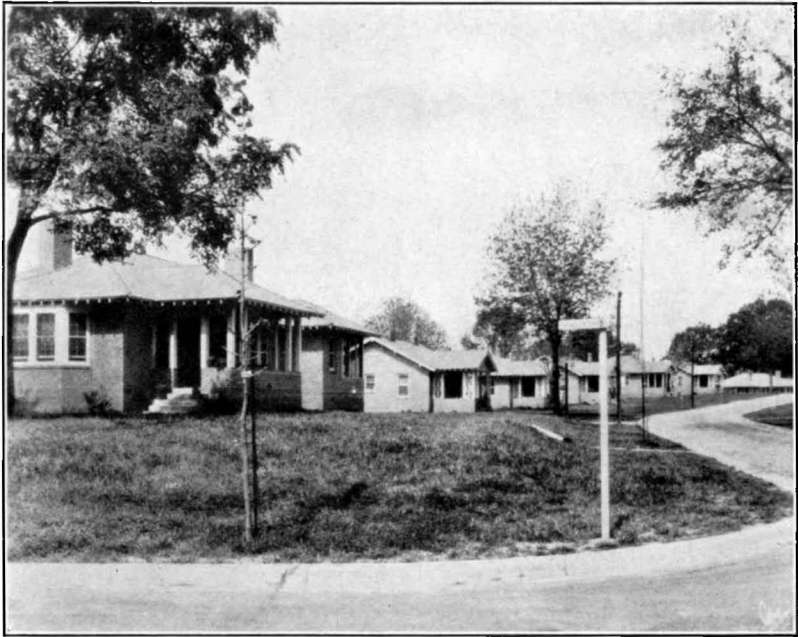
Largest proportion 40 years and over, 31.1 percent, in New England.

Marital status:

Proportion of married women:

Largest, 41.2 percent, in the South.

Smallest, 20.9 percent, in Pennsylvania.



A MILL VILLAGE. WELL PLANNED AND WELL BUILT.

# THE SOUTH CAROLINA SURVEY

## NUMBERS

This study in South Carolina included 132 cotton mills with well over 50,000 employees.<sup>1</sup> It was made in the months February to May of 1932. All the mills were engaged in the manufacturing of cotton into either cloth or yarn. The reduced extent to which the employment of women was used is shown by the fact that less than one third of the total number of employees were women. According to figures reported by the United States Census of 1930, two fifths of the working force employed at that time in the cotton mills of the State were women.<sup>2</sup> The following figures compare the proportion of women in cotton mills in South Carolina according to the census of 1930 and the Women's Bureau report in 1932:

Source	Mills	Employees			
		Total number	Males	Females	
				Number	Percent of total
Women's Bureau figures, 1932.....	132	51,338	34,660	16,678	32.5
Census figures, 1930.....		63,774	38,444	25,330	39.7

<sup>1</sup> Includes 6 mills not reporting sex and 1 not reporting number of employees.

The smaller proportion of women found by the Women's Bureau in 1932 than by the census in 1930 may be due to a changed method of operating, such as the labor-extension system in some of the mills, but more probably to an increase in the number of mills operating at night, with a greater use of men on the night shift, or to the fact that the census of occupations reports the usual occupation whether or not unemployed at the time.

The two principal products of the mills of South Carolina are sheetings and print cloths. Including broadcloths and pajama checks, tabulated with print cloths, these employed more than two thirds of all the workers in the survey. The smallest number of mills and the fewest workers were in the group making chambrays, gingham, and denims.

The ratio of women to men did not differ greatly with the various products except in two or three cases. In one of these—yarns, where the percent of women was greater than in any other case—the absence of weave rooms, where men in considerable numbers ordinarily are employed, is one explanation.

<sup>1</sup> There were 51,338 employees in the 126 mills that reported sex and numbers of employees.

<sup>2</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, South Carolina, p. 7.

Product	Mills	Employees			
		Total number	Males	Females	
				Number	Percent of total
Total.....	<sup>1</sup> 132	51,338	34,660	16,678	32.5
Sheetings.....	<sup>2</sup> 32	10,924	7,409	3,515	32.2
Print cloths, broadcloths, and pajama checks.....	<sup>3</sup> 50	24,454	16,456	7,998	32.7
Fine goods (including fancies).....	10	6,027	4,123	1,904	31.6
Chambrays, gingham, and denims.....	3	767	501	266	34.7
Toweling, osnaburgs, and ducks.....	6	1,181	807	374	31.7
Bedspreads and upholstery fabrics.....	5	1,125	786	339	30.1
Yarns.....	<sup>4</sup> 18	2,586	1,633	953	36.9
Specialties.....	4	1,277	948	329	25.8
Other cotton goods.....	4	2,997	1,997	1,000	33.4

<sup>1</sup> Includes 6 mills not reporting numbers by sex and 1 not reporting number of employees.

<sup>2</sup> Includes 2 mills not reporting numbers by sex.

<sup>3</sup> Includes 3 mills not reporting numbers by sex.

<sup>4</sup> Includes 1 mill not reporting numbers by sex and 1 not reporting number of employees.

### Night shifts

Of the 132 mills included in the survey, 98 reported night work. Some mills operated the entire plant at night, some only certain departments, while still others ran only part of the equipment or a certain number of machines to equalize production. Men only were employed at night in 54 mills and men and women both in 44.

Product	Mills		Employees					
	Total number	Number running at night	Total		Males		Females	
			Number	Percent working at night	Total number	Percent working at night	Total number	Percent working at night
Total.....	<sup>1</sup> 132	<sup>1</sup> 98	51,338	25.6	34,660	32.4	16,678	11.5
Sheetings.....	<sup>2</sup> 32	<sup>2</sup> 25	10,924	21.4	7,409	27.5	3,515	8.6
Print cloths, broadcloths, and pajama checks.....	<sup>3</sup> 50	<sup>3</sup> 39	24,454	29.3	16,456	36.5	7,998	14.4
Fine goods (including fancies).....	10	9	6,027	22.8	4,123	33.1	1,904	6
Chambrays, gingham, and denims.....	3	3	767	23.6	501	27.7	266	15.8
Toweling, osnaburgs, and ducks.....	6	3	1,181	7.5	807	7.2	374	8.3
Bedspreads and upholstery fabrics.....	5	4	1,125	32.5	786	37.8	339	20.4
Yarns.....	<sup>4</sup> 18	<sup>4</sup> 9	2,586	17.6	1,633	22.9	953	8.6
Specialties.....	4	4	1,277	33.4	948	39.7	329	15.5
Other cotton goods.....	4	2	2,997	25.1	1,997	28.4	1,000	18.4

<sup>1</sup> Includes 6 mills not reporting numbers by sex and 1 not reporting number of employees.

<sup>2</sup> Includes 2 mills not reporting numbers by sex.

<sup>3</sup> Includes 3 mills not reporting numbers by sex.

<sup>4</sup> Includes 1 mill not reporting numbers by sex and 1 not reporting number of employees.

The number of workers reported as employed on the night shift was 13,141, or one fourth of all the workers reported for the week for which figures were obtained. The greater number of those on the night shift were men, but in the 39 mills reporting numbers of employees among the 44 where women as well as men worked at night there were 1,926 women, or 11.5 percent of all women in the study.

Apparently there has been a considerable increase during the past 10 years in the employment of women for night work, for the 1932

survey reports twice as many cotton mills employing women at night and four times as many women so employed as were reported in the survey of South Carolina made by the Women's Bureau in 1921-22.

The proportion of men who worked at night was much higher than that of women. Nearly one third, 32.4 percent, of all the men in the 125 mills reporting numbers and sex were on the night shift. This was an average of 123 in the 91 mills reporting number and sex of employees on night shifts, the total being 11,215 men.

Night shifts were found in each manufacturing group. Smaller proportions of mills producing yarns than of those making most lines of cloth ran a night shift. All 3 mills making chambrays, gingham, and denims, and 9 of the 10 producing fine goods, operated at night. More than three fourths of the mills making bedspreads and upholstery fabrics, sheetings, and print cloths (including broadcloths and pajama checks) reported a night shift.

The percent of the workers employed at night did not reflect the proportions in the various production groups as did the percent of mills operating at night. Specialties, and chambrays, gingham, and denims, with all their mills running at night, had but 33.4 percent and 23.6 percent, respectively, of their employees on the night shift; and bedspread and upholstery mills, and print goods, with 4 in 5 running at night, had respectively 32.5 percent and 29.3 percent of their employees on the night shift.

The smallest proportion of women employed at night was in the mills making fine goods, where, in 9 mills with one or more departments operating at night, only 11 women were employed. Bedspreads and upholstery fabrics had the highest percent (20.4) of women working at night, but as the total number of women in these mills was only 339, the actual number on the night shift was small. By far the largest number of women on the night shift was in print goods and allied products, where 39 of 50 mills and 1,154 women, or 14.4 percent of the total in this group, were on the night shift.

## HOURS

### Scheduled hours

The law of South Carolina limits hours of work in cotton mills to 10 a day. Scheduled daily hours of the 128 mills reporting were 10 for 127 mills and 9 for 1 mill. Daily hours were, therefore, with one exception, as long as was permitted by law. The mill with the 9-hour schedule was in the class "print cloths, broadcloths, and pajama checks," and it employed 222 women.

Scheduled daily hours	Mills <sup>1</sup>	Employees		
		Total	Males	Females
10.....	127	37,190	22,896	14,294
9.....	1	483	271	222

<sup>1</sup> 4 mills did not report hours.

<sup>2</sup> Includes 5 mills reporting hours but not reporting employees by sex.

Weekly hours also conformed closely to the legal limitation of 55 hours. There was, however, slightly more variation in the length

## 10 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

of the week than in the length of the day, as 6 of the 128 mills reported a week shorter than 55 hours. Four of these 6 mills had a weekly schedule of 50 hours, worked in 5 days in 3 of the mills and in 5½ days in the fourth. Of the 2 remaining mills, 1 had a schedule of 45 hours worked in 4½ days, and the other worked 40 hours in 4 days. In each of these mills the short week was due to lack of orders, and this condition had existed over so extended a period that a longer schedule was not representative of hours and earnings in 1932.

Scheduled weekly hours	Mills <sup>1</sup>	Employees		
		Total	Males	Females
5½ days:				
55 hours.....	122	35,846	22,028	13,818
50 hours.....	1	493	271	222
5 days: 50 hours.....	3	1,028	683	345
4½ days: 45 hours.....	1			
4 days: 40 hours.....	1	316	185	131

<sup>1</sup> 4 mills did not report hours.

<sup>2</sup> Includes 4 mills reporting on hours but not reporting employees by sex.

<sup>3</sup> This plant did not report employees by sex.

The 6 mills operating weekly hours shorter than those required by law were making three different classes of goods—sheetings; print cloths, broadcloths, and pajama checks; and fine goods (including fancies). There were 3 mills in the sheetings group, 2 in print cloths, and 1 in fine goods.

The hour schedule for the night shift was reported by 96 of the 98 mills operating at night, and the majority reported 11 hours a night for 5 nights, making a weekly total of 55 hours, the maximum possible under the law. Sixty-six of the mills worked these hours, but 30 had a shorter schedule—28 worked 10 hours a night and 50 hours a week and 2 worked 10 hours a night but only 4 nights a week. All but 178 of the women reported on the night shift worked in mills with the long shift of 11 hours for 5 nights a week, and about 70 percent of the men who worked at night had these hours.

Scheduled hours for night work	Mills <sup>1</sup>	Employees		
		Total	Males	Females
5 nights:				
11 hours.....	66	9,643	7,895	1,748
10 hours.....	28	3,409	3,231	178
4 nights: 10 hours.....	2	81	81	

<sup>1</sup> 2 mills did not report hours.

<sup>2</sup> Includes 4 mills reporting on hours but not reporting employees by sex and 1 not reporting number of employees.

<sup>3</sup> Includes 1 mill not reporting employees by sex.

The shorter or 10-hour night shift was found in all manufacturing groups but three—bedspreads and upholstery fabrics; toweling, osnaburgs, and ducks; and chambrays, gingham, and denims—but it was reported most frequently in print-goods and in fine-goods mills, where it was the schedule in one third and more than two fifths,



respectively, of the mills reporting. Three of the 4 plants making specialties and 1 of the 2 making miscellaneous cotton goods also had a 10-hour shift.

In addition to the operation of a day shift and of both a day shift and a night shift, there was in some of the mills a short shift of from 1 to 4 hours that filled in the mealtime break or the break between the two main shifts, thus enabling the mills to operate for a continuous period without a pause. These short or intermediate shifts were reported in 31 mills and the majority of the workers on them were women. In 8 of the 31 mills women only were employed on these shifts and in 21 mills both women and men. In 2 mills the sex of the workers was not reported.

### Operating hours

Ordinarily, if a mill ran a day and a night shift, as was the case in 98 of the 132 mills, the operating schedule would be 20 or 21 hours in a 24-hour period. However, with the aid of the short or extra shifts these hours, 20 or 21, were exceeded in 33 mills, where extra shifts were worked in all but 2. In these 2 mills the machinery ran through the noon hour and the lunch period was staggered, so that there were always some workers on duty. According to the classification by product, print cloths, broadcloths, and pajama checks had the most mills operating over 21 hours, 7 of their mills running the entire 24 hours.

These long operating hours were not for a few days but in most cases were from Monday morning until Saturday noon, and in one case the mill was closed down for only 24 hours in the entire week. Only 29 of the 129 mills reporting total hours were in operation for 55 hours or less, while 97 were in operation from 80 to 144 hours. The operating hours most frequently reported were 110, that is, a day shift of 55 hours and a night shift of 55 hours. About one fourth of all the mills reporting (24.8 percent) operated in excess of 110 hours, with 10 mills operating 125 hours and over.

#### Weekly operating hours:

	<i>Mills reporting</i>
Total.....	<sup>3</sup> 129
55 hours and under.....	29
Over 55 and under 105 hours.....	8
Over 105 and under 110 hours.....	23
110 hours.....	37
Over 110 and under 125 hours.....	22
125 hours and over.....	10

The proportion of mills whose operating time was excessively long varied somewhat with the products manufactured. The largest proportion of mills with long hours was found in the group making chambrays, gingham, and denims, but this group was not very important from the viewpoint of the Women's Bureau, as the percent of women in it was low and the establishments were few. After the group of mills making chambrays, those making print goods and allied products had the largest proportion, with operating hours of more than 110 a week. Seven of these mills were in operation 125 hours in the week.

<sup>3</sup> 3 mills did not report operating hours.

12 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

Product	Total mills	Number operating—	
		More than 100 hours a week	More than 110 hours a week
Total.....	1 129	92	32
Sheetings.....	32	22	6
Print cloths, broadcloths, and pajama checks.....	50	39	16
Fine goods (including fancies).....	10	9	2
Chambrays, ginghams, and denims.....	3	3	2
Toweling, osnaburgs, and ducks.....	6	3	1
Bedspreads and upholstery fabrics.....	5	4	1
Yarns.....	1 15	6	3
Specialties.....	4	4	1
Other cotton goods.....	4	2	1

<sup>1</sup> 3 mills did not report operating hours.

WAGES

Wages, the sum paid for work done or service rendered, may be regarded from two angles: That of the expected wage for a full week's work and that of the amount received for the time actually worked. The recipient of wages, although she hopes to attain a full week of work and of pay, does not always achieve this, and she must live on what she actually receives, whether it is work and pay for 1 day or for 5½ days. Nor is it always because there is not sufficient work that she is not employed for her full week's schedule; frequently for personal reasons she may lose a day or two, or even a longer time, in a given week.

For the pay-roll week for which wages were taken in this study, 4,340 women,<sup>3</sup> 31.6 percent of those on the day shift with time worked reported, worked on every day of the weekly schedule. About one half of these women worked the full weekly hours, while the other half, although working on every day, may have lost some time, as it was impossible from the records available in these plants to obtain the actual number of hours for each day on which work was done. The record of the group with time worked recorded in hours is more accurate, therefore, than that which shows only the days on which work was done; although in most cases the latter would represent a full week's work, it is probable that in some instances a few hours may have been lost. Nevertheless, the women may be classed as approximately full-time workers.

Department	Day shift					Night shift				
	Total females	Time reported in—				Total females	Time reported in—			
		Hours		Days			Hours		Days	
		Full time	Part time	Full time	Part time		Full time	Part time	Full time	Part time
All departments.....	13, 731	2, 270	6, 385	2, 070	3, 006	1, 424	132	483	287	822
Carding.....	654	74	354	70	156	59	6	7	11	35
Spinning and spooling.....	3, 516	855	3, 842	1, 499	2, 320	1, 169	83	405	241	440
Weaving.....	3, 203	898	1, 332	484	489	178	43	53	35	47
Cloth.....	1, 188	343	792	17	36	10	10	10		
General (scrubbers and cleaners).....	170	100	65		5	8	8			

<sup>3</sup> Short or extra-shift workers are omitted.

**Full-time women workers on the day shift**

Women on the day shift who worked the firm's scheduled hours as shown by hourly records had median earnings of \$10.60 a week, while those who worked each day the plant was in operation but whose actual hours were not recorded had median earnings of \$8.75. Though some of the difference between these two medians may have been due to working less than the full hours each day or to lower pay in the mills keeping only records of days worked, without doubt some is due to the distribution of the workers in the various departments of the mills. Of the workers whose records were in hours, 37.7 percent were in the spinning and spooling department, where average earnings were low, and 42.8 percent were in the weaving or carding department, where the averages were higher. Among the women with time reported in days nearly three fourths (72.4 percent) were in the spinning and spooling department and only 26.8 percent in weaving or carding. With appreciably lower median earnings in the spinning department, the larger proportion of spinners among the women whose time was reported in days would lower that median as compared with the group whose time was kept in hours, even if the same time was worked.

For each department in which the number of women was large enough for the computation of a median, the median earnings for the women working the firm's scheduled day were lower than for those working the full weekly schedule of hours. The combination of these two groups gives the following medians by department:

All departments.....	\$9. 65
Carding.....	11. 70
Spinning and spooling.....	8. 90
Weaving.....	11. 60
Cloth.....	9. 45

Within the departments the earnings of the workers varied considerably according to occupation. Among the principal occupations with more than 100 women in each group, weavers had the highest pay, the median of their earnings being \$13.90, and speeder tenders were second, with a median of \$11.95. Spoolers and winders had the lowest earnings, with a median of \$8.60. When only women with time reported in hours are considered, the lowest earnings were no longer for the group of spoolers and winders but for that of inspectors and graders.

Occupation	Median earnings of females working full time	Median earnings of full-time workers—	
		With time worked reported in hours	With time worked reported in days
Carding department: Speeder tenders.....	\$11. 95	\$12. 65	\$11. 55
Spinning and spooling department:			
Spinners.....	8. 75	9. 70	8. 15
Spoolers and winders.....	8. 60	10. 20	8. 00
Warpers.....	11. 35	11. 70	10. 35
Weaving department:			
Weavers.....	13. 90	14. 45	13. 00
Battery hands.....	8. 85	9. 55	8. 40
Drawing-in hands.....	11. 50	11. 50	( )
Smash and pick-out.....	11. 30	11. 60	( )
Cloth department: Inspectors and graders.....	9. 25	9. 25	( )

<sup>1</sup> Not computed; base less than 50.

**Full-time women workers on the night shift**

The proportion the full-time women on the night shift formed of all women night workers with time worked reported was practically three tenths (29.4 percent), including those working either the full hour schedule or on each night of the week. This was a smaller proportion of full-time workers than on the day shift, and the median earnings, \$8.25, also were lower than those of the full-time workers on the day shift, \$9.65. This difference in earnings was largely influenced by the fact that 77.3 percent of the women on the night shift, in contrast to 54.2 percent of the women on the day shift, were in the spinning department, where, as already stated, earnings were lower than in other departments. However, the entire difference in earnings between the day and the night workers was not due to this cause, as in the same departments, for spinners and also for spoolers and winders, the median earnings were lower for the night workers than for the day workers. The night weaving department, with only 78 women, also showed a lower median than did the day weaving department.

**Short-shift earnings**

In addition to the two main shifts in the mills reporting, the day and the night, there were 79 women spinners and spoolers who worked a short day shift of from 6 to 7 hours in either the morning or afternoon work spell. This short shift was run to equalize production throughout the mill where there was an insufficient number of spinning and spooling frames to supply yarn for the weaving department in the regular 10-hour day shift. The median earnings of the women employed on these short shifts and working full time were \$5.60. Rates of pay were the same on the short shift as on the regular run, the lower earnings reflecting the shorter hours of work.

**Week's earnings of all women workers**

The figures thus far discussed have been concerned with the full-time woman worker, that is, the woman who worked on every day or night required by her weekly schedule. These full-time workers constituted less than one third (31.4 percent) of the entire number with time worked reported, so more than two thirds must have worked less than their weekly schedule.

*Day-shift earnings.*—On the day shift the median earnings in each department showed a difference between full-time earnings and the earnings of all women whose time was reported, the difference ranging from \$1.30 in the cloth department to \$2.65 in the carding department.

Department	Median earnings of—	
	All females with time worked reported	Females working full time
All departments.....	\$7. 70	\$9. 65
Carding.....	9. 05	11. 70
Spinning and spooling.....	7. 05	8. 90
Weaving.....	9. 35	11. 60
Cloth.....	8. 15	9. 45
General (cleaners and scrubbers).....	6. 15	6. 35

These differences in median earnings are indicative of the extent of lost time from industrial or personal causes. For all departments

there was a difference of \$1.95 between the two medians, a little more than the average of 1 day's pay. This was less than was found in a study made in 1921-22 in South Carolina, when the difference between the median of all women workers with time worked reported and that of full-time women workers was \$2.25,<sup>4</sup> also a little more than the average of 1 day's pay.

The largest group of women, 40.8 percent, worked from 40 to 50 hours, or on 4 or 5 days, and a larger proportion of women worked full time than short time of less than 4 days.

Median earnings increased steadily with each day on which work was reported; but where actual hours of work were recorded earnings did not reflect so accurately the increase in time, partly because the rates of pay may have varied more in the mills recording hours rather than days.

*Night-shift earnings.*—The proportion of women on the night shift who worked a week of less than 4 nights or less than 44 hours was about three tenths of the total; it was practically the same as the proportion who worked the full weekly schedule.

The difference in median of a week's earnings between the night workers who worked full time and all night workers with time worked reported was \$1.30. In the spinning and weaving departments, with 95 percent of the women, the differences in medians between full-time workers and all workers with time worked reported were respectively \$1.20 and \$1.80. These differences in medians between the full-time workers and all the workers were less on the night shift than on the day shift, which is in line with the fact that women working at night earned less in all departments for the same number of weekly hours than did the women on the day shift.

#### **Actual amounts received**

The fact that half the women of the total of 14,136 received less than \$7.70 as earnings in the pay-roll week recorded indicates the low wage level prevailing. As a matter of fact, 30.4 percent of the women were paid less than \$6, and 21.6 percent of them less than \$5. Only 24.4 percent received \$10 or more; only 11.8 percent as much as \$12. Yet one third of those who received less than \$6 had worked 45 or more hours or on 4 or more days; one sixth had worked 50 or more hours or on 5 or more days.

Of the 8,696 women in the spinning and spooling department, 37.1 percent were paid less than \$6. Only 17.4 percent received as much as \$10. Of the 3,378 in weaving, 20.3 percent were paid less than \$6. Here, however, 43.3 percent were paid at least \$10 and as many as 11 percent received \$15 or more.

#### **Method of payment**

The most usual method of payment was by the amount produced, or some form of piece payment; for example, so much a hank for the speeders, the number of sides tended by spinners, the number of picks, cuts, or pounds for the weavers, and so on. Some form of piece payment was reported for 83.3 percent of the 15,921 women for whom method of payment was reported.

<sup>4</sup> U.S. Department of Labor. Women's Bureau. Women in South Carolina Industries. Bul. 32, 1923, pp. 38, 93-94, and 96.

16 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

Department	Total number of women	Percent on—		
		Timework	Piecework	Both time-work and piecework
All departments.....	1 15,921	15.7	83.3	0.9
Carding.....	719	13.6	84.7	1.7
Spinning and spooling.....	10,212	5.8	93.5	.8
Weaving.....	3,568	15.1	83.5	1.3
Cloth.....	1,244	89.1	10.4	.6

<sup>1</sup> Total includes 178 cleaners and scrubbers, not shown separately.

In the various departments, the spinning and spooling rooms had the highest proportion of women paid by the piece, 93.5 percent, and the cloth room had the lowest, 10.4 percent. The small amount of piecework in the cloth room is due to the character of the work. The majority of the women were inspecting and grading, and care and exactness are more important than speed.

In many industries during the past few years there has been a change in method of payment, either from straight piece to task and bonus, or from individual piece to group piece. Such changes have been installed as a means of making production more efficient and lowering costs. Information furnished by the mills visited showed very few changes in methods of payment in the past year—only 3 mills out of 93 reporting a change. These three changes took place in different departments: In the spinning and spooling department, one mill changed from side hours to hank payment; in the weaving department, one changed from so much per cut for weavers to the number of picks per inch, paying according to fineness of material; and another changed from a straight hourly rate for the drawers-in to payment for the number of ends drawn through the harness. From these figures and from the fact that the majority of mill work is paid for on the piecework basis, two conclusions may be drawn: First, that previous to the past year most mills had installed various systems of piece pay; and second, that the refinement or more complicated methods of piece payment found in some industries were not suited to cotton-mill manufacturing or had not yet been introduced into the industry.

### Learners

There was a small group of learners in the mills whose earnings are not included in the foregoing figures. These women, with less than 6 months' experience, comprised only about 1 percent of the women with earnings and time worked reported. The median of their earnings, regardless of the number of hours or days they worked, was \$6.95, which was 75 cents less than the median for the total. Two fifths (39.4 percent) of the learners had worked for 55 or more hours or on 5½ days, and their median was \$9.90. The learners may in some cases have had previous experience in another mill, but in the past year there has not been much shifting from mill to mill and it is probable that the "less than 6 months of service" in the one mill was their total experience.

More women with less than 6 months' experience were reported in fine goods than in the other production divisions, 71 being employed there. In no group was their proportion high.

### THE WORKERS

In South Carolina, as in most other Southern States, there is no problem of assimilating foreign-born workers either in the population or in the industrial life of the State. The census of 1930 shows in the entire State only 2,133 white women of foreign birth,<sup>5</sup> and in a study made by the Women's Bureau in 1921-22, among 4,199 working women only 12 were foreign born.<sup>6</sup> With very rare exceptions, then, the cotton-mill worker in the South is a native-born American. Formerly these workers came in from the mountains and the farms to find work and earn a living in the mills, but the present mill employees are to a great extent the second and even the third generation of mill worker. There is still a small proportion who own farms or are related to farm owners, so that these workers are able to return to the farm if there is no work in the mill. However, the majority of mill workers have no farm as a refuge and are dependent on the mill for employment.

#### Length of service

Although in the past there has been considerable moving from one mill to another among restless groups, usually termed "floaters", the majority prefer to stay where they know conditions or, as they express it, "where you know the boss and that he'll treat you right." The length of time in their present mill was reported by 6,513 women, and of these more than two fifths (42.6 percent) had been in their present mill for 5 years or more.

The following summary shows for the 6,513 women their length of service in the mill, according to department in which employed at time of survey.

Department	Women reporting	Under 1 year		1 and under 5 years	5 and under 10 years	10 and under 15 years	15 years and over
		Under 6 months	6 months and under 1 year				
All departments.....	6,513	7.6	5.6	44.1	25.7	9.2	7.7
Carding.....	319	3.4	3.8	38.2	28.5	15.0	11.0
Spinning and spooling.....	4,156	7.7	5.7	46.1	25.0	8.8	6.8
Weaving.....	1,397	7.3	6.2	40.4	26.1	9.7	10.3
Cloth.....	602	10.0	4.5	42.0	29.1	8.0	6.5

<sup>1</sup> Departments with fewer than 50 women omitted.

Women in the carding department had the longest service, considerably more than one half reporting experience of 5 years or more. Only 7.2 percent had been in the mill less than a year, in contrast to 13 or 14 percent of the women in the other departments.

<sup>5</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, South Carolina, p. 13.

<sup>6</sup> U.S. Department of Labor. Women's Bureau. Women in South Carolina Industries. Bul. 32, 1923, p. 125.

# 18 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

## Age

The number of women who furnished data on age was 6,513, or about two fifths of all in the study. The large number giving such information makes the findings probably representative of the general age distribution of women in the South Carolina mills. From the figures, one half of the women (50.9 percent) were under 25 years of age and one fourth were under 20, while the proportion 40 years and over was only 14.3 percent.

In a comparison of the age distribution in this study and in the study made by the Bureau in the same State in 1921-22, there is found a shift from the younger groups to those in the years 20 and under 40. This would indicate that in addition to the changed distribution as the younger workers have matured, the movement into mill employment includes fewer young girls than formerly.

Age	Percent distribution of females in South Carolina mills in—	
	1921-22 survey	1932 survey
All ages.....	100.0	100.0
16 and under 18 years.....	16.8	11.9
18 and under 20 years.....	15.4	13.2
20 and under 25 years.....	22.1	25.8
25 and under 30 years.....	14.0	15.7
30 and under 40 years.....	18.8	19.1
40 and under 50 years.....	9.6	10.7
50 years and over.....	3.3	3.6

It is possible that this tendency to increase the number of women in the middle-age groups at the expense of the younger workers is the result of a demand for more efficiency in the industry that requires workers in their most productive years, and that it is part of a general trend to eliminate the younger, and to a less degree the older, workers in industry in general.

The ages of the workers varied considerably in the different departments. In the carding and cloth departments the proportion of girls under 20 was much lower than in the other departments. The spinning and spooling department had the highest percent of women under 20.

Department	Women reporting	16 and under 18 years	18 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 years and over
All departments.....	6,513	11.9	13.2	25.8	15.7	19.1	10.7	3.3
Carding.....	318	6.9	11.3	23.9	17.9	22.3	11.9	5.7
Spinning and spooling.....	4,158	12.6	14.2	25.4	16.4	19.2	9.7	2.5
Weaving.....	1,396	12.8	10.8	25.7	13.6	18.1	14.0	5.0
Cloth.....	603	8.8	12.8	29.2	14.4	18.4	9.8	6.6

<sup>1</sup> Departments with fewer than 50 women omitted.



In the chief occupational groups, battery fillers had the largest percent of young workers, with nearly one half (47.8 percent) under 20 years of age; speeders and weavers had the smallest proportions.

Occupation	Percent of females—	
	16 and under 18 years	Under 20 years
Speeders.....	4.2	11.3
Spinners.....	14.8	29.6
Spoolers and winders.....	10.9	25.3
Weavers.....	5.6	12.4
Battery hands.....	28.0	47.8
Inspectors and graders.....	7.6	20.7

The departments that had the highest proportions of older women were the weaving and the carding, the former with 19 percent of its women, and the latter with 17.6 percent, 40 years of age or more. For all mills, regardless of department, the percent of women 40 years of age and over was 14.3.

### Marital status

Cotton-goods manufacturing has always been a family industry. Husbands, wives, and children have for the past hundred years found employment in the mill. This condition appears, however, to be changing gradually, with fewer children employed and a slight decrease in the proportion of women. According to the census figures in 1920, 49.3 percent of the operatives in cotton mills were women, but by 1930 this figure had declined to 48.2. The married women in this industry comprised 35.5 percent of the total number in 1920, but jumped to 42.8 percent in 1930.<sup>7</sup> In the present study the proportion of married women was 43.8 percent, slightly higher than that shown by the census in 1930 but appreciably higher than in 1920.

For the manufacturing industry as a whole the 1930 census reports a lower percent (32.4) of married women than are found in the cotton mills, and the proportion increased 7.9 points between 1920 and 1930, an increase which about equaled that in the cotton industry.

### EMPLOYMENT IN 1931 AND 1932

In January and February of 1932 most mills, according to their records, were operating a full daily schedule and frequently a night shift. These full-time employment schedules must not, however, be taken as representing employment conditions throughout the previous year. Nor were the good operating conditions shown in the early part of 1932 sustained throughout the spring and early summer of that year. During the latter part of the survey (in May) many of the mills that had reported working full time in January and February were cutting out 1 week a month or 1½ days a week.

The inquiry as to the working of short time for a period of at least a month in 1931 was answered by 90 mills. Just over one half of these, 46 mills, had operated with a shorter schedule of hours or

<sup>7</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, table 3, pp. 11 and 13; table 28, pp. 73 and 74.

20 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

operated irregularly for 1 month or more during the year. The most common form of curtailment was to shorten daily hours or to reduce days a week, and 30 of the 46 mills practiced one or both of these methods. Five mills ran irregularly throughout the year, working fewer hours or days in some weeks and again shutting down for a week or more at a time. Four mills shut down for 1 week a month for several months, and two of these mills found it necessary also to work shorter hours and fewer days in the weeks when they were operating.

Product	Total mills reporting	Mills running short time for a period of 1 or more months, 1931							
		Total running short time	Shut-down	Shut-down of night shift only	Short hours or days	Short time night shift only	Irregularity throughout the year	1 week a month curtailed	1 week a month and short hours or days
Total.....	90	46	2	2	30	3	5	2	2
Sheetings.....	21	15	2		11		1	1	
Print cloths, broadcloths, and pajama checks.....	32	10		2	6	1	1		
Fine goods (including fancies).....	8	3			1	1	1		
Chambrays, ginghams, and denims.....	3	3			1			1	1
Toweling, osnaburgs, and ducks.....	4	3			1		1		1
Bedspreads and upholstery fabrics.....	5	5			4		1		
Yarns.....	13	6			6				
Specialties.....	3	1				1			
Other cotton goods.....	1								

Mills producing certain types of goods reported greater irregularity of operation than did those making other kinds. In the three largest production groups—sheetings, print goods, and yarns—the mills making sheetings had the largest amount of lost time in 1931, with 15 out of 21 mills curtailing their output in some way. When all the groups are considered, both the small ones with only 3 mills and the large ones with 32, the mills producing print cloths showed the steadiest employment in 1931, with those producing specialties and fine goods, respectively, showing the next steadiest employment. In these three groups about one third of the mills, compared to two thirds in the other groups combined, reported short time for a period of 1 or more consecutive months.

In a comparison of the steadiness of the working schedule in the year 1931 with the 1-week period taken in January or February of 1932, a much fuller operating schedule is shown for the more recent period.<sup>3</sup> In the week in 1932, only 1 mill, manufacturing yarns, was operating less than a 55-hour week, and three fourths of the 129 mills reported were on a schedule of 80 hours and over. In the earlier and longer period of 1931, as already stated, 46 mills, or more than one half of the 90 reported, had a shut-down, worked short time, or experienced some other form of curtailment for 1 month or longer.

For 84 mills the fluctuation in the number of workers during the year 1931 was secured. The variations were not great. The month

<sup>3</sup> Naturally, no mill was shut down in the week of 1932 selected by the management as representative of hours and earnings.

of January had the smallest number of workers and that of November the largest, but there were only 8.5 percent more workers in the latter month in the carding, spinning and spooling, and weaving departments, where were found the great majority of workers. On the whole, there was an improvement in numbers during the last 6 months of 1931 and the employment figures were better for the last 4 months than for any other period of the year.

Period in 1931	Monthly average of employment, 1931		
	All employees	Males	Females
<b>All shifts:<sup>1</sup></b>			
First 6 months	28,197	18,632	9,564
Second 6 months	29,275	19,313	9,962
Percent difference	+3.8	+3.7	+4.2
<b>Day shift:</b>			
First 6 months	22,386	13,872	8,514
Second 6 months	22,302	13,512	8,790
Percent difference	-0.4	-2.6	+3.2
<b>Night shift:</b>			
First 6 months	5,810	4,700	1,060
Second 6 months	6,973	5,801	1,172
Percent difference	+20.0	+21.9	+11.6
<b>Other shifts:<sup>1</sup></b>			
First 6 months	446	185	261
Second 6 months	588	209	379
Percent difference	+31.8	+13.0	+45.2

<sup>1</sup> Excludes short or intermediate shifts.

The better showing for the second half of the year was not reflected in the total numbers employed on the day shift, where the average of the second 6 months was below the first. However, on the night shift and on the short supplementary shifts there was a considerable increase in the second half of the year. On the night shift the average number of workers during the second 6 months of 1931 was 20 percent above that for the first 6 months.

A night shift of 1 or more months was worked by three fourths of the 84 mills whose 1931 records were obtained, and practically the same proportion of mills were operating a night shift of one or more departments in the week for which records were taken in 1932. There was, however, a noticeable change in the proportion of mills employing women on the night shift in 1932 from the proportion employing them in 1931. Of 63 mills reporting night shifts in 1931 whose figures were obtained, 49; or 77.8 percent, had employed women as well as men at night, while in the 1932 period only 44.9 percent of the mills operating at night employed women on that shift. The increase in employment in 1931, therefore, was not on the day shift but on the night and the short supplementary shifts.

Although the average number of both men and women employed at night was greater in the second than in the first half of 1931, the percent of increase was almost twice as high for the men (21.9) as for the women (11.6). On the short or supplementary shift the opposite occurred and women increased to a much greater degree than did men.

## 22 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

Taking the average for the 12 months as a base, the last 4 months showed practically no change where the day shift was concerned (+0.1 percent) but did show an increase of 16.3 percent in average number of night workers.

Although a night shift during some time in 1931 was reported in 63 of the 84 mills that supplied 1931 figures, the period during which there was night operating varied in the different mills. Thirty-one of them reported a night shift in each of the 12 months, 18 mills had night operating for 7 to 11 months, and 14 for 6 months or less. The large majority, 75 percent, had run at night in 8 months or more.

Although, according to these figures, night operating was very generally practiced in 1931, the extent to which women were employed at night was not equally prevalent.

Months of night work in 1931	Mills operating at night for months specified	Mills employing women at night for months specified
Total.....	63	49
1.....	2	6
2.....	3	7
3.....	3	8
4.....	1	1
5.....	2	1
6.....	3	-----
7.....	2	1
8.....	2	2
9.....	4	2
10.....	6	5
11.....	4	3
12.....	31	13

Of the 63 mills with a night shift, 49 employed women at night. Besides working at night in less than four fifths of the mills, women ordinarily were on night work for much shorter periods than men were. Of the mills employing women at night, less than one half did so in more than 8 months of the year. Only 13 mills reported employing women at night for the entire year, compared to 31 mills operating a night shift with men for 12 months. There were only 11 mills that ran a night shift in less than half the months, but there were 23 that employed women at night in less than half the months.

### Employment in 1931 by department

The great majority of the workers were in the carding, spinning and spooling, and weaving departments. Where mills had a cloth room, men usually were employed there, except in fine-goods mills. The cloth room rarely had night and intermediate shifts, and when production increased or decreased the variation in employment was less marked in the cloth room than in the other departments. The spinning department was by far the most important, measured by numbers employed. In each month over two fifths of all the workers in the carding, spinning, and weaving departments were in spinning. For the women the proportion was considerably higher, two thirds of the total being in the spin room.

Although in the total of the three principal departments the number of employees increased in 1931 about 8 percent (7.8) from January to

December, the numbers on the day shift decreased in the carding and weaving departments, and only in spinning was there an increase, this amounting to 4.4 percent. The increase in the numbers employed occurred principally on the night shift and the short day shifts, rather than on the regular day shift. This condition was especially marked for men, where the number on the night shift increased by 31 percent in the card department, by 44.8 percent in the spinning department, and by 70.3 percent in the weaving department.

	Percent difference in numbers from January to December, 1931		
	Total	Day	Night
Carding department—total.....	+4.4	-2.6	+29.4
Men.....	+5.0	-2.9	+31.2
Women.....	-2.3	-.2	-23.6
Spinning and spooling department—total.....	+9.0	+4.4	+25.8
Men.....	-11.8	-1.7	+44.8
Women.....	+6.8	+6.7	-3.7
Weaving department—total.....	+8.2	-3.1	+62.8
Men.....	+9.4	-6.0	+70.3
Women.....	+5.2	+3.3	-9.0

The number of women employed at night decreased in all three departments, but on the day shift there was an increase of over 8 percent in spinning and a smaller increase in weaving, while in carding the numbers remained practically the same.

A little more than one half the mills ran a regular night shift in each of the three departments during the first half of the year, and this number increased during the second half. Mills operating night shifts in the carding department only during the first 7 months of the year added other departments to the night shift in the later months of the year. This was true also of the operating of other single departments, so that the number of mills running at night only in one department declined and the number running at night in all three departments increased.

#### Operating changes that affected employment in 1931

The effect on employment of operating changes is difficult to determine. Frequently more than one change takes place at the same time or a change is put into effect so gradually that it is hard to estimate the result. Probably one of the simplest types of change that affects employment is an increase or decrease in the amount produced, and this was reported in 46 of the 93 mills that reported changes in 1931. Although an increase in production normally means a greater demand for goods, in many cases in 1931 the stimulus was, according to the mill managements, the desire to decrease production costs by the use of an extra shift rather than the demands of the market. Other modifications, some due to more efficient production or market conditions, resulted in changes in equipment and in type of goods produced; or, where more than one kind of goods was manufactured, by an increase in one type and a decrease in another.

Aside from an increase or decrease in output, the most important change was in method of operating. This included such methods as the spread-out system in the weaving and spinning departments, the elimination of 1 picking operation, and the change from time-rate

to piece-rate pay. In 17 mills 1 or more of these changes were put into effect in 1931.

Changes in equipment were principally in the picker room, where new pickers were put in that did the work more efficiently and with fewer men, and in the spinning and spooling department, where the old spoolers and warpers were replaced with new machines that operated with less labor and greatly increased the speed of production. In all, 10 mills reported 1 or more of these changes, while 3 others put in machinery that in some cases decreased and in others increased the number of workers.

In 8 mills there was some change in product that affected the numbers employed, either by the introduction of a new line of goods or a variation in the amount produced of a certain style. If, for example, sheetings and print goods were made in the same mill, the proportion of sheetings may have altered; or, if fancies were manufactured, there may have been a change in the number of styles.

Change in the number of workers due to these causes was especially noticeable in the mills making print goods, and the two major causes of change, difference in output and more efficient method of operating, were both most pronounced in this group of mills.

#### Basis of lay-offs

When lay-offs were found necessary, due to any change of conditions, the method of such forced reduction in numbers varied in the different mills. Of the 41 mills that reported basis of lay-offs, almost one half considered the condition of the family rather than of the individual. In 11 mills it was the custom to retain a worker from each family, and in 6 others the question of family need was first considered. The management of 1 mill believed it to be for the best welfare of their workers to retain all the workers in one family and lay off all in another family, so that the latter would move to another mill and the families that remained would have sufficient work to maintain their standard of living. The heads of families were given preference in 2 mills, and in 2 others married women were the first laid off if other members of the family were working. The basis of lay-offs in 8 mills was efficiency and in 4 mills length of service. A few mills laid off minors first, and other mills those not living in the mill village, while in 3 the families that could go to farms were let out before other workers. There was no policy of lay-offs in 51 of the 96 mills. It had not been necessary to formulate a general rule, as no general lay-offs had taken place.

Basis of lay-off:	Mills reporting
Family needs .....	20
Efficiency .....	8
Length of service .....	4
Having farms .....	3
Married women .....	2
Minors .....	2
Living in mill village .....	2

#### Spares or extra workers

It has been the custom in the cotton-mill industry to employ extra or spare hands to take the place of those who are absent, so that machines need not stand idle nor production be interfered with. The

\* Includes "some work to all families", "let whole families go", and "heads of families."

method of employing ~~these~~ extra workers and the numbers needed vary with mill and with locality. Where there is a mill village, the extra workers usually report for possible work each morning, or they are sent for if needed. These spares are employees with no regular positions, that is, jobs in the mill, but usually they are given sufficient work to enable them to support themselves until a regular position is available.

When times are bad and work is not very plentiful, carrying extra workers sometimes involves a spreading of the work, and regular employees are asked to give a day or two a week to the spare workers. Among the workers themselves this is called being "asked out." In some mills no regular spares are kept on the books, but the overseers have a list of former employees, living in the village but not desirous of steady employment, and these are sent for when extra help is needed. The third method of keeping machines running steadily is to have a small number of workers who know the different operations and can be shifted from one job to another as need arises. This method is seldom found in southern mills and is not the usual custom in northern mills where there is a mill village.

Of the 86 mills where information was obtained on the spare-hand system, the managements of over three fifths declared that the custom was for all or some of the spares to report each morning for work. Twenty-six mills depended on sending to the homes in the morning when extra help was needed, and in 4 mills the spares were notified the day before so that they would not have the trip to the mill unnecessarily. Regular days were given to all or some of the spares in 2 mills. In 6 mills there was so much short time that the regular workers were very steady and practically no extras were required. In some cases there was a system of spreading the work in order to give some time to spares, and in 47 mills, in order to do this, it was necessary to ask the regular workers to stay out occasionally and give their time and pay to the extras.

At the time of the survey there was in South Carolina, as in the rest of the country, considerable unemployment, with more workers than work. It would not be surprising, therefore, if the ratio of spares to regular workers was considerably greater than in more normal times. This was not the case in most mills, however. About one half of the mills reported that the spares formed less than 10 percent of the total force, and apparently a considerable effort was being made to discourage the practice of keeping an excessive supply of labor attached to the mill. In 1922, in a study of cotton mills made by the Women's Bureau, the proportion, according to statements of the mill management, was higher than this, with the average around 15 percent.<sup>10</sup>

The spare-hand system, although it spreads the work, is unsatisfactory both to the management and to the employees, and an effort to curb it is evidenced by the decrease that has been continuing over a number of years in the proportion of spares. A writer on southern cotton mills in 1907 declared that "Every cotton mill in this State [South Carolina] recognizes that to have a full complement of labor in the mill each morning \* \* \* it is practically necessary

<sup>10</sup> U.S. Department of Labor. Women's Bureau. Lost Time and Labor Turnover in Cotton Mills. Bul. 52, 1926, p. 43.

## 26 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

to carry a surplusage of 20 to 25 percent of spare help." <sup>11</sup> In 1932, when the mills were visited, although some reported an excess of spares, two fifths reported a decrease in the proportion since 1931, while another two fifths reported their percent of spares unchanged. Only one fifth of the mills reported an increase in spares, and with these it was involuntary and efforts were being made by most of them to reduce the number. These findings are in line, therefore, with the general trend noted over a period of years and which is continuing in spite of the depressed condition of the industry to decrease or eliminate spare help.

---

<sup>11</sup> Kohn, August. *The Cotton Mills of South Carolina*. Columbia, S.C., 1907, p. 61.



## THE MAINE SURVEY

### NUMBERS

Although the manufacture of cotton cloth is an important industry in the State of Maine, it does not occupy the same relative importance that it does in some of the Southern States. Whereas in South Carolina, for example, 77.5 percent of the women employed in manufacturing and mechanical industries are found in cotton mills, in Maine only 21.1 percent are so reported, according to the 1930 census.<sup>1</sup> Nevertheless, even in Maine, the cotton mills give work to more women in the manufacturing industries than any other industry but shoes, and therefore conditions in the industry are of vital importance to women in that State.

The present survey included 14 mills and 3,143 women, 79.6 percent of all the women reported by the United States Census of 1930<sup>2</sup> as engaged in this industry.

Product	Mills	Employees			
		Total	Males	Females	
				Number	Percent of total
Total.....	14	6,691	3,548	3,143	47.0
Sheetings.....	4	2,803	1,464	1,339	47.8
Fine goods.....	3	2,068	1,104	964	46.0
Yarns.....	3	387	195	192	49.6
Other.....	4	1,433	785	648	45.2

These figures show a remarkably high percent of women, 47 percent of all workers in the Maine mills being females, in contrast to 32.5 percent in the South Carolina mills. The percent in Maine is even higher than that of cotton mills throughout the entire country, where women comprise 43.2 percent of the total.<sup>3</sup>

The greatest number of workers, both men and women, were employed in the manufacture of sheetings, with fine goods second in importance. Yarn mills naturally showed the largest proportion of women (49.6 percent), but employees in the other mills were from 45 to 48 percent women.

It is difficult to account for the high proportion of women aside from two facts: The opportunities of work for men are greater and more diversified in Maine than in a southern cotton-mill State, and the amount of night work, with its larger proportion of men, is much less in Maine.

<sup>1</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics: South Carolina, p. 7; Maine, pp. 6-7.

<sup>2</sup> *Ibid.*, Maine, p. 7.

<sup>3</sup> *Ibid.*, United States Summary, pp. 11, 13.

**Night shifts**

No women were reported on the night shifts at the time the study was made in Maine, but the percent of men so employed was 9.2. Only 7 mills were operating one or more departments at night, with 325 men on the night shift. This condition is in marked contrast to the South Carolina mills, where 98 of the 132 mills were operating one or more departments at night, with about one fourth of their workers. Also, unlike South Carolina, the cotton mills in Maine at the time of the study were not operating short shifts in between the others or at meal times.

Three of the seven mills operating at night, and the greatest number of men working at night, were in the manufacture of fine goods. No night operating was found in yarn mills. As a rule, therefore, the operating schedules of the Maine mills were confined to the day shift.

Product	Mills		Employees	
	Total number	Number running at night	Total	Percent working at night
Total.....	14	7	6,691	4.9
Sheetings.....	4	2	2,803	4.0
Fine goods.....	3	3	2,068	8.8
Yarns.....	3	—	387	—
Other.....	4	2	1,433	2.3

**HOURS**

**Scheduled hours**

The length of the working day and the number of hours that can be worked by women in a single week are limited by law in Maine in "workshop, factory, manufacturing or mechanical establishment." The weekly limit is 54 hours, but the daily limit of 9 hours is elastic and can be extended if the weekly hours are not exceeded.

At the time of the present survey the most common daily hours were 9½, found in 10 of the 14 mills. The 4 other mills had a slightly longer schedule, 1 reporting 9 hours and 50 minutes and 3 reporting 10 hours. Daily hours were, then, ordinarily a little shorter than in South Carolina, but the difference was only 10 or 15 minutes a day. The day of 10 hours was in 1 yarn and 2 sheeting mills. No mill making fine goods and none in the residual group, "other products", operated more than 9½ hours.

The slight variation shown in daily hours was not found in the weekly schedule, the difference in daily hours being equalized by a longer or shorter day on Saturday, so that all mills had a weekly schedule of 54 hours.

A night shift was reported in 7 of the 14 mills, but no women were employed at night at the time of the survey. The hours of the men varied from 10 per night in 1 mill to 12 in 2 mills. In 2 mills the schedule was 11 hours <sup>4</sup> and in 2 it was irregular, depending on the amount of work necessary in a certain department to keep the flow of work steady throughout the day. The 5 mills with regular hours were on a 5-night schedule, and weekly hours were from 50 to 60. There were

<sup>4</sup> 1 mill operated 11 hours on 4 nights and 6 hours on 1.

no records of a shorter or intermediate shift in any of the mills at the time the survey was made.

### Operating hours

The operating hours, or hours during which some part of the mill was running, were 54 a week in 7 of the 14 mills. The hours of the 14 mills were as follows:

Weekly operating hours:	Mills reporting
Total.....	14
54 hours.....	8
104 hours.....	3
109 hours.....	1
114 hours.....	2

The 7 mills with long operating hours had only 325 workers, all men, on the night shift. With the exception of 1 mill reporting 130 men, all had fewer than 70 men and 2 had fewer than 10.

### Hours worked

In spite of the fact that nearly one half of the women (48 percent) worked a full week, there was considerable time lost by the workers, for industrial or personal reasons. In the carding departments, where there was the most undertime, 63.8 percent of the women failed to work the full schedule and 24.2 percent worked less than 30 hours. Full time was most common in the weaving departments, where only 31.9 percent of the women lost any time and only 10.7 percent worked less than 30 hours.

Department	Percent of women working—	
	Less than full weekly hours	Less than 30 hours
All departments.....	52.0	18.0
Carding.....	63.8	24.2
Spinning and spooling.....	60.0	23.8
Weaving.....	31.9	10.7
Cloth.....	53.5	8.4

## WAGES

The earnings of the women workers in the cotton mills of Maine were taken for the second week in February 1932, except two small mills whose records were for January and August, respectively. Nearly all the mills had been closed for some time in the summer months and many had worked short time during the spring. For this reason the stock of goods was low, and new orders in the fall gave a full operating week in most of the mills. It may also have been the case that the very small amount of night operating allowed a fuller day schedule than otherwise would have been possible.

### Full-time women workers

Almost one half of the women, 48 percent, worked a full week of 54 hours. The median of their earnings was \$13. The highest earnings,

<sup>1</sup> Includes 1 mill whose operating hours are more than 54, but exact number not known.

<sup>2</sup> Includes 1 mill whose operating hours range from 104 to 114.

### 30 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

\$20 and over, were reported for 35 women, and the same number had the very low earnings of from \$4 to \$7.

The highest median of a week's earnings of full-time workers was in the carding department, \$14.75; the lowest was in the cloth department, \$11.40.

	Median of a week's earnings
All departments.....	\$13. 00
Carding.....	14. 75
Spinning and spooling.....	12. 70
Weaving.....	14. 10
Cloth.....	11. 40

When occupations are considered, both the highest and the lowest earnings are found in the weaving department. The smash and pick-out hands had the highest median of any occupational group, \$16.90, and the girls filling batteries had the lowest, \$11. Thirty-one of the 35 women earning \$20 and over were in the weaving department; 30 of these were weaving and 1 was drawing in. The same large proportions of those reporting low earnings were in the weaving department; 29 of the 35 women earning \$7 or less were in this department, and all but 6 were battery hands. The following figures show the median earnings of the women in the principal occupational groups:

Smash and pick-out hands (91).....	\$16. 90
Weavers (199).....	15. 75
Speeders (111).....	15. 45
Drawers-in (91).....	14. 70
Spinners (158).....	14. 30
Doffers (51).....	12. 55
Spoolers and winders (197).....	12. 05
Inspectors and graders (156).....	11. 25
Battery hands (196).....	11. 00

#### Earnings of all women workers

Although nearly one half of the women worked a full week, 52 percent worked less than their scheduled time of 54 hours. When earnings of these two groups are combined, the median is \$11.10, a lower figure, naturally, than when full-time workers only are considered. As many as 18.3 percent of the workers, including both full-time and part-time workers, earned less than \$7, but four fifths of these worked less than 30 hours, and over 95 percent worked less than their weekly schedule. The difference in medians between the women working the full weekly schedule and all the women for whom records were taken, including full-time and short-time workers, was \$1.90. As would be expected, the proportion of women earning less than \$7 is much greater when all women, regardless of the time worked, are included. Compared with 22 full-time workers who were in the group earning less than \$7, there were 562 women who worked other than full time, comprising over one sixth (17.6 percent) of all women for whom wages were recorded.

The greatest variation in medians between full-time workers and all workers for whom time worked was reported was in the card department, as would be expected in view of the high percentage of under-time. A median of \$14.75 was reported for full-time workers but for all workers \$10.70 was the median, a difference of \$4.05.

Department	Median earnings of—		Difference
	Full-time workers	All women for whom time worked was reported	
All departments.....	\$13.00	\$11.10	\$1.90
Carding.....	14.75	10.70	4.05
Spinning and spooling.....	12.70	11.00	1.70
Weaving.....	14.10	12.60	1.50
Cloth.....	11.40	10.60	.80

Moreover, although the median of full-time workers was highest in the carding department and lowest in the cloth room, the actual earnings of all the women for whom time worked was reported in these two departments were much the same, as shown by the median of \$10.70 in one and of \$10.60 in the other, due to the undertime worked by the women in the carding department.

### Method of payment

In all industry during the past 10 years there has been an increasing tendency to pay, so far as possible, by piece or some other form of production method. In the cotton-mill industry this same trend toward production payment has occurred, but the extent to which it has been introduced varies with the individual mill and apparently with its location. In Maine a little more than one half of the women (54.4 percent) were paid according to the amount produced.

The deciding factor, whether payment should be according to time worked or to amount of work produced, was in most cases not the job but the custom of the mill. The only exception to this statement is the group of speeder tenders, who were all paid by the piece, usually by the hank of roving, no matter in which mill they worked.

The majority of the women spinners, spoolers, and winders, weavers and drawers-in were paid on a piece basis, while the doffers, frame cleaners, spares, battery hands, smash and pick-out workers, and inspectors and graders were as a rule paid by the hour.

## THE WORKERS

### Length of service

In any period of industrial depression few new workers are hired; it is difficult even to provide work for those already on the rolls. It is somewhat surprising, therefore, to find that 15.8 percent of the 1,803 women who reported length of service had been in the employment of their present firm less than a year.

In the 6 months just preceding the study, 14.5 percent of the women had entered the mills, while in the 6 months before that only 1.3 percent had begun work. These figures indicate the addition of a number of new workers during the spring and summer of 1932.

Stability among the workers is indicated by the large proportion of women, 49.4 percent, who had been with their present employers 5 years or more, 27.3 percent having at least 10 years' experience in the 1 mill.

## 32 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

Length of service in the mill is shown in the following summary:

Department	Women reporting	Under 1 year		1 and under 5 years	5 and under 10 years	10 and under 15 years	15 years and over
		Under 6 months	6 months and under 1 year				
All departments.....	1,803	14.5	1.3	34.8	22.1	12.3	15.0
Carding.....	183	14.8	0.5	26.8	23.0	16.4	18.6
Spinning and spooling.....	990	14.2	1.2	35.9	23.1	12.5	13.0
Weaving.....	372	14.8	1.3	37.1	15.1	10.8	21.0
Cloth.....	258	14.7	2.3	32.9	27.5	10.9	11.6

### Age

The proportion of girls under 20 in the present study was 15 percent, with only 4.8 percent 16 and under 18 years.

Department	Women reporting	16 and under 18 years	18 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 years and over
All departments.....	1,808	4.8	10.3	19.5	17.4	25.5	16.9	5.7
Carding.....	183	3.3	5.5	10.9	21.3	28.4	22.4	8.2
Spinning and spooling.....	994	5.3	10.5	19.5	18.1	27.9	15.0	3.7
Weaving.....	373	5.1	11.5	18.8	12.6	20.4	23.6	8.0
Cloth.....	258	3.1	11.2	26.7	18.6	21.7	10.5	8.1

Women 40 years and over comprised 22.6 percent of the total number. Those 30 and over comprised almost one half. At the present time, when competition is exceedingly keen and the most stringent economy is necessary, the greater efficiency of the more mature worker was mentioned by several mill executives as a feature to be considered in obtaining the best production.

### Marital status

The past 20 years have seen a remarkable increase in the proportion of married women in industry. In 1910 the census reported as married nearly one fifth, 18.6 percent, of the women employed in manufacturing and mechanical industries in the United States. In 1920 about one fourth, 24.5 percent, were married. Ten years later, in 1930, the census figures show nearly one third, 32.4 percent, married.<sup>7</sup> The textile industry has always had a higher percent of married women than has industry as a whole; the figures of the census for cotton mills in 1920 show 35.5 percent, and for 1930 they show 42.8 percent.<sup>7</sup>

The proportion of married women among the 1,810 women in the Maine mills was over two fifths or 41.2 percent. The group of women who were widowed or separated from their husbands was comparatively small, 8.5 percent, while the largest group was that of single women (50.4 percent).

<sup>7</sup> U. S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, table 29, pp. 72-74.

## EMPLOYMENT IN 1931

The numbers employed in the Maine cotton mills in 1931 were secured for 1 week in each month in order to obtain information as to the fluctuations in employment and the changes in working hours.

The year of 1931, although a difficult one for cotton mills, was not so critical a period as 1932, according to the statements of the various managements. From January to September the numbers employed varied but little from month to month, and from September to December, although employment dropped, it declined only 6 percent from the average for the entire year. From January to December the decrease in total number was 6.1 percent.

Although the force was kept fairly stable in the mills, there were a number of periods with a short weekly schedule. Of 10 mills that supplied figures, 7 reported a schedule of fewer hours in the day or fewer days in the week for 1 month or more during 1931. One mill was closed for 4 months—for May and June and again for October and November—in addition to being on short time at least one third of the rest of the year. Two mills had no short time during the year.

Night operating in one or more departments was reported throughout the year. The number of mills running a night shift varied from month to month. In 1 mill night work lasted only 1 month, but in 7 there was night work at least 6 months of the year, 3 of these operating at night all 12 months.

Taking the average for the 12 months as a base, the last 4 months showed a decrease of 3.7 percent in the average number of employees on the day shift and a decrease of 9.5 percent in the average number working at night.

There was very little employment of women at night, and it was confined to the spinning department, where 13 women worked at night in January, 5 in February, and 54 in May, only 3 or 4 mills being involved. In 1 mill women were employed for 1 month only, and in 2 mills for 2 months.

Late afternoon or early evening shifts were operated in some mills during each month of the year except April and December, but the numbers of workers were small (79 in February being the largest) and the mills so operating never exceeded 3.

**Spares**

The system of having extra or spare workers who report each morning or who may be sent for in case of need is, as a rule, closely tied up with the mill-village system. In Maine, where the workers did not live in company villages, only 1 of the 10 mills for which information was available reported a system of spares or extras who could be called in to take the place of absent workers. In this mill such substitutes were notified in advance.

**Basis of lay-offs**

If it was necessary to decrease the number of workers, 5 of the 10 mills tried to spread the work among their various employees and 5 based their lay-offs on the efficiency of the workers. In 3 of the latter, family need also was recognized. In one mill where the work was spread, if it was necessary also to lay off some workers the heads of families were given special consideration.

### Changes in 1931

During the year certain changes took place in 6 of the 10 different mills. A change in product occurred in 4 mills. In 2 of these rayon was used to a greater degree; in 1 of these, the number of women was increased. In another mill no new product was introduced, but the proportion of shirting manufactured was larger, while in still another a new product (yarns) was introduced without, however, affecting the numbers employed. New labor-saving equipment was installed in 4 of the 10 mills reporting. The new machines, such as combers, warpers, and long-draft spinning equipment, produced more yarn per worker, so that somewhat fewer women were needed, but in no case were many women affected. The spread-out system in the spinning room was introduced in only 2 mills in 1931, and although this resulted in lower labor costs, as the helpers to the spinners received less than they had as spinners, the effect on numbers was slight. Although 1931 was not a good year for textiles, only 4 of the 6 mills reported a marked change in output, and in 2 of the mills the change consisted of increased production.

No mill reported a change in method of payment during the year. The year of 1931, therefore, was not a year of many operating changes in the 10 mills reporting, although 4 of them reported a shift from one type of goods to another and 4 reported improved equipment in one or more departments, while 2 recorded more efficient operating methods that affected the number of women. The principal effect of the slackened demand for goods, a shortened schedule of operating hours, was felt markedly by only 2 mills, although 8 mills reported some short time during the year and 1 of these a shut-down for several months.



## THE TEXAS SURVEY

### NUMBERS

Although Texas ranks first as a cotton-growing State, it is not equally important in the manufacturing of cotton goods. According to the census, less than 1 percent of the men engaged in manufacturing and mechanical industries are in cotton mills; and although the proportion of women is higher, it reaches only 4.8 percent of those in all manufacturing and mechanical plants.<sup>1</sup>

The present study of Texas mills includes 13 mills, with 2,409 employees. This number of workers is a little more than seven tenths (71.7 percent) of the entire number reported by the census in 1930,<sup>1</sup> and it probably represents an even larger percent of those employed in 1932, as the industry was feeling the effects of the depression increasingly. One mill had been entirely closed for the 2 years preceding the date of the study, except for 2 weeks.

Source	Employees			
	Total	Males	Females	
			Number	Percent of total
Census figures, 1930.....	3,361	1,961	1,400	41.6
Women's Bureau figures, 1932.....	2,409	1,468	941	39.1

The proportion of females in the Women's Bureau study was a little less than two fifths, while the census figures for 1930 show a little more than two fifths.

The chief products manufactured in the Texas mills were toweling, ducks, and osnaburgs, and 8 mills, employing 1,325 workers, were making these goods. The 5 mills making other cotton products employed 1,084 workers.

Product	Mills	Employees			
		Total	Males	Females	
				Number	Percent of total
Total.....	13	2,409	1,468	941	39.1
Toweling, osnaburgs, and ducks.....	8	1,325	781	544	41.1
Other cotton goods.....	5	1,084	687	397	36.6

<sup>1</sup> U. S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, Texas, pp. 8, 10, 11.

**Night shifts**

Night shifts were reported in 4 of the 13 mills, but the number of women employed at night was small, only 86, in 3 mills, being found. Men on the night shift numbered only 187 in 3 mills, the fourth not reporting men by shift. The proportion of persons who worked at night to the total number employed was not large.

All the mills engaged in night operating were manufacturing different products—ducks and denims, shirtings and gingham, sheets and pillow cases, and cotton blankets. No mills reported the operation of short or intermediate shifts.

**HOURS****Scheduled hours**

In Texas the law specifies that women, with certain exceptions, may not be employed more than 9 hours a day and 54 a week. Among the exceptions are the employees of mills making woolen, worsted, and cotton goods, and of plants making articles out of cotton goods who may be employed 10 hours daily and 60 hours weekly if double time is paid for daily hours beyond 9. In these as well as in other industries there is no prohibition of night work for women.

As in South Carolina cotton mills, the usual daily hours in the Texas mills were 10, and as many as 11 mills, employing nine tenths of the women, had this schedule. Of the 2 remaining mills, 1 had a 10-hour day for all but the weavers, who had a 9-hour schedule, and the other mill worked 9½ hours a day.

The prevailing weekly schedule was 55 hours. Of 13 mills, 10, employing over three fourths of the women, had a week of 55 hours. One mill had 55 hours for all but the weavers, who had a 50-hour schedule. Of the 2 others, one reported a shorter week (52½ hours) and one a longer week (56 hours).

These figures show that 92.6 percent of the women had a scheduled week of 55 hours and over. All the mills had a work schedule of 5½ days a week, a longer or shorter day on Saturday making the weekly hours uniform even when the daily hours varied.

**Night workers**

Of the 4 mills reporting night shifts, 1 had nightly hours of 11, 2 had 11 for men and 10 for women, and the fourth mill reported 9 for weavers and 10 for other workers. No women worked as many as 11 hours a night. Most of the women, 62, worked a night shift of 10 hours, with 24 women working only 9 hours. In all 4 mills, only 5 nights a week were worked, so the women working 9 hours had a weekly schedule of 45 hours, and those with a 10-hour shift had one of 50 hours.

**Operating hours**

The number of hours in the 24 that a mill operates may measure the demand for goods, may be an indication of an effort to reduce overhead, or, if only one or two departments are operating, may indicate a balancing of production throughout the mill. In Texas only 4 mills reported a longer operating schedule than that of 10 hours, the usual schedule of day running. The 4 mills that showed longer operating hours were running night shifts, but in none of the mills were intermediate shifts reported, so total operating hours were those of the day shift or of the day and night shifts combined. On a

weekly basis, 4 mills working at night reported more than 100 hours, while the other 9 operated only the hours of their daily schedule. The following figures show the operating hours of the 13 mills from which information was obtained.

Daily operating hours		Weekly operating hours	
Hours	Number of mills	Hours	Number of mills
Total.....	13	Total ...	13
9½.....	1	52½.....	1
10.....	8	55.....	8
20.....	1	105.....	1
21.....	3	110.....	2
.....	.....	111.....	1

**WAGES**

**Full-time women workers on day shift**

The expectation, or rather the hope, of any worker is for a full week's work and a full week's pay. This is rarely achieved by any worker for an entire year, or by the entire group of workers for a whole week. In the present study the full-time workers on the day shift comprised only a little over one fourth (27.4 percent) of all the women on the day shift whose week's earnings were copied and whose time worked was reported. Their earnings had a median of \$11.10. The pay-roll figures taken were for a representative week in one of the first 4 months of 1932. The actual hours worked were reported for 209 of these women; for 16, included in the group of full-time workers, the time was based on a record of days worked only.

Although half the 225 women earned more and half less than the median of \$11.10, there was a considerable group, over one fourth, who earned \$8 and under \$10. Only 13 of the full-time workers earned less than \$8, and only 19 women earned \$15 or more. The earnings, therefore, were grouped very closely around the median, with 34.2 percent of the full-time workers earning \$9 and under \$11, and 36.9 percent earning \$11 and under \$14.

The full-time earnings varied somewhat by department, but a comparison can hardly be made where the number of full-time workers is so small. In only two departments was there a sufficient number for a median to be representative. In these two, the spinning and the weaving, the former had median earnings of \$10.55 and the latter of \$11.40. The earnings of the 9 women in the card room who worked full time ranged from \$11 and under \$12 to \$15 and under \$16, while for the 36 women in the cloth department they ranged from \$9 and under \$10 to \$15 and under \$16, about three fifths receiving \$11 or more.

The following figures show, by department, the number of full-time workers on the day force who earned \$11 and over.

Department	Number of full-time workers	Number earning \$11 and over
All departments.....	225	115
Carding.....	9	9
Spinning and spooling.....	85	31
Weaving.....	95	54
Cloth.....	36	21

### Full-time women workers on night shift

The proportion of women on the night shift who worked their full schedule was higher than of women on the day shift. Forty-five percent of the women working at night for whom time worked was reported worked their full schedule, and their earnings reflected this, as many as four fifths, in contrast to about one half of the full-time workers on the day shift, receiving \$11 and over. The total number of women on the night shift was only 86. For 75 women time worked was reported and 34 of these worked full time. The numbers of full-time workers, therefore, were too small for their earnings to be studied by department.

As already stated, in Texas no short or intermediate shift between the day and night shift or in addition to the day shift was reported.

### Earnings of all women workers

*Day-shift earnings.*—When all earnings for a given pay period are considered, there is naturally a considerable difference in median between this inclusive group and that of the full-time group. The median for 820 women on the day-shift pay roll for whom time worked was reported was \$7.50, a sum \$3.60 less than that of the women who worked the full daily hours. This considerable difference would indicate a great deal of short time. A little more than one third of the 783 women whose daily hours were reported worked less than 35 hours and had median earnings of \$4.60. More than one half of the women (54.4 percent) worked less than 45 hours, and these had a median of \$5.40. Thus lost time was an important factor in the weekly earnings of the majority of the women. With a daily schedule of 55 hours in every mill but 1, only 176 of 783 women with time reported in hours worked the full 55 hours, and the median of the earnings (\$11.10) of this full-time group was therefore indicative of the earnings of only one fifth of the women (20.6 percent).

A small number of women, 50, worked longer than the 55-hour schedule, and their earnings were the highest of any group. Their hours varied from 56 to 61 and their median earnings were \$12—90 cents more than for the group working 55 hours.

The lowest earnings in any one department for all women for whom time worked was reported were in the spinning department, with a median of \$6.65; the highest were in the cloth department, with \$9.40. This wide range in medians was not due wholly to differences in rates of pay but was due partly to the far greater amount of lost time in the spinning room, where two fifths of the women, compared to 13.3 percent of women in the cloth room, worked less than 35 hours. For 37 women time worked was reported in days; 22 of these worked 5 or 5½ days. Of these 22 women, 13 earned the maximum amount of \$10 and under \$11.

Department	Women for whom time worked was reported		Women working full time on day shift	
	Number of women	Median	Number of women	Median
All departments.....	820	\$7. 50	225	\$11. 10
Carding.....	63	7. 90	9	( <sup>1</sup> )
Spinning and spooling.....	459	6. 65	85	10. 55
Weaving.....	223	8. 45	95	11. 40
Cloth.....	75	9. 40	36	( <sup>1</sup> )

<sup>1</sup> Not computed; base less than 50.

*Night-shift earnings.*—The median of earnings of \$10.30 for the 75 women on the night shift whose hours worked were reported was higher by \$2.80 than that for women on the day shift. This was due without doubt to the larger proportion of full-time workers on the night shift than on the day.

As the spinning department contained the largest number of women in both the day and night shifts, the figures showing higher earnings among the night workers are important.

### Method of payment

Although the making of cotton yarn and cloth is an old process and one of the earliest to be carried on in factories, it has to a great extent conformed to the more modern method of piece payment.

Over four fifths of the women (81.4 percent) in the Texas mills were on some form of piece payment. The highest percent on this method was in the spinning department (63.1) and the lowest percent (2.2) was in the cloth. The latter department consists largely of inspectors, whose work is less well adapted to piece payment than is the work in the other departments. Two of the three chief occupations for women, spinning and weaving, were, with the exception of three women in spinning, entirely on a piecework basis, while spooling and winding, the third occupation group in importance, showed 95.5 percent of the women working on a piecework basis.

Two mills reported a change in method of payment for some of their women. In one mill a few scattered operations were changed from timework to piecework, but no entire group was affected by the change. In the other mill the spoolers were changed from piecework to timework.

## THE WORKERS

### Length of service

It has been said "once a mill worker, always a mill worker."<sup>2</sup> And the long service reported by women in cotton mills substantiates this generalization.

In the Texas mills one half of the 710 women who reported their length of service had been with the same mill for 5 years or more. Only 13.7 percent reported less than a year of service, and 16.5 percent, or 1 woman in 6, reported 10 years or more.

<sup>2</sup> Tannenbaum, Frank. *Darker Phases of the South*. G. P. Putnam. New York and London, 1920, p. 48.

40 HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

Department	Women reporting	Percent of women with present employer—					
		Under 1 year		1 and under 5 years	5 and under 10 years	10 and under 15 years	15 years and over
		Under 6 months	6 months and under 1 year				
All departments.....	710	8.5	5.2	36.2	33.7	9.2	7.3
Carding.....	49	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Spinning and spooling.....	370	7.8	4.1	36.8	36.2	9.7	5.4
Weaving.....	227	11.5	7.5	32.2	26.0	10.1	12.8
Cloth.....	64	7.8	1.6	53.1	32.8	3.1	1.6

<sup>1</sup> Not computed; base less than 50.

The carding department had the largest proportion of long-time employees, with nearly two thirds of the women reporting service of 5 years and over. The cloth room showed the lowest percent of long-time workers, while the spinning and weaving departments each reported about one half of their women in the long-service groups of 5 years and over.

Department	Women reporting	Percent of women with present employer 5 years and more
Carding.....	49	( <sup>1</sup> )
Spinning and spooling.....	370	51.4
Weaving.....	227	48.9
Cloth.....	64	37.5

<sup>1</sup> Not computed; base less than 50 (31 women).

Age

With the large number of women in the longer-service groups, it is not surprising to find a comparatively small number of young workers in the Texas mills. Only 3.5 percent of the 719 reporting were 16 and under 18, a smaller number than were in the age group of 50 years and over. The largest number of women in any of the 10-year age groups was in that of 20 and less than 30 years, with over two fifths of all the women. It is interesting to find, however, that more than three fifths (62.3 percent) of all the women reporting in the Texas mills were 25 years and over, and nearly one fifth (19.7 percent) were 40 years or more, and these figures are in an industry that has in the past always contained an unusually high percent of young workers.

Department	Women reporting	Percent of women whose age was—						
		16 and under 18 years	18 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 years and over
Total.....	719	3.5	9.7	24.5	17.9	24.6	13.9	5.8
Carding.....	51	2.0	7.8	21.6	19.6	19.6	15.7	13.7
Spinning and spooling.....	376	4.5	9.6	25.8	18.1	25.5	13.3	2.9
Weaving.....	228	2.6	10.1	19.7	17.5	27.2	14.5	8.3
Cloth.....	64	1.6	10.9	35.9	17.3	12.5	14.1	7.8

In the various departments the spinning had a higher proportion of young workers, under 20 years, and a lower percent in the age group of 40 years and over than were found in any other department.

Department	Percent of women—	
	Under 20 years	40 years and over
Carding.....	9.8	29.4
Spinning and spooling.....	14.1	16.2
Weaving.....	12.7	22.8
Cloth.....	12.5	21.9

### Marital status

A total of 724 women in the Texas cotton mills gave information as to their marital status. A surprisingly large number of these women, 51.5 percent, were married, and when to this group are added the women with broken marital ties the number includes practically 70 percent of all the women.

Department	Women reporting	Percent who were—		
		Single	Married	Widowed, separated, or divorced
All departments.....	724	30.4	51.5	18.1
Carding.....	51	17.6	52.9	29.4
Spinning and spooling.....	380	35.0	48.2	16.8
Weaving.....	229	23.6	57.6	18.8
Cloth.....	64	37.5	48.4	14.1

The weaving department had the largest proportion of married women and the cloth and spinning departments the largest proportions of single women. The carding department had comparatively few single girls and much the largest percentage of women who were widowed, separated, or divorced.

### EMPLOYMENT IN 1931

The trend of employment for the year 1931 was secured from 9 mills<sup>a</sup> by counting the numbers of men and women on the books for 1 week in each month and noting the shift on which they were employed.

The results show an increase of 13.3 percent in total employment in the second half of 1931 as compared with the first half, and a difference in the total number of employees between the first 2 and the last 2 months of the year of 31.3 percent.

The major part of the increased employment in the second half of 1931 occurred on the night shift, for the average number on the day shift was only 6.8 percent higher in July to December than in January to June in the carding, spinning, and weaving departments, while the

<sup>a</sup> 5 made toweling, osnaburgs, and ducks and 4 made other cotton goods such as tire fabrics, cotton blankets, shirtings, etc.

average for the night shift showed an 85.9 percent increase; and the number of mills operating at night increased from 2 in the first of the year to 5 in the closing months. Six of the 9 mills employed a night shift at some time during the year, and 5 of them employed women.

The increases in the number of women were not so great on the night shift as were the increases in men, but even the figures for the women showed three times as many in the last two months as in the first two.

Period	Average number on night shifts in 1931		
	Total	Males	Females
First 6 months.....	105	58	48
Second 6 months.....	196	132	64

Taking the average for the 12 months as a base, the last 4 months showed an increase of only 4 percent in the average number on the day shift but an advance of as much as 55.6 percent in the average number employed at night.

In every month of 1931, from 1 to 5 mills were operating at night, but frequently the night shift was run in only 1 or 2 departments and not in the entire mill. The cloth departments had no night operating, and the carding departments had fewer night workers during the year than had either the spinning or the weaving.

The following figures give the number of months of night operating that each of the 6 mills reported:

	Mills
In 10 months.....	2
In 6 months.....	1
In 3 months.....	2
In 2 months.....	1

In every month but February a night shift was run in the 3 main departments of at least 1 mill. In November and December, 3 or 4 mills had all these departments operating at night. More mills ran the weaving department at night than any other, but night work in the spinning department involved the most employees.

Department:	Months of night operating
Carding only.....	2 (May and June).
Weaving.....	7 (January and July to December).
Carding and spinning.....	2 (September and December).
Carding and weaving.....	1 (July).
Spinning and weaving.....	3 (February, August, and October).

Women were employed on the night shift for only 2 months in 1 mill and for only 3 months in 2. In 2 mills they were employed for 10 months.

With the exception of the carding department, where January and February showed no women working at night, there was no month of 1931 when some women were not found on the night shift in some departments. The largest number of women on the night shift was in the spinning department.

In the group of mills making toweling, osnaburgs, and ducks, a very much smaller proportion of the women were doing night operation than in the 4 mills making other products, such as tire fabrics, cotton blankets, or shirtings.



Of the 5 mills that made toweling, osnaburgs, and ducks, only 1 mill, and that only in the weaving department, had a night force in the first eight months of 1931. The exception was in January, and only 18 men and 2 women were on this shift. In the last 4 months night operating was resorted to, especially at the close of the year, when 184 men and 95 women were employed at night in 3 mills in November and 118 men and 47 women in 2 mills in December.

In the four mills making other cotton products, both men and women in the spinning departments worked at night in every month of the year. In weaving there was only 1 month and in carding there were only 2 in which no women worked at night.

In spite of the night shifts that ran in 1 or more mills in every month of 1931, there was a considerable amount of short time in most of the mills. Of 10 mills that gave information, 8 reported curtailment of operations for periods of 1 or more months: 3 shut down, 3 had short hours or days, 1 had short days and ran only every other week in the 6 months March to August, and 1 ran irregularly throughout the year.

Only 2 mills, both manufacturing "other cotton goods", reported no short time lasting as much as a month.

During the year 1931 there were lay-offs in 10 of the 13 mills, 8 of which reported as to the basis of lay-off. In 2 of these mills, the old employees were not laid off but the work was spread among them; in 3 mills, lack of efficiency was the basis; 1 took into consideration lack of efficiency, length of service, and the number in the employee's family; another laid off 1 worker per family; and another laid off all extra help.

### **Spares or extra workers**

In 10 of the 12 mills reporting, spares were not kept on the books. In the 2 reporting such a system, the extra workers were sent for when needed and did not report for work each morning as is the custom in some mills.

### **Operating changes in 1931 that affected employment**

The reason for decreasing the force in 10 of the 12 mills reporting was a decreased demand for goods resulting in lessened production. In addition to this was the experience of many plants in other localities—a change in product and equipment. In Texas, however, these were minor changes that affected only a few women and occurred in only 2 mills, 1 changing both equipment and product and the other changing product, equipment, and output.

## ALL MILLS IN THE THREE STATES

### NUMBERS

Among the three States for which information was obtained in the present study there is wide variation in the number of mills and the number of women employed.

South Carolina is one of the largest of the cotton-mill States. According to the 1930 census,<sup>1</sup> it ranked second in the South in the number of women employed, and in 1932 it had one fifth of the operating spindles in the entire country.<sup>2</sup> Census figures for 1930 showed also that more than three fourths (77.5 percent) of all women in manufacturing and mechanical industries in South Carolina were in cotton mills. Compared with these figures, cotton manufacturing is of far less importance in both Maine and Texas. In Maine about one fifth (21.1 percent) of the women employed in manufacturing and mechanical industries were in cotton mills; in Texas, only 4.8 percent.

The numbers of men and women in the three States included in the Women's Bureau study, and the proportions of the total that women represent, are as follows:

State	Mills	Employees			
		Total	Males	Females	
				Number	Percent of total
South Carolina.....	132	51,338	34,660	16,678	32.5
Maine.....	14	6,691	3,548	3,143	47.0
Texas.....	13	2,409	1,468	941	39.1

The proportion of women was lowest in South Carolina and highest in Maine. Without doubt this condition was due largely to the limited amount of night operating in the Maine mills, which involves more men, and to the less general use there of the spread-out system in the spinning rooms.

The most important product of the South Carolina mills from the point of view of the numbers of people employed was print cloths; in Maine it was sheetings; and in Texas coarse fabrics, such as toweling, osnaburgs, and ducks. Sheetings were second in importance in South Carolina, and the number of workers engaged on this product was far greater than in Maine. The manufacture of fine goods in Maine, which ranked next to sheetings in number of workers employed, also had fewer employees than were engaged in the production of fine goods in South Carolina.

<sup>1</sup> U. S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics; South Carolina, pp. 6, 7; Maine, pp. 6, 7; Texas, pp. 8, 10, and 11.

<sup>2</sup> U. S. Bureau of the Census. Bul. 169. Cotton Production and Distribution, Season of 1931-32. Table 14, p. 31.

The proportions of women in the principal products in the three States were as follows:

Product	South Carolina		Maine		Texas	
	Number	Percent	Number	Percent	Number	Percent
Print cloths, broadcloths, and pajama checks.....	7,998	48.0	( <sup>1</sup> )		( <sup>1</sup> )	
Sheetings.....	3,515	21.1	1,339	42.6	( <sup>1</sup> )	
Fine goods.....	1,904	11.4	964	30.7	( <sup>1</sup> )	
Toweling, oenaburgs, and ducks.....			( <sup>1</sup> )		544	57.8

<sup>1</sup> Employed in too few mills to be shown separately.

From these percents it is clear that in no two States was the product on which the largest number of workers were employed the same, although in both Maine and South Carolina sheetings and fine-goods manufacture were among the most important.

The proportion of women to the total number of employees in the mills varied a good deal in the three States. According to the 1930 census, the percent of females in the whole industry was 43.2. In the present study, South Carolina showed a considerably smaller proportion of women than this, a difference of more than 10 points, while Maine showed a somewhat larger proportion. In Texas also the proportion of women was less than for the industry as a whole, though the difference was not so great as in South Carolina.

	<i>Percent women formed of total</i>
United States, census of 1930 <sup>2</sup> .....	43.2
Women's Bureau study, 1932:	
South Carolina.....	32.5
Maine.....	47.0
Texas.....	39.1

The employment of a large number of men in the South Carolina mills at night—11,215 men, compared to only 1,926 women—probably explains the lower percent of women in this State.

### Night shifts

The operating of mills at night at the time that pay rolls were taken was far more extensive in South Carolina than in either Maine or Texas. The figures next presented show the number of mills and the number of women working at night in the week for which the pay-roll data were copied. In some cases certain departments only were working at night, while in others the entire mill was operating with a night force.

State	Mills		Females		
	Total included in survey	Number operating at night	Total included in survey	Number employed at night	Percent employed at night
South Carolina.....	132	98	16,678	1,926	11.5
Maine.....	14	7	3,143	0	0
Texas.....	13	4	941	86	9.1

<sup>2</sup> U. S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, pp. 11, 13.

## HOURS

**Scheduled hours**

The regular daily schedule of hours was much the same in South Carolina and Texas and only slightly less in Maine. All but 1 mill of the 128 reporting in South Carolina and 11 of the 13 in Texas were on a 10-hour day. In Maine 10 of the 14 mills worked a day of 9½ hours; the 4 others worked slightly longer, 1 a schedule of 9 hours and 50 minutes, and 3 a schedule of 10 hours.

The weekly hours in the three States also differed only slightly. The usual week in South Carolina and Texas was 55 hours and in Maine it was 54. A few mills in South Carolina and Texas had other hours. Six in South Carolina worked less than 55 hours. In Texas, the weaving department in 1 mill worked only 50 hours, another mill worked 52½ hours, and another 56. In Maine all mills were uniform in their 54-hour week.

In the mills where women worked at night, the hours were shorter in Texas than in South Carolina. In the latter State a little more than two thirds of the mills (66 of the 96 that reported night hours) had an 11-hour shift 5 nights a week. Of the total number of women working at night there were only 9.2 percent that worked a shift of 10 hours 5 nights a week. In Texas no women worked as long as 11 hours at night, although the majority worked 10 hours. The prevailing weekly hours in South Carolina were 55, with 50 hours for a small proportion of the women, and in Texas 50 hours were worked by nearly three fourths of the women on the night shift and 45 hours by the remainder.

**Operating hours**

Of the three States, South Carolina had by far the largest proportion of mills whose various shifts aggregated 100 or more hours a week. Of 129 mills reporting, 70.5 percent ran from 105 to 125 hours in the week recorded and another mill operated 144 hours. These excessively long operating hours were possible only by the introduction of short intermediate shifts operated between the two principal day and night shifts and during the noon hours. In Maine, 5 of the 14 mills operated from 104 to 114 hours a week. In Texas, 4 of the 13 mills operated from 105 to 111 hours.

## WAGES

**Earnings of full-time workers**

Full-time women workers in Maine had the highest median of a week's earnings on the day shift—\$13; in Texas the median was \$11.10; and in South Carolina it was \$9.65. For the day shift in the three States the percent of women working full time was 48 in Maine, 31.6 in South Carolina, and 27.4 in Texas.

Women who worked full time on the night shift had lower earnings in South Carolina and higher earnings in Texas than those of the full-time day workers. In Texas there was a larger proportion of the night workers who worked the full scheduled hours (45.3 percent) than in South Carolina (29.4 percent); in South Carolina, the percent of full-time workers was less on the night shift than on the day shift, the opposite of the case in Texas.

### Earnings of all workers on day shift

When the earnings of all the women in the three States are recorded, without consideration of time worked, they not only show the actual amounts in the pay envelopes for the period recorded but give information on the amount of lost time.

The greatest difference in the median of earnings between full-time workers and all workers for whom time worked was reported was in the Texas mills, and the least was in the Maine mills.

The higher median reported for the Maine mills may be accounted for partly by the much higher proportion of women working their full schedule of hours than in either South Carolina or Texas.

State	Median earnings of—		Percent of women working full time
	All women for whom time worked was reported	Full-time workers	
Maine.....	\$11.10	\$13.00	48.0
South Carolina.....	7.70	9.65	31.6
Texas.....	7.50	11.10	27.4

Earnings for the entire group of women were highest in Maine and the proportion of full-time workers also was highest. The Texas mills had the lowest median for all the workers and the lowest percent of full-time workers.

### Method of payment

In the past 10 years there has been in all industries an increasing tendency to use, as far as possible, some form of production or piece payment. Nevertheless, there is considerable difference in various mills and in various parts of the country in the extent to which a piece basis of payment has been introduced. In South Carolina 83.3 percent of the women had earnings based entirely on a piece method of payment. About the same percent (81.4) were paid by that method in Texas, but in Maine only a little more than half the women (54.4 percent) were paid by the piece.

### Differences in living conditions

The mills of South Carolina and Texas as a rule had their own villages; in Maine villages were rare, though a few mills owned tenements or houses in the same town or city as the mill. These tenements or houses, in most cases, rented at slightly lower rates than did property not mill owned.

The rent per room was lower in South Carolina than in the Texas mill villages and as a rule the houses in South Carolina were better equipped with conveniences and were more attractive. Twenty-five cents a room in South Carolina and fifty cents in Texas were the most common weekly rentals. Though running water was found in nearly all the villages, it was seldom charged for. Electricity was found in all but 2 villages in South Carolina and was furnished free in 55 villages of the 91 that reported. In Texas 4 of the 6 mills reporting supplied electricity free, 1 charged for it at mill rates, and 1 reported no electricity in the village.

## THE WORKERS

**Length of service**

The change of workers from one plant to another, sometimes in the same industry, sometimes in another, is a symptom either of unrest on the part of the worker or of plant reasons that make a change necessary.

The three States, South Carolina, Maine, and Texas, all showed a remarkably large proportion of women with long employment periods in their present mills. For the number of women 5 years or more with the same firm, Texas had 50.2 percent, Maine had 49.4, and South Carolina had 42.6.

Maine, though having a slightly smaller percent of women with service of 5 years and over than that of Texas, had the highest proportion of women with even longer service of 10 years or more and more than twice as many as in the other 2 States with service with the firm of 20 years or more. For 10 years or more Maine's figure was 27.3 percent, in contrast to 16.9 percent for South Carolina, and 16.5 percent for Texas.

**Age**

The last 40 years have seen the increasing employment of older women in cotton mills. Each decennial census of the United States shows fewer children under 16 at work, and fewer young women under 20. In the 10 years from 1920 to 1930 the proportion of women cotton-mill workers under 20 years of age decreased from 31.9 percent to 26.6 percent.<sup>4</sup>

The women in the South Carolina mills not only had a much higher percentage under 20 years of age than had women in the other States, but a correspondingly lower proportion in the group 40 years and over.

State	Percent—	
	Under 20 years	40 years and over
South Carolina.....	25.1	14.3
Maine.....	15.0	22.6
Texas.....	13.2	19.7

**Marital status**

In the past 10 years there has been an increase in the proportion of married women employed in manufacturing and mechanical industries.<sup>5</sup> More and more work formerly done in the home is accomplished by organizations outside, and with this added leisure of the housewife and mother there has grown a greater need for larger family income to pay for outside work and frequently for a higher standard of living. In the present study the percentages of women in the various marital groups were as follows:

<sup>4</sup> U.S. Bureau of the Census. Fourteenth Census, 1920, vol. IV. Occupations, table 6, pp. 332-336. Fifteenth Census, 1930, Occupation Statistics, United States Summary, pp. 52 and 54.

<sup>5</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, p. 72.

Marital status	Maine	South Carolina	Texas
Total.....	100.0	100.0	100.0
Single.....	50.4	44.7	30.4
Married.....	41.2	43.8	51.5
Widowed, separated, or divorced.....	8.5	11.4	18.1

Only in Texas was the proportion of married women greater than that of the single. In both South Carolina and Texas those who were married or had been married comprised considerably more than half of the entire force, but in Maine, which had by far the largest proportion of single women, those who were married or had been married comprised a little less than one half.

#### EMPLOYMENT DURING 1931

To obtain some idea of employment conditions from month to month in 1931, the numbers of men and women on the pay roll for one week in each month were counted and the number on each shift was noted. Information was obtained also on different methods of curtailing production in 1931, such as shut-downs, short daily hours of work and fewer days in the week, as well as statements of the management as to the causes that had occasioned a reduced force or short-time operating.

The numbers of workers in the mills of South Carolina and Texas had a higher average in the last 4 months of 1931 than for the year as a whole; but in Maine employment decreased somewhat in the last third of the year. Although numbers increased in the mills of South Carolina, such increase was almost wholly in the night shift and the short supplementary shifts. In Texas the increase in the last 4 months was only 4 percent in the day shift in contrast to 55.6 percent in the night shift. This increased employment at night during the last few months of 1931 in both States was greater for men than for women. In Maine there was less employment in the closing months of the year than earlier, although a night shift was running in from 5 to 7 mills throughout the year. No women were employed at night after May.

In South Carolina night shifts were run in three fourths of the mills that reported on this for 1931. The great majority operated at night 6 or more months out of the year, and about one half operated in all 12 months.

Though the exact amounts of short time during the year are not known, nor the specific problems involved that seemed to make it necessary, it is evident that a considerable number of mills that operated at night in one or more departments several months of the year also curtailed employment on the day force to a considerable extent.

In spite of their night operating, more than two fifths of the mills reported a curtailment for 1 month or more in the total numbers employed. Most of these had operated at night for 9 months or more.

Of those operating at night 6 months or more, about seven tenths reported operating short hours or days; several of them—all of which ran at night in all 12 months—reported irregularity throughout the year. One, reporting a night shift in 11 months of the year, operated

on short hours or days and also curtailed employment 1 week a month. The 2 mills that reported a shut-down operated at night only 2 and 3 months, respectively.

Texas reported the greatest irregularity in 1931, 3 of the 10 mills reporting shut-downs of one or more months, and 5 other mills running short time or irregularly for a month or more.

Of 90 South Carolina mills reporting, 46 either ran short time or shut down entirely for a month or longer. Of the 10 Maine mills from which figures were obtained, 7 reported a shortened daily or weekly schedule for a month or more, and 1 mill closed entirely for 2 months at a time twice during the year. Of the 10 mills in Texas from which figures were obtained, 8 reported curtailment of operations for 1 or more months.

#### **Operating changes in 1931 that affected employment**

In all three States the most frequent reason given in the mills where there was short time or reduced employment was the decreased demand for goods. Other changes that resulted in a decrease of employment were changes in methods of operating—for example, the installation of the spread-out system or the entire elimination of an operation; and changes in method of payment took place in 17 mills in South Carolina in 1931, in 2 mills in Maine, and in 2 mills in Texas. A change in product or in the proportion of different goods produced was reported in a number of mills, 8 in South Carolina, 5 in Maine, and 2 in Texas, while improved machinery or labor-saving equipment was installed in 13 mills in South Carolina, in 4 in Maine, and in 1 in Texas.

#### **Basis of lay-offs**

When it was necessary to lay off some of the workers, various methods were practiced in the different mills. Where lay-offs were necessary, the principal basis in the South Carolina mills was family need, and in Maine and Texas the relative efficiency of the workers. Where workers were equally efficient, the determining factor in all three States was family need. The employee's length of service was the main consideration in some mills, while in others being retained depended upon his responsibility for a family. In some it was the policy to discharge married women, and in others minors were the first to be laid off. Employees who owned farms or had some other place to go to were in some cases let off in preference to others, while a small number of mills in South Carolina (4) reported that they discharged those that did not live in the mill village. Half the mills in Maine spread their work in preference to laying off workers, and two mills in Texas reported a like practice.



## THE NARROW-GOODS SURVEY

### SCOPE AND METHOD

The manufacture of narrow cotton fabrics—tapes, bindings, braids, etc.—is located principally in Philadelphia. There are other plants throughout Pennsylvania and in the New England States, but the group of mills in Philadelphia represents the backbone of the industry.

To obtain information of conditions in the industry as they affect women in different sections of the country, records were obtained from mills in New England, in Pennsylvania, and in the South. All these mills were engaged in the manufacture of similar products, though an individual mill might make more varieties or a greater percent of one type of goods.

Tapes, bindings, flat braids, burlings, and trimmings were made, none exceeding the 6 inches that can be woven on the narrow tape looms. As a rule, the mills bought their yarn, sometimes already wound and sometimes in skeins to be wound.

The operations on which women were engaged in these mills were not like those in a wide-goods cotton mill. Very rarely were the initial processes, that were found in the carding and spinning room of a wide-goods mill, carried on in a narrow-fabric mill.

The looms in the narrow-goods mills were very narrow and were run as in a ribbon mill, all in a row operating simultaneously on a single shaft or motor. They were run by women, as were also the warpers; as a rule, the sizing process for the warp, and the drawing-in on the frames, also were done by women. After the tape or binding was woven it was inspected as it was wound on pins or rolls by women operators.

It will be seen from this brief summary that, although the present survey is in a branch of the cotton-textile industry, it differs from the manufacture of wide goods so radically that no comparison between the two can be made, and the material for the narrow goods must be treated as a separate division of textile manufacture.

Records were taken in all the mills visited of numbers employed and of hours and earnings for a given week, in the autumn of 1932 in all but 2 cases, where an earlier period was selected, one as far back as June and the other in August, the management considering such a week more nearly representative than a more recent period.

Changes in employment during a 1-year period<sup>1</sup> were secured by taking records of the numbers employed on the different shifts for one week in each month. Information was obtained from the management of changes in output, in equipment, and in methods of operating that had occurred during the year and that might have affected employment. If it had been necessary to reduce output, the basis or policy of lay-offs was obtained, as were facts on the use of spare workers. From the women themselves, through cards distributed in the plant, information was obtained as to age, marital condition, and length of service in the mill.

<sup>1</sup> July 1931 to June 1932.

## NUMBERS

The survey included 22 mills—14 in Pennsylvania, 5 in Massachusetts and Rhode Island, and 3 in the Carolinas—with a total of 1,736 employees. By far the largest number of workers were in the Pennsylvania mills, but the average number per mill was about the same in the different sections, the 3 southern mills having a slightly smaller average number than those in the other two sections.

State	Number of mills	Employees			
		Total	Males	Females	
				Number	Percent of total
Pennsylvania.....	14	1,111	268	843	75.9
Massachusetts and Rhode Island.....	5	400	181	219	54.8
North and South Carolina.....	3	225	138	87	38.7

The most surprising feature of these figures is the wide variation in the extent to which women are employed in the mills in the three different sections. In the Pennsylvania mills women comprise three fourths of the work force, in New England somewhat over one half, and in the southern mills not quite two fifths. Thus the proportion of women is almost twice as high in Pennsylvania as in the Southern States represented.

When the day and night shifts are considered separately, no further light is thrown on the cause of these variations. Although all three of the southern mills ran a night shift and one each of the Pennsylvania and New England mills did so, there were no women on night shifts in Pennsylvania and only six each in the two other sections. However, in all the mills the total force operating at night was small. In the southern mills, all of which operated one or more departments at night, the men working at night were about one fourth of all men; the women on night work were only 6.9 percent of all women and they were in one mill only.

In the New England mill running a night shift for the week recorded, only 2 men and 6 women were employed, a negligible number from the viewpoint either of numbers or of production. The mill in Pennsylvania reported no women on its night shift and only 18 men. Thus, women were employed at night in only 2 mills, 1 in New England and 1 in the South. The only other shift reported was a small one in a Pennsylvania mill that operated from 2:30 to 10 p.m. about 10 weeks a year; it employed no women and only 6 men.

When the records were taken the industry as a whole was operating almost entirely on a day basis, as is shown by the fact that less than 5 percent of the employees worked on any but the day shift, and that even in the southern mills the men and women operating at night were only 17.8 percent of the total force.

## SCHEDULED HOURS

## Daily hours

The daily hours in the different mills showed a variety of schedules. In Pennsylvania and New England, daily hours were from 8 to 9½,<sup>2</sup> while in the southern mills there was a uniform schedule of 10 hours.

In 10 of the 14 Pennsylvania mills the daily hours were more than 8 and including 9, with 3 mills having a schedule longer than 9 hours and 1 a schedule of 8 hours. Of the 5 New England mills, 3 reported daily hours of from 8 to 9 and 2 a longer day of between 9 and 10 hours.

The following figures give the number of all workers and the number of females in each locality, with their daily hours:

Scheduled daily hours	Pennsylvania		Massachusetts and Rhode Island		North and South Carolina	
	Total	Females	Total	Females	Total	Females
Total.....	1,087	843	392	213	185	81
8.....	57	50	237	114		
More than 8 and less than 9.....	427	312	89	65		
9.....	487	392				
More than 9 and less than 10.....	116	89	66	34		
10.....					185	81

The New England mills had the greatest proportion of women working the shorter schedules of daily hours, with 84 percent of their women on a schedule of less than 9. In 7 of the Pennsylvania mills the hours were less than 9, and in the other 7 they were from 9 to 10. However, nearly three fifths of the women in all these mills worked the longer hours. All the women working in southern mills were on a daily schedule of 10 hours.

## Weekly hours

In a number of mills the schedule of weekly hours was shorter than would be expected from the length of the daily schedule. This was due to the 5-day week, reported as the regular schedule in 11 mills, 9 in Pennsylvania and 2 in New England. All the southern mills were on a 5½-day week, totaling 55 hours.

In addition to the 3 southern mills, 4 in Pennsylvania and 1 in New England had a weekly schedule of more than 48 hours, while 8 mills had less than 48 hours—6 in Pennsylvania and 2 in New England. Only 1 mill in Pennsylvania and 1 in New England had a 54-hour week.

Scheduled weekly hours	Pennsylvania		Massachusetts and Rhode Island		North and South Carolina	
	Total	Females	Total	Females	Total	Females
Total.....	1,087	843	392	213	185	81
40 and including 44.....	269	184	237	114		
Over 44 and less than 48.....	28	22	42	16		
48.....	381	322	89	65		
Over 48 and less than 50.....	386	302				
54.....	23	13	24	18		
55.....					185	81

<sup>2</sup> One mill worked 10 hours one day a week (Friday).

The largest proportion (61 percent) of women on the shorter weekly schedules of under 48 hours was found in the New England mills. The southern mills had the longest schedule, 55 hours.

The weekly hours prevailing for the majority of women were 48 and less than 50 in Pennsylvania, 40 to 44 in New England, and 55 in the Carolinas.

#### Night hours

The 3 mills in the South, 1 in New England, and 1 in Pennsylvania reported a night shift in 1 or more departments. Women were employed in 2 of these mills, 1 in the South and 1 in New England. The night hours in the New England mill were not reported for the 2 men and 6 women on that shift. In the southern mill the hours were 11 a night for 5 nights a week. Men worked at night in 5 mills and 4 of these reported the number of hours on the shift. In the Pennsylvania mill and in 1 southern mill they worked for 12 hours, 5 nights a week, while in the other 2 southern mills the hours were shorter, 11 a night and 55 a week.

### WAGES

#### Full-time earnings

Except in two mills <sup>3</sup> the earnings of women workers were obtained for a week in the fall of 1932, and whenever possible a week was selected in which the hours operated were representative. Whether for personal or industrial reasons, there was considerable absence, and fewer than half (47 percent) of the women whose time worked was reported worked the full time and therefore earned a full week's pay. In the various sections of the country, naturally, there were differences in the proportion of women who worked full time.

#### *Females who worked the firm's scheduled hours*

	<i>Percent</i>
All localities.....	47.0
Pennsylvania.....	42.4
Massachusetts and Rhode Island.....	56.0
North and South Carolina.....	66.7

In the southern mills the full week was reported for two thirds of the women; in New England for almost three fifths; while in Pennsylvania only slightly over two fifths worked the full weekly hours.

Full-time earnings were highest in Pennsylvania, with a median of \$13.85, and lowest in the southern mills, with a median of \$9.55. For New England the median was \$12.40 and for all sections combined it was \$12.85.

There was a difference between the medians for Pennsylvania and for southern mills of \$4.30, and between the medians for New England and for southern mills of \$2.85. This difference in favor of the northern mills was in spite of the fact that in both Pennsylvania and New England the hours of work were less than in the southern mills.

The difference in earnings in the various sections of the country may be seen even more plainly by comparing the proportions of women receiving \$8 and less and of those receiving \$15 and over for a full week. In Pennsylvania these figures were respectively 5.9 and 32.5 percent; in New England they were 7.4 and 29.5 percent; and in the South they were 24.2 and 3.2 percent.

<sup>3</sup> In one case a week in June was taken and in the other a week in August because the management considered such a week more nearly representative than those in the fall.

In the foregoing discussion of full-time workers the women with time worked reported in hours and those with time worked reported in days have been combined. When they are separated, the difference in median earnings between the two groups is found to be 75 cents, but the surprising fact is the higher median for women with time reported in days than for those with time reported more accurately in hours. The reason for this is the large proportion—about 83 percent—of the full-time day records in the Pennsylvania mills, where wages were above those in the other groups.

### Earnings of all women

The total number of women reported as working in the week recorded was more than twice the number of those who worked the full weekly schedule, so short time was worked by more than half.

The median of the earnings of the 1,145 women for whom time worked was reported was \$11.55, and this was \$1.30 less than the median of full-time workers. The difference between the median of all workers and that of full-time workers is a rough measurement of the degree of lost time, an average of about half a day, as well as a more complete picture of the amounts received during one week by the entire group of women.

State	Median earnings of—	
	All women for whom time worked was reported	Full-time workers only
All localities.....	\$11.55	\$12.85
Pennsylvania.....	12.15	13.85
Massachusetts and Rhode Island.....	11.35	12.40
North and South Carolina.....	9.15	9.55

Of the three sections of the country, the South had worked the fullest time. There was but 40 cents difference in the median of all workers and of those with a full-time record. The greatest difference between the two groups, and therefore the largest amount of lost time, was in the Pennsylvania mills, where the difference between the two medians was \$1.70.

## THE WORKERS

### Length of service

Long service in the same mill usually denotes a satisfactory relationship between management and worker. If the work is skilled and it takes some time to become proficient, the experienced worker is more valuable and usually he or she is less likely to desire change. The work in narrow-goods mills is to a considerable extent skilled or semiskilled work. One manufacturer said that his organization preferred to train their own workers to taking those from other plants, as the work was then done exactly as they wanted it; and as they were an old house, this enabled them to keep up the standard of their products.

The mills in New England and Pennsylvania were all old-established ones. In the South the mills were of more recent origin, so the percentage of long-time workers naturally was less.

The group of mills in New England reported the largest proportion of long-service employees, with practically three fifths (59.4 percent) of the women employed 5 years or more in the same mill. The women in the Pennsylvania mills had almost as large a proportion as this (57.2 percent), but in the southern mills there were but 4.2 percent with this length of service.

State	Women reporting length of service	Percent of women with present employer—			
		Less than 1 year	1 and less than 5 years	5 years and over	10 years and over
All mills.....	886	9.1	39.2	51.7	25.2
Pennsylvania.....	689	8.7	34.1	57.2	27.1
Massachusetts and Rhode Island.....	101	7.9	32.7	59.4	35.6
North and South Carolina.....	96	13.5	82.3	4.2	.....

The workers with less than 1 year of service formed a much larger proportion in the southern mills, and most of the workers were in the 1-and-less-than-5-year group. When this large group, more than four fifths of the women, is further analyzed, it is found that the most usual length of service was 2 and less than 4 years, with 55.2 percent of all women in this group. It would appear, therefore, that one or more of the southern mills took on many workers during this period, and the further fact that no worker reported 10 years or more of service would indicate the probable beginning during the past 10 years of the 3 southern mills.

### Age

According to census figures,<sup>4</sup> the 10-year age period in which is found the largest group of women engaged in manufacturing and mechanical industries is that of 20 and under 30 years.

The women in this survey show the same distribution, nearly two fifths of the 865 who reported age being 20 and under 30 years. One fifth of the women were under 20 years, and about the same proportion were 40 or more.

Most of the group of 40 years and over (150 of 190) were in Philadelphia mills. In the southern mills the same fact of more recent hiring in some of the mills without doubt reduced the proportion in the older group.

The percent of women in the youngest group was highest in the southern mills and lowest in New England, with Pennsylvania half-way between the two in the proportion of young workers.

State	Women reporting age	Percent of women—			
		Under 20 years	20 and under 30 years	30 and under 40 years	40 years and over
All mills.....	865	20.0	38.5	19.5	22.0
Pennsylvania.....	667	20.1	36.3	21.1	22.5
Massachusetts and Rhode Island.....	103	13.6	40.7	14.6	31.1
North and South Carolina.....	95	26.3	51.6	13.7	8.4

<sup>4</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, pp. 46-47.

### Marital status

During the decade from 1920 to 1930 the proportion of married women in industry has grown. In 1930, according to the United States Census,<sup>4</sup> married women constituted 32.4 percent of the total number of women in manufacturing and mechanical establishments, in contrast to 24.5 percent in 1920. This proportion of married women is higher than was reported by the women in the present survey of the narrow-goods industry. Only 23.2 percent of the 889 women who reported in this industry were married; by far the largest group was that of the single women, who comprised two thirds of all the women reporting.

State	Women reporting marital status	Percent who were—		
		Single	Married	Widowed, separated, or divorced
All mills.....	889	66.8	23.2	10.0
Pennsylvania.....	689	69.2	20.9	9.9
Massachusetts and Rhode Island.....	108	69.9	21.4	8.7
North and South Carolina.....	97	46.4	41.2	12.4

The women in the two groups of northern mills showed much the same distribution as to marital status, but in the three southern mills a much smaller proportion were single. This is surprising when considered in conjunction with the larger proportion of young women in the southern mills than in those of either Pennsylvania or New England.

### EMPLOYMENT FROM JULY 1931 TO JUNE 1932

For one week in each month of the year from July 1931 to June 1932 the numbers of men and women were counted in 20 mills, together with the shifts on which they worked. Employment was a little less at the end of the period than at the beginning, with the average number employed during the second 6 months about 8 percent below the average number in the first 6 months. The numbers employed from month to month varied only from 0.3 to 5 percent, but the difference between the month with the largest number of workers, July 1931, and the month with the smallest number, June 1932, was 16.3 percent. The number of women decreased during the year to a greater degree than did that of men.

During the entire year there were a few men and women employed at night. The number of men varied from a low point of 49 in December to a high point of 62 in February.

There was a higher average number of workers employed at night in the 6 months of 1932 than in 1931—78 and 71, respectively—but at no time were there more than 84 and at no time fewer than 61. The number of women varied from 10 to 23, with an average of 20 in the 6 months of 1931 and an average of 17 in the 6 months of 1932.

Night operating did not play an important part in mills as a whole during the 12-month period from July 1931 to June 1932, but in certain sections its importance was much greater than in others.

<sup>4</sup> U.S. Bureau of the Census. Fifteenth Census, 1930. Occupation Statistics, United States Summary, p. 72.

In the 14 Pennsylvania mills no women were employed at night, and the largest proportion of men in any month was 17 out of a total of 256 men. There was even less of a night force in the 4 New England mills, where only 2 men and never more than 6 women were employed in the 11 months that had night operating.

The 2 southern mills had a night force of from 43 to 66 workers, with the number of women varying from 7 to 17. These numbers were all small, but as the total number of workers in these mills also was small, the night workers comprised a large percent, from a little less than one fifth to a little more than one fourth.

Although the numbers employed in the industry from July 1931 to June 1932 were fairly steady, there were periods during which the full weekly hours were not worked, or the mill was shut down, entirely or in part.

Of 20 mills that reported on this subject, 19 had short time of one or more consecutive months. Fifteen of these reported short hours or days, 1 mill shut down on alternate weeks, 1 worked only part of the force, another ran short time on the day shift and shut down on the night shift, and the last ran short time on this night shift in order to curb production. Only 1 mill reported no short time for as much as a month.

Other methods, also, than that of operating shorter hours were used by the various mills to curtail production. Nine mills spread the work among their existing force, and 13 resorted to lay-off. Six of these 13 mills laid off their less efficient workers, while 1 mill combined the consideration of efficiency and of length of service, and another efficiency, length of service, and family need. In 3 mills, family responsibilities and economic need determined which workers should be laid off, and in 1 the newer workers were the first to be laid off. Another discontinued its carding and spinning departments and bought its yarn and so was compelled to lay off the 15 workers in those departments. However, this mill tried to use them as extras and spares where possible.

### Changes in 1931-32

In order to operate with even a fair degree of economy and steadiness, changes that reduce costs are made in type of product, in more modern and up-to-date equipment, and in methods of operating. All these changes affect employment and they usually result in increases or decreases in personnel. A change in product was reported in 5 mills; not a complete change, but an increase of one type of goods and a decrease of another, and in 1 of these mills an entirely new product. New equipment was introduced in only 1 mill, new looms and a new warper, and change of method, the spread-out system, in 1 mill. A change in amount of output required by the market was reported in 6 mills, 2 reporting an increase and 4 a decrease in the demand for goods. A change in production, therefore, either in amount of goods or in type of product, accounted for all but 2 of the changes reported.

### Change in method of payment

Only 1 change in method of payment was reported, and that occurred in 1 department in a Pennsylvania mill. The workers in the weaving department, formerly paid some by the hour and some by the piece, were all placed on a piece or production basis, the amount earned varying with the efficiency of the worker.



**Spare workers**

The practice of having a reserve of labor or extra workers was not the custom in this branch of the textile industry.

The large carding machines, the long rows of speeders and spinners, were seldom found in the mills making tapes and braids. The looms also were much smaller and occupied less space, so that the idle machinery in case of an insufficient number of workers would not occasion so much overhead loss as in a wide-goods mill. Furthermore the fact that the workers did not live in mill villages (with one exception) would militate against the system of spares as practiced in mills having such villages. In only 4 of the 22 mills was there any special arrangement for extra help. One mill had a man who could be shifted around, but he was given steady work. Three mills kept a list of former workers who could be called on when needed, but these were sent for, and did not report unless notified.



CARDING DEPARTMENT

Total	658	100.0	654	426	100.0	9	22	20	18	38	28	64	61	16	54	27	78	1	
Median earnings	\$9.00		\$9.05	\$8.65		( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	\$7.85	\$9.65	( <sup>1</sup> )	\$10.65	( <sup>1</sup> )	\$12.05	( <sup>1</sup> )	
Percent distribution		100.0		100.0		2.1	5.1	4.7	4.2	8.9	5.8	18.0	14.8	3.7	12.6	6.3	17.1	0.2	
Less than \$1	2	0.3	2	2	0.5	2													
\$1 and less than \$2	16	2.4	16	14	3.3	4	10												
\$2 and less than \$3	25	3.8	25	19	4.4	3	11												
\$3 and less than \$4	11	1.7	11	8	1.9			4											
\$4 and less than \$5	30	4.6	30	24	5.6			4											
\$5 and less than \$6	44	6.7	42	38	7.7			3											
\$6 and less than \$7	57	8.7	57	38	7.7		1												
\$7 and less than \$8	77	10.9	71	39	10.7														
\$8 and less than \$9	72	10.9	71	44	10.3			2											
\$9 and less than \$10	65	9.9	65	37	8.6				1										
\$10 and less than \$11	53	8.1	53	25	8.8					1									
\$11 and less than \$12	67	10.2	67	40	9.3														
\$12 and less than \$13	69	9.4	67	36	9.1														
\$13 and less than \$14	94	14.3	94	21	14.9														
\$14 and less than \$15	23	3.5	23	15	3.5														
\$15 and less than \$16	6	0.9	6	4	0.9														
\$16 and less than \$17	10	1.5	10	10	2.3														
\$17 and less than \$18	8	1.2	5	4	0.9														
\$18 and less than \$19	3	0.5	3	3	0.7														
\$19 and less than \$20	1	0.2	1	1	0.2														

SPINNING AND SPOOLING DEPARTMENT

Total	8,694	100.0	8,516	4,697	100.0	128	306	220	272	374	514	542	639	240	407	188	844	16	
Median earnings	\$7.05		\$7.05	\$7.40		\$9.95	\$2.40	\$3.65	\$4.50	\$5.60	\$6.00	\$8.10	\$8.10	\$8.40	\$10.30	\$10.30	\$10.00	( <sup>1</sup> )	
Percent distribution		100.0		100.0		2.7	6.5	4.9	5.8	8.0	10.9	11.5	13.6	5.1	8.7	4.0	18.0	0.3	
Less than \$1	142	1.6	136	83	1.8	65	13	1	8	1									
\$1 and less than \$2	286	3.3	283	180	3.8	57	97	1	8	1									
\$2 and less than \$3	443	5.1	437	228	4.7	2	113	43	14	31	6								
\$3 and less than \$4	634	7.3	626	377	7.0		65	99	62	37	43								
\$4 and less than \$5	826	9.5	824	409	8.7	1	18	64	72	70	70								
\$5 and less than \$6	889	10.2	870	442	9.4		4	15	65	106	112								
\$6 and less than \$7	1,068	12.1	1,029	490	10.4			2	14	75	115								
\$7 and less than \$8	1,044	12.0	1,020	495	10.5				6	43	66								
\$8 and less than \$9	959	11.0	942	543	11.6				1	17	46								
\$9 and less than \$10	877	10.1	858	502	10.7					7	10								
\$10 and less than \$11	573	6.6	558	339	7.2					2	2								
\$11 and less than \$12	372	4.3	365	274	5.8		1												
\$12 and less than \$13	242	2.8	237	170	3.6														
\$13 and less than \$14	138	1.6	137	86	1.8														
\$14 and less than \$15	83	1.0	82	71	1.4														
\$15 and less than \$16	29	0.3	28	20	0.4														
\$16 and less than \$17	38	0.4	31	27	0.6														
\$17 and less than \$18	10	0.1	10	6	0.2														
\$18 and less than \$19	6	0.1	4	4	0.1														
\$19 and less than \$20	2		2	1															
\$20 and less than \$21	2	( <sup>1</sup> )	2	2	( <sup>1</sup> )														

<sup>1</sup> Not computed; base less than 50.

<sup>2</sup> Less than 0.05 percent.



CLOTH DEPARTMENT

Total	1,284	100.0	1,188	1,185	100.0	17	27	14	26	41	66	189	66	116	184	132	843	24	
Median earnings	\$8.30		\$8.18	\$8.20		(1)	(1)	(1)	(1)	(1)	\$7.00	\$6.85	\$7.60	\$7.65	\$8.50	\$8.75	\$9.40	(1)	
Percent distribution			100.0			1.5	2.4	1.2	2.3	3.6	4.9	12.2	5.8	10.2	11.8	11.6	30.2	2.1	
Less than \$1	17	1.4	16	15	1.3	15													
\$1 and less than \$2	17	1.4	16	16	1.4	2	14												
\$2 and less than \$3	12	1.0	11	10	.9		10												
\$3 and less than \$4	21	1.7	21	19	1.7		3		4										
\$4 and less than \$5	51	4.1	50	38	3.3			10	3	19	9	2	1		1		1		
\$5 and less than \$6	68	5.5	66	61	5.4			1	2	25	13	12		1		1		1	
\$6 and less than \$7	156	12.8	150	145	12.8				1	6	13	65	2	16	8	17	8		12
\$7 and less than \$8	222	18.0	219	209	18.4					2	19	39	26	50	12	29	29		32
\$8 and less than \$9	275	22.3	273	270	23.6						9	13	15	31	67	35	35		36
\$9 and less than \$10	181	14.7	177	173	15.4							6	2	14	24	23	24		94
\$10 and less than \$11	89	7.2	88	88	7.8							1	5	5	6	10	60		60
\$11 and less than \$12	40	3.2	36	35	3.1									3	2	5	24		24
\$12 and less than \$13	50	4.1	48	45	4.0									2	1	17	24		24
\$13 and less than \$14	13	1.1	10	7	.6									1			6		6
\$14 and less than \$15	8	.6	3	1	.1											1			
\$15 and less than \$16	2	.2	2	1	.1														
\$16 and less than \$17	3	.2	1																
\$17 and less than \$18	2	.2	1																
\$18 and less than \$19	2	.2																	
\$19 and less than \$20	2	.2																	
\$21 and less than \$22	1	.1																	

GENERAL

Total	170	100.0	170	165	100.0	1	2	3	2	3	10	8	1	23	17	95
Median earnings	\$6.15		\$6.15	\$6.15		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	\$6.40
Percent distribution			100.0			0.6	1.2	1.6	1.2	1.6	6.1	4.8	0.6	13.9	10.3	57.6
Less than \$1	1	0.6	1	1	0.6	1										
\$1 and less than \$2	2	1.2	2	2	1.2		2									
\$2 and less than \$3	5	2.9	5	4	2.4			3	1							
\$3 and less than \$4	3	1.8	3	2	1.2					1	1					
\$4 and less than \$5	25	14.7	25	25	15.2					2						11
\$5 and less than \$6	41	24.1	41	41	24.8						4	4		2	2	11
\$6 and less than \$7	57	33.5	57	57	34.5				1		8	1		15	1	21
\$7 and less than \$8	19	11.2	19	18	10.9						2	3		2	12	37
\$8 and less than \$9	1	.6	1	1	.6								1	2	3	13
\$9 and less than \$10	16	9.4	16	14	8.5									2		1

1 Not computed; base less than 20.



CARDING DEPARTMENT

Total	658	100.0	654	296	100.0	1	7	1	8	8	20	7	41	36	44	63	1
Median earnings	\$9.00		\$9.05	\$9.60		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	\$11.70	(1)
Percent distribution				100.0		0.4	3.1	0.4	1.3	1.3	8.8	3.1	18.1	16.5	19.5	27.9	0.4
Less than \$1	2	0.3	2	0.7													
\$1 and less than \$2	16	2.4	16	5.4		1	1										
\$2 and less than \$3	26	3.8	26	8.8			6										
\$3 and less than \$4	11	1.7	11	3.7				1									
\$4 and less than \$5	30	4.6	30	9.8					1								
\$5 and less than \$6	44	6.7	42	13.0					2								
\$6 and less than \$7	57	8.7	57	18.0					1								
\$7 and less than \$8	72	10.9	67	20.0					1								
\$8 and less than \$9	72	10.9	71	22.0													
\$9 and less than \$10	65	9.9	66	20.0													
\$10 and less than \$11	53	8.2	58	18.0													
\$11 and less than \$12	67	10.2	67	20.0													
\$12 and less than \$13	62	9.4	62	19.0													
\$13 and less than \$14	34	5.3	34	10.0													
\$14 and less than \$15	28	4.3	28	8.0													
\$15 and less than \$16	6	0.9	6	1.8													
\$16 and less than \$17	10	1.5	10	3.0													
\$17 and less than \$18	5	0.8	5	1.5													
\$18 and less than \$19	3	0.5	3	0.9													
\$19 and less than \$20	1	0.2	1	0.3													

SPINNING AND SPOILING DEPARTMENT

Total	8,696	100.0	8,516	3,819	100.0	17	67	14	88	43	246	133	528	647	677	1,369
Median earnings	\$7.05		\$7.05	\$5.75		(1)	\$1.15	(1)	\$2.65	(1)	\$4.40	\$4.85	\$5.85	\$6.55	\$7.20	\$8.20
Percent distribution				100.0		0.4	1.8	0.4	2.3	1.1	6.4	3.5	13.8	16.9	17.7	35.6
Less than \$1	142	1.6	138	55		12	30		8	2	4		2			
\$1 and less than \$2	286	3.3	283	103		3	28		19	7	9		4			
\$2 and less than \$3	443	5.1	437	214		1	8		30	5	35		13			
\$3 and less than \$4	635	7.3	628	301		1			20	10	52		21			
\$4 and less than \$5	328	3.8	324	115					9	8	57		34			
\$5 and less than \$6	389	4.5	370	128					2	5	57		30			
\$6 and less than \$7	1,066	12.3	1,029	339			1		1	5	28		22			
\$7 and less than \$8	1,044	12.0	1,020	325							4		9			
\$8 and less than \$9	966	11.1	932	409					1							
\$9 and less than \$10	377	4.3	368	135												
\$10 and less than \$11	573	6.6	558	219												
\$11 and less than \$12	392	4.5	385	111					1							
\$12 and less than \$13	242	2.8	237	67												
\$13 and less than \$14	138	1.6	137	51												
\$14 and less than \$15	83	1.0	83	12												
\$15 and less than \$16	39	0.5	38	8												
\$16 and less than \$17	33	0.4	31	4												
\$17 and less than \$18	10	0.1	10	1												
\$18 and less than \$19	6	0.1	4	1												
\$19 and less than \$20	2	(1)	2	1												
\$20 and less than \$21	2	(1)	2	1												

<sup>1</sup> Not computed; based less than 50.

<sup>1</sup> Less than 0.05 percent.

TABLE I.—Week's earnings and time worked on day shifts, by department—South Carolina—Continued.

B.—WOMEN WHOSE TIME WORKED WAS REPORTED IN DAYS—Continued

Week's earnings	Total		Total with time reported	Number of women earning each specified amount who worked—													
	Number	Percent		Total		½ day	1 day	1½ days	2 days	2½ days	3 days	3½ days	4 days	4½ days	5 days	5½ days	6 days
				Number	Percent												
<b>WEAVING DEPARTMENT</b>																	
Total.....	3,378	100.0	3,203	973	100.0	3	19	5	24	16	48	45	89	153	139	432	
Median earnings.....	\$9.30		\$9.35	\$8.50		(1) 0.3	(1) 2.0	(1) 0.5	(1) 2.5	(1) 1.6	(1) 4.9	(1) 4.6	\$6.80 9.1	\$9.50 15.7	\$7.80 14.3	\$9.90 44.4	
Percent distribution.....				100.0													
Less than \$1.....	27	0.8	27	13	1.3	3	7		1				2				
\$1 and less than \$2.....	83	2.5	77	23	2.4		8	1			3		3	1	1		
\$2 and less than \$3.....	112	3.3	102	40	4.1		4	2		3	4		3	2	10		
\$3 and less than \$4.....	126	3.7	116	38	3.9			2		4	10		3	2	2		2
\$4 and less than \$5.....	132	3.9	117	43	4.4					3	4		4	5	4		7
\$5 and less than \$6.....	207	6.1	194	74	7.6				1	2	8		14	21	17		7
\$6 and less than \$7.....	271	8.0	257	83	8.5					4	8		10	16	15		23
\$7 and less than \$8.....	295	8.7	279	107	11.0						2		2	10	19		61
\$8 and less than \$9.....	338	10.0	322	127	13.1				1		2		6	11	33		60
\$9 and less than \$10.....	322	9.6	314	109	11.2				1		2		1	6	10		74
\$10 and less than \$11.....	306	9.1	297	83	8.5						1		1	7	8		86
\$11 and less than \$12.....	258	7.6	250	50	5.1									7	18		21
\$12 and less than \$13.....	202	6.0	191	49	5.0									7	9		32
\$13 and less than \$14.....	174	5.2	170	49	5.0						1			2	4		35
\$14 and less than \$15.....	182	5.4	145	28	2.9									1	6		28
\$15 and less than \$16.....	149	4.4	141	27	2.8									1	3		20
\$16 and less than \$17.....	85	2.5	81	17	1.7										1		15
\$17 and less than \$18.....	64	1.9	53	11	1.1										2		9
\$18 and less than \$19.....	21	.6	18	3	.3												3
\$19 and less than \$20.....	24	.7	19	3	.3												3
\$20 and less than \$21.....	19	.6	19	2	.2												2
\$21 and less than \$22.....	9	.3															
\$22 and over.....	11	.3	9	4	.4												4

70759



CLOTH DEPARTMENT

Total	1,264	100.0	1,188	53	100.0										
Median earnings	\$6.20		\$8.15	\$7.05					(1)	(1)	(1)	(1)	(1)	(1)	(1)
Percent distribution				100.0					1.9	1.9	26.4		15.1	1.9	20.8
Less than \$1	17	1.4	16	1	1.9										
\$1 and less than \$2	17	1.4	16	1											
\$2 and less than \$3	12	1.0	11	1	1.9				1						
\$3 and less than \$4	21	1.7	21	2	3.8										
\$4 and less than \$5	51	4.1	50	12	22.4						2				
\$5 and less than \$6	68	5.5	66	5	9.4					1	10				
\$6 and less than \$7	158	12.8	150	5	9.4						2				1
\$7 and less than \$8	222	18.0	219	10	18.9						3				1
\$8 and less than \$9	275	22.3	273	3	5.7										1
\$9 and less than \$10	181	14.7	177	2	3.8										2
\$10 and less than \$11	89	7.2	88	1	1.9										
\$11 and less than \$12	40	3.2	36	3	5.7										
\$12 and less than \$13	50	4.1	48	3	5.7										
\$13 and less than \$14	13	1.1	10	3	5.7										3
\$14 and less than \$15	8	.6	8	2	3.8										3
\$15 and less than \$16	2	.2	2	1	1.9										2
\$16 and less than \$17	3	.2	1	1	1.9										1
\$17 and less than \$18	2	.2	1	1	1.9										1
\$18 and less than \$19	2	.2													1
\$19 and less than \$20	2	.2													1
\$21 and less than \$22	1	.1													

GENERAL

Total	170	100.0	170	5	(1)										
Median earnings	\$6.15		\$6.15	(1)	(1)				(1)	(1)				(1)	3
Percent distribution				(1)					(1)					(1)	
Less than \$1	1	0.6	1												
\$1 and less than \$2	2	1.2	2												
\$2 and less than \$3	5	2.9	5	1					1						
\$3 and less than \$4	3	1.8	3	1							1				
\$4 and less than \$5	25	14.7	25												
\$5 and less than \$6	41	24.1	41												
\$6 and less than \$7	57	33.5	57												
\$7 and less than \$8	19	11.2	19	1											1
\$8 and less than \$9	1	.6	1												
\$9 and less than \$10	16	9.4	16	2											2

<sup>1</sup> Not computed; base less than 50.

TABLE II.—Week's earnings and time worked on day shifts, by department—Maine

Week's earnings	Number of women earning each specified amount who worked—											
	Total—Time worked reported for all women in hours		Less than 10 hours	10 and less than 20 hours	20 and less than 25 hours	25 and less than 30 hours	30 and less than 35 hours	35 and less than 40 hours	40 and less than 45 hours	45 and less than 50 hours	50 and less than 54 hours	54 hours
	Number	Percent										
ALL DEPARTMENTS												
Total.....	3,198	100.0	44	165	185	182	196	182	279	266	170	1,534
Median earnings.....	\$11.10		(1)	\$3.60	\$5.15	\$6.65	\$7.65	\$9.00	\$11.05	\$11.05	\$11.50	\$13.00
Percent distribution.....	100.0		1.4	5.2	5.8	5.7	6.1	5.7	8.7	8.0	5.3	48.0
Less than \$1.....	9	0.3	9									
\$1 and less than \$2.....	31	1.0	15	16								
\$2 and less than \$3.....	56	1.8	13	41	1			1				
\$3 and less than \$4.....	78	2.4	4	42	26	3	2		1			
\$4 and less than \$5.....	131	4.1		60	57	16	6		1			1
\$5 and less than \$6.....	136	4.3	1	8	54	38	21	2	1		1	9
\$6 and less than \$7.....	143	4.5	1	6	22	53	37	4	6	1	3	12
\$7 and less than \$8.....	156	4.9			13	32	51	25	19		3	13
\$8 and less than \$9.....	228	7.1	1	2	11	24	37	50	39	16	16	28
\$9 and less than \$10.....	261	8.2				12	22	33	33	49	21	91
\$10 and less than \$11.....	319	10.0				2	11	19	37	60	21	169
\$11 and less than \$12.....	421	13.2				1	3	18	51	31	39	278
\$12 and less than \$13.....	264	8.3					3	14	36	26	10	173
\$13 and less than \$14.....	222	7.0					1	7	24	30	9	151
\$14 and less than \$15.....	231	7.2				1	2		21	24	18	165
\$15 and less than \$16.....	171	5.4			1				7	11	10	142
\$16 and less than \$17.....	103	3.2							2	4	9	88
\$17 and less than \$18.....	107	3.4							2	1	10	94
\$18 and less than \$19.....	62	1.9								1		61
\$19 and less than \$20.....	27	.8										27
\$20 and over.....	37	1.2							2			36

**CARDING DEPARTMENT**

Total	492	100.0	(1) 8	(1) 18	(1) 48	(1) 49	(1) 33	(1) 87	(1) 70	(1) 81	(1) 24	178
Median earnings	\$10.70		(1) 1.6	(1) 3.3	(1) 9.8	(1) 10.0	(1) 6.7	(1) 7.5	\$11.40	(1) 6.3	(1) 4.9	\$14.76
Percent distribution	100.0								14.2			36.2
\$1 and less than \$2	8	1.6	5	3								
\$2 and less than \$3	7	1.4	3	4								
\$3 and less than \$4	7	1.4		3	1	2	1					
\$4 and less than \$5	26	5.3		5	14	2	5					
\$5 and less than \$6	26	5.7			14	12	1					
\$6 and less than \$7	26	5.7		1	6	14	3	2	2			
\$7 and less than \$8	27	5.5			5	5	8	2	6		1	
\$8 and less than \$9	45	9.1			5	10	6	10	9	1	4	
\$9 and less than \$10	30	6.1				3	3	8	4		1	8
\$10 and less than \$11	56	11.4				1	4	8	8	3	3	24
\$11 and less than \$12	94	6.9					1	5	12	2	8	6
\$12 and less than \$13	33	6.7						1	2		1	9
\$13 and less than \$14	25	5.7						1	2		3	15
\$14 and less than \$15	42	8.5							2	4	2	15
\$15 and less than \$16	45	9.1			1				3		1	25
\$16 and less than \$17	25	5.1								5		25
\$17 and less than \$18	9	1.8										9
\$18 and less than \$19	9	1.8										9
\$19 and less than \$20	5	1.0										5

**SPINNING AND SPOILING DEPARTMENT**

Total	1,365	100.0	(1) 18	(1) 38	(1) 108	(1) 101	(1) 87	(1) 89	(1) 111	(1) 131	(1) 103	547
Median earnings	\$11.00		(1) 1.3	(1) 3.0	(1) 9.0	(1) 6.65	(1) 7.90	(1) 6.5	(1) 11.25	(1) 11.90	(1) 11.20	(1) 12.70
Percent distribution	100.0											
Less than \$1	4	0.3	4									
\$1 and less than \$2	17	1.2	4	13								
\$2 and less than \$3	21	2.3	7	23	1							
\$3 and less than \$4	51	3.7	3	22	24	1			1			
\$4 and less than \$5	81	5.9		25	33	13						
\$5 and less than \$6	58	4.1		4	28	15	5	1		1		
\$6 and less than \$7	65	4.8		1	13	33	11	1	1		3	2
\$7 and less than \$8	63	4.6			7	21	14	12	5		2	2
\$8 and less than \$9	108	7.7			2	14	14	26	14	13	12	11
\$9 and less than \$10	111	8.1				4		18	13		16	39
\$10 and less than \$11	96	7.0					9	8	15	12	16	41
\$11 and less than \$12	194	14.2						4	25	21	17	120
\$12 and less than \$13	145	10.6							11	20	6	87
\$13 and less than \$14	107	7.8							1	13	4	65
\$14 and less than \$15	88	6.4								11	8	53
\$15 and less than \$16	77	5.6							2	6	7	68
\$16 and less than \$17	20	1.5									7	18
\$17 and less than \$18	24	1.8								1	7	16
\$18 and less than \$19	24	1.8										24
\$19 and less than \$20	3	.1										3
\$20 and over	4	.3										4

1 Not computed; base less than 50

TABLE II.—*Week's earnings and time worked on day shifts, by department—Maine—Continued*

Week's earnings	Number of women earning each specified amount who worked—											
	Total—Time worked reported for all women in hours		Less than 10 hours	10 and less than 20 hours	20 and less than 25 hours	25 and less than 30 hours	30 and less than 35 hours	35 and less than 40 hours	40 and less than 45 hours	45 and less than 50 hours	50 and less than 54 hours	54 hours
	Number	Percent										
<b>WEAVING DEPARTMENT</b>												
Total.....	871	100.0	11	40	19	23	59	25	62	29	10	593
Median earnings.....	\$12.60		(1) 1.3	(1) 4.6	(1) 2.2	(1) 2.6	\$8.05	(1) 2.9	\$11.10	(1) 3.3	(1) 1.1	\$14.10
Percent distribution.....	100.0		1.3	4.6	2.2	2.6	6.8	2.9	7.1	3.3	1.1	68.1
Less than \$1.....	2	0.2	2									
\$1 and less than \$2.....	2	0.2	2									
\$2 and less than \$3.....	15	1.7	3	12								
\$3 and less than \$4.....	13	1.5	1	11	1							
\$4 and less than \$5.....	14	1.6		7	5				1			1
\$5 and less than \$6.....	32	3.7	1	4	6	6	7				1	7
\$6 and less than \$7.....	33	3.8	1	4	2	6		1				10
\$7 and less than \$8.....	39	4.5			1	6	14	3	4			11
\$8 and less than \$9.....	43	4.9				6			4			12
\$9 and less than \$10.....	58	6.7	1	2	4		14	3	6	2		30
\$10 and less than \$11.....	92	10.6				2	7	7	6			50
\$11 and less than \$12.....	52	6.0				1	2	3	14	3	1	68
\$12 and less than \$13.....	69	7.9					2	1	12	3		33
\$13 and less than \$14.....	77	8.8					2	2	1	5	1	58
\$14 and less than \$15.....	84	9.6					1	5	6	4	1	60
\$15 and less than \$16.....	41	4.7				1		2	7	1	1	73
\$16 and less than \$17.....	53	6.0							2	1	1	27
\$17 and less than \$18.....	71	8.2							2	2		45
\$18 and less than \$19.....	29	3.3							2		2	67
\$19 and less than \$20.....	20	2.3								1		26
\$20 and over.....	33	3.8								2		25

CLOTH DEPARTMENT

Total.....	465	100.0	7	11	12	9	47	31	36	65	31	216
Median earnings.....	\$10.60		( <sup>1</sup> ) 1.5	( <sup>1</sup> ) 2.4	( <sup>1</sup> ) 2.6	( <sup>1</sup> ) 1.9	( <sup>1</sup> ) 10.1	( <sup>1</sup> ) 6.7	( <sup>1</sup> ) 7.7	\$10.85	( <sup>1</sup> ) 6.7	\$11.40
Percent distribution.....	100.0									14.0		46.5
Less than \$1.....	3	0.6	3									
\$1 and less than \$2.....	4	.9	4									
\$2 and less than \$3.....	3	.6		2				1				
\$3 and less than \$4.....	7	1.5		6			1					
\$4 and less than \$5.....	10	2.2		3	5	1	1					
\$5 and less than \$6.....	20	4.3			6	5	8	1				
\$6 and less than \$7.....	17	3.7			1		15		1			
\$7 and less than \$8.....	27	5.8					15	8	4			
\$8 and less than \$9.....	35	7.5					3	20	12			
\$9 and less than \$10.....	62	13.3				3	3		10	20	2	24
\$10 and less than \$11.....	75	16.1					1			87	1	36
\$11 and less than \$12.....	141	30.3						1		5	14	119
\$12 and less than \$13.....	17	3.7							3	1	2	11
\$13 and less than \$14.....	10	2.2							3	1	1	6
\$14 and less than \$15.....	17	3.7							1	1	7	7
\$15 and less than \$16.....	8	1.7									1	4
\$16 and less than \$17.....	6	1.3									2	4
\$17 and less than \$18.....	3	.6									1	3

<sup>1</sup> Not computed; base less than 50.

TABLE III.—Week's earnings and time worked on day shifts, by department—Texas  
 A.—WOMEN WHOSE TIME WORKED WAS REPORTED IN HOURS

Week's earnings	Total		Total with time worked reported	Number of women earning each specified amount who worked—														
	Number	Percent		Total		Less than 10 hours	10 and less than 20 hours	20 and less than 25 hours	25 and less than 30 hours	30 and less than 35 hours	35 and less than 40 hours	40 and less than 45 hours	45 hours	Over 45 and less than 50 hours	50 hours	Over 50 and less than 55 hours	55 hours	Over 55 hours
				Number	Percent													
<b>ALL DEPARTMENTS</b>																		
Total.....	855	100.0	820	783	100.0	9	49	51	48	112	76	81	27	38	27	39	176	50
Median earnings.....	\$7.60		\$7.50	\$7.40		(1) 1.1	(1) 6.3	\$3.55	(1) 6.1	\$5.90	\$5.95	\$8.05	(1) 3.4	(1) 4.9	(1) 3.4	(1) 3.0	\$11.10	\$12.05
Percent distribution.....			100.0				6.5		6.1	14.3	9.7	10.3					22.5	6.4
Less than \$1.....	8	0.9	7	7	0.9	5	2											
\$1 and less than \$2.....	19	2.2	18	18	2.3	4	11	2		1								
\$2 and less than \$3.....	46	5.4	46	45	5.7		30	11	2		1							
\$3 and less than \$4.....	51	6.0	51	50	6.4		6	23	2	9		3	2	2	1		1	
\$4 and less than \$5.....	81	9.5	80	79	10.1			6	15	24	15	7	1	3		1	1	
\$5 and less than \$6.....	101	11.8	99	95	12.1			6	22	25	22	9	1	3	4	5	4	
\$6 and less than \$7.....	69	8.1	67	65	8.3			3	1	23	11	11	2	4	2	1	3	
\$7 and less than \$8.....	88	10.3	85	82	10.5				4	22	14	9	2	2	8	1	4	
\$8 and less than \$9.....	81	9.5	78	73	9.3				1	7	6	24	2	2	2	4	18	
\$9 and less than \$10.....	78	9.1	73	66	8.4				1	1	2	8	6	3	1	5	37	
\$10 and less than \$11.....	60	7.0	53	40	5.1						1	4	4	2	2	4	19	
\$11 and less than \$12.....	45	5.3	43	43	5.5						3	2	4	1	1	4	21	
\$12 and less than \$13.....	38	4.4	34	34	4.3							4			1	2	23	
\$13 and less than \$14.....	46	5.4	44	44	5.6										1	4	23	
\$14 and less than \$15.....	18	2.1	18	18	2.3											3	10	
\$15 and over.....	26	3.0	24	24	3.1									1		3	14	

CARDING DEPARTMENT

Total	86	100.0	68	58	100.0	2	4	1	1	5	10	11	2	1	1	2	6	8	
Median earnings	\$8.00		\$7.90	\$7.40		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Percent distribution				100.0		3.4	6.9	1.7	1.7	8.6	32.8	16.0	8.4	1.7	1.7	3.4	10.3	5.2	
Less than \$1	1	1.5	1	1	1.7	1													
\$1 and less than \$2	4	6.1	4	4	6.9	1	3												
\$2 and less than \$3	3	4.5	3	3	5.2		1				1								
\$3 and less than \$4	2	3.0	2	2	3.4														
\$4 and less than \$5	5	7.6	5	5	8.6						4		1						
\$5 and less than \$6	3	4.5	3	3	5.2						2								
\$6 and less than \$7	9	13.6	9	9	15.5			1		4	3			1					
\$7 and less than \$8	6	9.1	5	5	8.6					1	3		1						
\$8 and less than \$9	6	9.1	6	4	6.9					1	2		2						
\$9 and less than \$10	8	12.1	8	6	10.3						2		4						
\$10 and less than \$11	5	7.6	4	3	5.2						1						2		
\$11 and less than \$12	5	7.6	5	5	8.6						1								2
\$12 and less than \$13	4	6.1	3	3	5.2							1		2				2	
\$13 and less than \$14	2	3.0	2	2	3.4													1	
\$14 and less than \$15	1	1.5	1	1	1.7													1	
\$15 and over	2	3.0	2	2	3.4												1		1

SPINNING AND SPOOLING DEPARTMENT

Total	470	100.0	459	427	100.0	2	34	27	38	73	26	55	16	27	21	28	54	26	
Median earnings	\$6.65		\$6.65	\$6.40		(1)	(1)	(1)	(1)	\$6.20	(1)	\$7.65	(1)	(1)	(1)	(1)	\$10.60	(1)	
Percent distribution				100.0		0.5	8.0	6.3	8.9	17.1	6.1	12.9	3.7	6.3	4.9	6.6	12.6	6.1	
Less than \$1	4	0.9	3	3	0.7	1	2												
\$1 and less than \$2	10	2.1	9	9	2.1	1	6	1		1									
\$2 and less than \$3	29	6.2	29	28	6.6		21	6											
\$3 and less than \$4	32	6.8	32	31	7.3		5	12											
\$4 and less than \$5	56	11.9	56	55	12.9			2		8		1							
\$5 and less than \$6	80	17.0	78	74	17.3			3		23	4	5	2						
\$6 and less than \$7	36	7.7	35	33	7.7			3		9	1	7	2						
\$7 and less than \$8	53	11.3	52	49	11.5				2	8	6	9	4	1					
\$8 and less than \$9	43	9.1	42	39	9.1				1		3	15	4	1					
\$9 and less than \$10	24	5.1	22	17	4.0							3	2						
\$10 and less than \$11	41	8.7	39	27	6.3				1	1		3							
\$11 and less than \$12	18	3.8	18	18	4.2							3							
\$12 and less than \$13	15	3.2	15	15	3.5						1	2	1						
\$13 and less than \$14	16	3.4	16	16	3.7														
\$14 and less than \$15	4	.9	4	4	.9														
\$15 and over	9	1.9	9	9	2.1									1			2		4

<sup>1</sup>Not computed; base less than 50.





CLOTH DEPARTMENT

Total.....	75	100.0	75	75	100.0	1	2	1	4	2	12	3	4	7	1	1	36	1	
Median earnings.....	\$0.40		\$0.40	\$0.40		( <sup>1</sup> )	( <sup>2</sup> )	( <sup>1</sup> )	( <sup>4</sup> )	( <sup>2</sup> )	( <sup>12</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>7</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>36</sup> )	( <sup>1</sup> )	
Percent distribution.....				100.0		1.3	2.7	1.3	5.3	2.7	16.0	4.0	5.3	9.3	1.3	1.3	48.0	1.3	
Less than \$1.....	1	1.3	1	1	1.3	1													
\$1 and less than \$2.....	1	1.3	1	1	1.3		1												
\$2 and less than \$3.....	3	4.0	3	3	4.0		1	1	1										
\$3 and less than \$4.....	3	4.0	3	3	4.0				1	1	1								
\$4 and less than \$5.....	8	10.7	8	8	10.7				1	1	6								
\$5 and less than \$6.....	6	8.0	6	6	8.0					1	5	1							
\$6 and less than \$7.....	4	5.3	4	4	5.3									2					
\$7 and less than \$8.....	2	2.7	2	2	2.7				1		2			1					
\$8 and less than \$9.....	3	4.0	3	3	4.0								1			1			1
\$9 and less than \$10.....	17	22.7	17	17	22.7								3			1			13
\$10 and less than \$11.....	2	2.7	2	2	2.7														2
\$11 and less than \$12.....	1	1.3	1	1	1.3														1
\$12 and less than \$13.....	3	4.0	3	3	4.0														3
\$13 and less than \$14.....	5	6.7	5	5	6.7									2					3
\$14 and less than \$15.....	5	6.7	5	5	6.7									2					3
\$15 and over.....	11	14.7	11	11	14.7														11

<sup>1</sup> Not computed; base less than 50.

TABLE III.—Week's earnings and time worked on day shifts, by department—Texas—Continued

B.—WOMEN WHOSE TIME WORKED WAS REPORTED IN DAYS

Week's earnings	Total		Total with time worked reported	Number of women earning each specified amount who worked—										
	Number	Percent		Total		1½ days	2 days	2½ days	3 days	3½ days	4 days	4½ days	5 days	5½ days
				Number	Percent									
ALL DEPARTMENTS														
Total	855	100.0	820	37	(1)	1	1	1	3	2	6	1	6	16
Median earnings	\$7.60		\$7.50	(1)										
Percent distribution				(1)										
Less than \$1	8	0.9	7											
\$1 and less than \$2	19	2.2	18											
\$2 and less than \$3	46	5.4	46	1		1								
\$3 and less than \$4	51	6.0	51	1			1							
\$4 and less than \$5	81	9.5	80	1				1						
\$5 and less than \$6	101	11.8	90	4				1	2	1				
\$6 and less than \$7	69	8.1	67	2					2	1				
\$7 and less than \$8	88	10.3	85	3							1		1	
\$8 and less than \$9	81	9.5	78	5							3			1
\$9 and less than \$10	78	9.1	73	7								1	4	3
\$10 and less than \$11	60	7.0	53	13									1	12
\$11 and less than \$12	45	5.3	43											
\$12 and less than \$13	38	4.4	34											
\$13 and less than \$14	46	5.4	44											
\$14 and less than \$15	18	2.1	18											
\$15 and over	26	3.0	24											

1 Not computed; base less than 50.

TABLE IV.—Comparison of the night shifts in the 3 States with the number of mills and employees covered in the study, by sex of employees and kind of product

Product	All shifts				Night shifts				
	Number of mills	Total employees	Males	Females	Number of mills	Total employees	Males	Females	
								Number	Percent of all female employees
<b>SOUTH CAROLINA</b>									
Total.....	132	51,338	34,660	16,678	98	13,141	11,215	1,926	11.5
Sheetings.....	32	10,924	7,409	3,515	25	2,337	2,035	302	8.6
Print cloths, broadcloths, and pajama checks.....	50	24,454	16,456	7,998	39	7,159	6,005	1,154	14.4
Fine goods (including fancies).....	10	6,027	4,123	1,904	9	1,375	1,364	11	.6
Chambrays, ginghams, and denims.....	3	767	501	266	3	181	139	42	15.8
Toweling, osenaburgs, and ducks.....	6	1,181	807	374	3	89	58	31	8.3
Bedspreads and upholstery fabrics.....	5	1,125	786	339	4	366	297	69	20.4
Yarns.....	18	2,586	1,633	953	9	456	374	82	8.6
Specialties.....	4	1,277	948	329	4	427	376	51	15.5
Other cotton goods.....	4	2,997	1,997	1,000	2	751	567	184	18.4
<b>TEXAS</b>									
Total.....	13	2,409	1,468	941	4	( <sup>1</sup> )	( <sup>1</sup> )	86	9.1
Toweling, osenaburgs, and ducks.....	8	1,325	781	544	1	( <sup>1</sup> )	( <sup>1</sup> )	41	7.5
Other cotton goods.....	5	1,084	687	397	3	232	187	45	11.3
<b>MAINE</b>									
Total.....	14	6,691	3,548	3,143	7	325	325		
Sheetings.....	4	2,803	1,464	1,339	2	111	111		
Fine goods.....	3	2,068	1,104	964	3	181	181		
Yarns.....	3	387	195	192					
Other cotton goods.....	4	1,433	785	648	2	33	33		

<sup>1</sup> Includes 2 mills not reporting numbers of males and females employed. 1 employs males and females at night; 1 males only.

<sup>2</sup> Includes 3 mills not reporting numbers of males and females employed. 2 employ males and females at night; 1 males only.

<sup>3</sup> Includes 1 mill for which a record of the number of employees was not available, and 1 not reporting sex of employees.

<sup>4</sup> 1 mill did not report number of employees on day and night shifts or number of males on these shifts.

**CHECKED**  
**2003-04**

HOURS, EARNINGS, AND EMPLOYMENT IN COTTON MILLS

TABLE V.—Week's earnings of females in narrow-goods mills, by State

Week's earnings	All States reported		Pennsylvania		Massachusetts and Rhode Island		North and South Carolina	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total.....	1,184	100.0	843	100.0	218	100.0	93	100.0
Less than \$1.....	10	0.9	6	0.7	-----	-----	4	4.3
\$1 and less than \$2.....	10	.9	7	.8	-----	-----	3	3.2
\$2 and less than \$3.....	17	1.5	9	1.1	6	2.8	2	2.2
\$3 and less than \$4.....	26	2.3	13	1.5	12	5.5	1	1.1
\$4 and less than \$5.....	14	1.2	5	.6	5	2.3	4	4.3
\$5 and less than \$6.....	33	2.9	18	2.1	10	4.6	5	5.4
\$6 and less than \$7.....	43	3.7	36	4.3	5	2.3	2	2.2
\$7 and less than \$8.....	52	4.5	41	4.9	8	3.7	3	3.2
\$8 and less than \$9.....	90	7.8	62	7.4	10	4.6	18	19.4
\$9 and less than \$10.....	118	10.2	64	7.6	22	10.1	32	34.4
\$10 and less than \$11.....	120	10.4	91	10.8	25	11.5	4	4.3
\$11 and less than \$12.....	85	7.4	63	7.5	18	8.3	4	4.3
\$12 and less than \$13.....	88	7.6	63	7.5	22	10.1	3	3.2
\$13 and less than \$14.....	83	7.2	59	7.0	20	9.2	4	4.3
\$14 and less than \$15.....	113	9.8	97	11.5	14	6.4	2	2.2
\$15 and less than \$16.....	85	7.4	72	8.5	12	5.5	1	1.1
\$16 and less than \$17.....	37	3.2	31	3.7	5	2.3	1	1.1
\$17 and less than \$18.....	34	2.9	25	3.0	9	4.1	-----	-----
\$18 and less than \$19.....	21	1.8	15	1.8	6	2.8	-----	-----
\$19 and less than \$20.....	15	1.3	14	1.7	1	.5	-----	-----
\$20 and over.....	60	5.2	52	6.2	8	3.7	-----	-----