

CIGAR MAKERS —AFTER THE LAY-OFF

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PROGRESS ADMINISTRATION
RESEARCH PROJECT

WORKS PROGRESS ADMINISTRATION

HARRY L. HOPKINS
Administrator

CORRINGTON GILL
Assistant Administrator

NATIONAL RESEARCH PROJECT

on

Reemployment Opportunities and Recent Changes in Industrial Techniques

DAVID WEINTRAUB
Director

IRVING KAPLAN
Associate Director

Studies of the Effects of Industrial Change on Labor Markets

**THE W.P.A. NATIONAL RESEARCH PROJECT
ON REEMPLOYMENT OPPORTUNITIES AND RECENT CHANGES
IN INDUSTRIAL TECHNIQUES**

Under the authority granted by the President in the Executive Order which created the Works Progress Administration, Administrator *Harry L. Hopkins* authorized the establishment of a research program for the purpose of collecting and analyzing data bearing on problems of employment, unemployment, and relief. Accordingly, the National Research Program was established in October 1935 under the supervision of *Corvington Gill*, Assistant Administrator of the WPA, who appointed the directors of the individual studies or projects.

The Project on Reemployment Opportunities and Recent Changes in Industrial Techniques was organized in December 1935 to inquire, with the cooperation of industry, labor, and governmental and private agencies, into the extent of recent changes in industrial techniques and to evaluate the effects of these changes on the volume of employment and unemployment. *David Weintraub* and *Irving Kaplan*, members of the research staff of the Division of Research, Statistics, and Finance, were appointed, respectively, Director and Associate Director of the Project. The task set for them was to assemble and organize the existing data which bear on the problem and to augment these data by field surveys and analyses.

To this end, many governmental agencies which are the collectors and repositories of pertinent information were invited to cooperate. The cooperating agencies of the United States Government include the Department of Agriculture, the Bureau of Mines of the Department of the Interior, the Bureau of Labor Statistics of the Department of Labor, the Railroad Retirement Board, the Social Security Board, the Bureau of Internal Revenue of the Department of the Treasury, the Department of Commerce, the Federal Trade Commission, and the Tariff Commission.

The following private agencies joined with the National Research Project in conducting special studies: the Industrial Research Department of the University of Pennsylvania, the National Bureau of Economic Research, Inc., the Employment Stabilization Research Institute of the University of Minnesota, and the Agricultural Economics Departments in the Agricultural Experiment Stations of California, Illinois, Iowa, and New York.

CIGAR MAKERS — AFTER THE LAY-OFF

A case study of the effects of mechanization
on employment of hand cigar makers

by

Daniel Creamer
and
Gladys V. Swackhamer

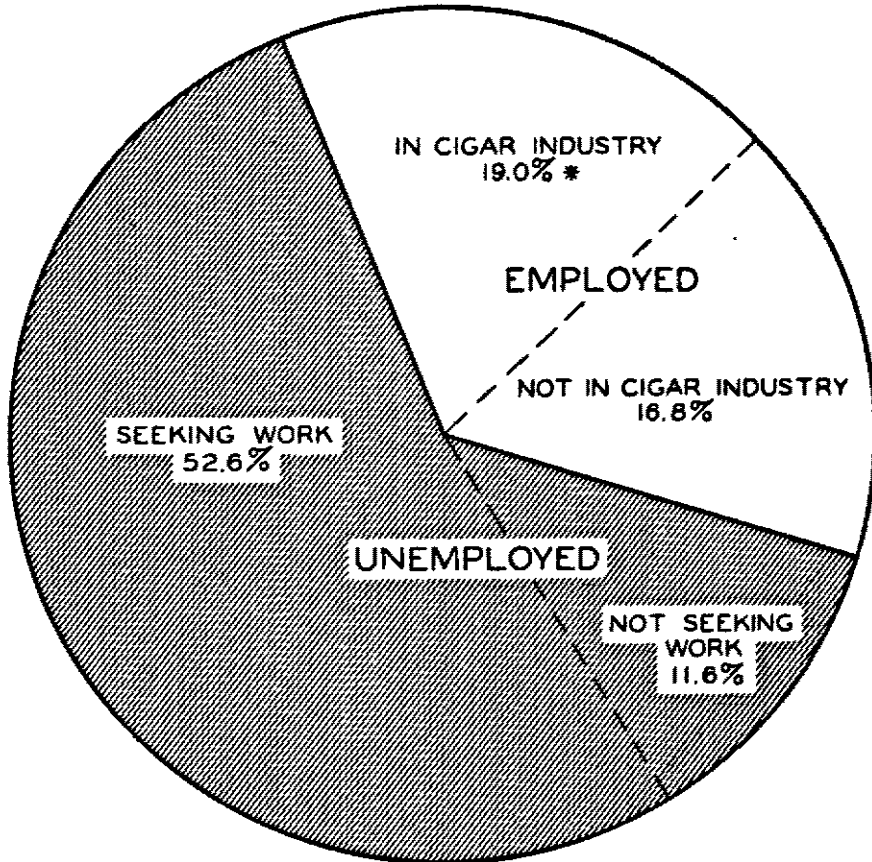
Studies of the Effects of Industrial Change on Labor Markets

Report No. L-1

Philadelphia, Pennsylvania

December 1937

EMPLOYMENT AND UNEMPLOYMENT AFTER LAY-OFF
 PERCENT DISTRIBUTION OF TOTAL ELAPSED MONTHS
 SINCE LAY-OFF



See table 22 for data.

WPA - National Research Project
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*This figure consists of 10.2 percent spent in working for others and 8.8 percent spent in self-employment which has constituted chiefly a form of disguised unemployment. See discussion, pp. 51-7.

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WORKS PROGRESS ADMINISTRATION

WALKER-JOHNSON BUILDING
1734 NEW YORK AVENUE NW.
WASHINGTON, D. C.

HARRY L. HOPKINS
ADMINISTRATOR

December 16, 1937

Hon. Harry L. Hopkins
Works Progress Administrator

Sir:

I have the honor to transmit a report on the study of the effects of mechanization on employment and earnings of workers in the cigar industry. The study is the first in a series on "Effects of Industrial Change on Labor Markets" and is based primarily on a case study of a plant which was mechanized in 1931. The competitive conditions under which the change in process was made and the characteristics of the personnel involved have been and continue to be so typical of the industry, as the supporting evidence presented shows, that generalization of the findings has been appropriately undertaken.

The principal finding, of special concern to a relief administration, is that many thousands of workers, formerly or now attached to the cigar industry as skilled artisans, will be primarily dependent for their well-being on public relief for many years. Since 1920, the cigar has rapidly been losing ground to the cigarette. Ever increasing numbers of cigar manufacturers have been finding themselves confronted with the alternatives of either losing their markets or reducing the costs of production and the price of their product to levels which will maintain a profitable volume of output. Mechanization of the cigar-making process has afforded the instrument for the reduction in cost, and the manufacture of a product to retail at five cents or less has resulted in at least the retardation of the decline in production. The combined inroads of declining production and mechanization of the production process have reduced the average employment in the cigar industry

from 114,000 in 1919 to 84,000 in 1929 and 56,000 in 1935.

The decline in employment represented by the above figures reflects only part of the loss of employment to which cigar workers have been subject. It is estimated that by 1929, ten years after the first cigar plant was mechanized, 35 percent of the total cigar output was a machine product. The aggravated price competition during the depression further favored the encroachment of machine production so that more than half of the 1933 output was machine made. Almost without exception, whenever a plant is mechanized, the entire force of hand cigar makers is dismissed and a smaller number of young women is hired to operate the newly installed machines. It is estimated that upwards of 15,000 machine operators have been thus substituted in automatic production plants, and that approximately 40,000 are working in the other plants. The hand cigar worker who can still find an employer for his craft works under the overhanging threat of displacement by machine competition - a threat reflected in his reduced wage rate and earnings. Available evidence indicates that, for cigars selling at 5 cents or less, hand workers whose product competes with machine production earn less than the machine operators.

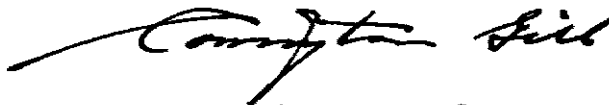
The great majority of skilled cigar makers are well on in years and have been long habituated to a single craft which is not transferable to other industries. The typical prospect, when the cigar factory at which he is employed mechanizes, is unemployment of long duration, interrupted for relatively few by occasional jobs. The displaced artisan cannot look forward to making a living at a job at his craft. Self-employment in the industry frequently does not yield subsistence.

The employed artisan who will be displaced by machines in the years ahead will find small comfort in the present coverage of the unemployment compensation laws. The chances are that irregularity of employment prior to his final lay-off will leave him with a very short or no period of eligibility for benefits ahead, and, in any event, the limited eligibility period will only postpone the problem of long-time unemployment. Typically too old a hand at his craft to make a favorable self-adjustment and not old enough for an old age pension, the cigar worker who will be displaced in the next few years will ordinarily, like his brother dis-

placed in the past, wait for the means test to overtake him.

This study was made under the direction of Irving Kaplan, Associate Director of our National Research Project. The Bureau of Research and Statistics of the Social Security Board has collaborated in the project, out of which this study has developed, by making available the services of Daniel Creamer, a member of its staff. The report was prepared by Mr. Creamer and Miss Gladys V. Swackhamer.

Respectfully yours,

A handwritten signature in cursive script, reading "Corrington Gill". The signature is written in black ink and is positioned above the typed name and title.

Corrington Gill
Assistant Administrator

C O N T E N T S

Section	Page
PREFACE	xv
I. INTRODUCTION.	1
Survey procedure.	2
II. TRENDS WITHIN THE CIGAR INDUSTRY AND THEIR RELATION TO THE COMPANY.	4
Economic pressures.	4
Mechanization and the 5-cent cigar.	9
Proposed wage cut and refusal of hand workers	13
Mechanization and lay-offs.	15
Productivity and production costs of men and machines	16
Extent and nature of the labor displacement at the Company	20
III. PERSONAL CHARACTERISTICS OF THE HAND WORKERS. .	27
Nativity.	27
Years at cigar making	28
Years in Manchester	30
Years with the Company.	31
Employment pattern at the Company before the lay-off.	32
IV. DIFFICULTIES OF REEMPLOYMENT IN INDUSTRY AFTER THE LAY-OFF.	34
Special obstacles presented by the cigar industry and the Manchester Area	34
Unemployment between lay-off and next job . .	36
Total unemployment.	37
Employment status at time of interview. . . .	38
Relation of age to employment status at time of interview	40
The role of migration	40
Character of jobs after the lay-off	43
Duration of current status.	47
Public assistance	49
Self-employment at cigar making	51
Earnings as "buckeyes".	54
Other employment as cigar makers.	58
V. COMPARISON OF EMPLOYMENT PATTERN, EARNINGS, AND UNIONIZATION OF MACHINE OPERATORS AND HAND WORKERS	59
Employment of machine operators	59

CONTENTS

Section	Page
Earnings of machine operators	64
The union after the lay-off	67
VI. SUMMARY AND CONCLUSIONS	70
Summary	70
Appraisal of social resources	72
Conclusion - residual relief problem.	76
APPENDIX A: A FEW CASE HISTORIES	79
Case 1.	79
Case 2.	80
Case 3.	81
Case 4.	81
Case 5.	82
Case 6.	83
Case 7.	83
APPENDIX B: DESCRIPTION OF PROCESSES	85
Preliminary operations.	85
Description of hand manufacture of cigars	85
Description of combination hand and machine manufacture of cigars.	86
Description of machine manufacture of cigars.	87
Subsequent operations	87
APPENDIX C: WEEKLY EARNINGS OF CIGAR WORKERS	88
APPENDIX D: SCHEDULE AND EXPLANATION OF TERMS USED IN THE SCHEDULE	91
Schedule used	92

CHARTS AND ILLUSTRATIONS

Figure

Employment and unemployment after lay-off.	<i>Frontispiece</i>
1. Per capita consumption of cigars and cigarettes, 1900-1934.	5
2. Total cigars and class "A" cigars produced in the United States and in New Hampshire, 1921-1935.	7
3. Cigar-making machine	9
4. Number and sex of employees of the Company, 1921-36.	23
5. Age of cigar machine operators and hand cigar makers	25

CONTENTS

xi

CHARTS AND ILLUSTRATIONS—Continued

Figure	Page
6. Preparing the binder for a hand-made cigar.	32
7. Employment status by age groups five years after the lay-off.	39
8. Hand worker "bunching the filler"	55
9. Hand cigar maker applying the binder leaf	56
10. Making cigars by hand.	62
11. Two-operator cigar-making machine.	63

TEXT TABLES

Table 1. Production of large cigars, in New Hampshire and the United States, 1920-36	6
Table 2. Percentage distribution of cigars produced, by classes, in New Hampshire and the United States, 1921 and 1924-35	10
Table 3. Distribution by average production per machine-hour of 74 wrapper machine operators at the Company, 1936	18
Table 4. Distribution of the estimated daily production of 26 hand cigar makers while working for the Company	18
Table 5. Average annual number employed and the average annual production of cigars at the Company by biennial periods, 1929-36.	21
Table 6. Number of hand cigar makers employed at the Company, 1931-32	22
Table 7. Distribution by sex of the Company employees, 1921-36.	23
Table 8. Comparison of the age distribution of 202 machine operators with the age distribution of 328 hand cigar makers	26
Table 9. Classification by country or State of birth of 150 hand cigar makers in Manchester, New Hampshire.	27
Table 10. Distribution of 150 cigar makers at the Company by time spent at making cigars by hand.	28

CONTENTS

	TEXT TABLES -Continued	Page
Table 11.	Distribution of 150 cigar makers at the Company by years at making cigars by hand as a percent of years in the labor market . . .	29
Table 12.	Three hundred and twenty-eight hand cigar makers employed by the Company, classified by the cigar trade union local of first affiliation.	30
Table 13.	Distribution of 150 hand cigar makers by length of service with the Company, 1931 . .	31
Table 14.	Distribution of 116 cigar makers by months of unemployment between lay-off from the Company and next job.	36
Table 15.	Distribution of 116 cigar makers according to their total unemployment since lay-off . . .	37
Table 16.	Employment status and age distribution of 224 cigar makers laid off by the Company in 1931	39
Table 17.	Geographical dispersion of 149 cigar workers who left Manchester after lay-off.	41
Table 18.	Distribution by age of 90 hand cigar makers who emigrated from Manchester, related to age distribution in entire sample, 1931-36 .	42
Table 19.	Two hundred and twenty-four hand cigar workers classified by industry of present job in Manchester and elsewhere	43
Table 20.	Classification by industry of all jobs held by 116 hand cigar workers seeking work after lay-off in 1931.	46
Table 21.	Duration of current employment status of 129 cigar makers laid off by the Company in 1931	47
Table 22.	Distribution of total elapsed months between lay-off and date of interview, by employment status.	49
Table 23.	Geographical dispersion of cigar makers who are working at their trade	53
Table 24.	Estimated annual earnings from cigar making at the Company in 1930 and as "buckeye" proprietors in 1936.	57

CONTENTS

xiii

TEXT TABLES-Continued

Page

Table 25.	Monthly index of man-hours worked by machine operators at the Company in 1936	59
Table 26.	Distribution of 202 machine operators at the Company by the percent of actual man-hours worked in 1936 to the theoretical maximum. .	60
Table 27.	Distribution of 202 machine operators at the Company, by number of weeks with no employment, 1936	61
Table 28.	Distribution of 202 machine operators at the Company, by weeks of less than full-time but not less than half-time employment, 1936	62
Table 29.	Distribution of 202 machine operators at the Company by weeks of full-time employment, 1936	64
Table 30.	Distribution of 202 machine operators at the Company, by annual earnings, 1936.	65
Table 31.	Distribution of 202 machine operators at the Company by hourly earnings in 1936	66

APPENDIX TABLES

Table C-1.	Average earnings per week, by classes of cigars produced in the United States	68
Table C-2.	Average earnings per week, by States, of workers on class "A" cigars.	69

PREFACE

This study of workers in the cigar industry begins a series planned to throw light on the bearing of economic conditions and the technological developments associated with these conditions on the employment and unemployment experience of workers in selected industrial situations.

In the situation covered by this survey, more than 600 male cigar makers were laid off in 1931, and some 200 female machine operators were taken on instead to make a cheaper product by automatic machinery. The findings are based primarily on an analysis of the employment and earnings records of the cigar workers who were laid off and the machine operators who were substituted. During the 5 years following the lay-off, the cigar makers, as a group, were without work 52 percent of the time, although able and willing to work and actively seeking work. Nine percent of their time was spent in self-employment in the cigar industry, 10 percent in working for others in the industry, and 17 percent in working outside the cigar industry. The remaining 12 percent of the time was accounted for by those who became too old or otherwise disabled for work.

Five years after the lay-off approximately 13 percent were self-employed cigar makers, and many more had tried self-employment in the interim and had failed. Another 17 percent were employed by others in the cigar industry; some of these had the precarious security of jobs with "buckeyes",¹ while others were no longer cigar makers but had obtained semiskilled or unskilled jobs with the company which had mechanized its plant. Though many of them roamed far and wide in quest of a livelihood, the majority found no work at cigar making, and 25 percent found no work at all during the 5 years after the lay-off. Jobs were typically casual, unemployment typically of long duration, and the older the worker the more prevalent was going without work.

The effects of the mechanization of the cigar-making process are illustrative of the type of technological change in which the production process is completely converted from a system employing hand workers to one utilizing automatic machinery and

¹The "buckeye" is a self-employed cigar maker manufacturing on a small scale. He has no or only a few employees. In the situation surveyed, "buckeye" operation has constituted a form of disguised unemployment.

machine operators. Since mass production methods have become widely prevalent, the field for this type of technological change has necessarily become limited. Other examples do, however, come to mind. Glass blowing went through a cycle of such changes during the earlier decades in this century. In more recent years the baking industry has been similarly affected.

When a hand process becomes mechanized, the experience and personal characteristics of the hand workers ordinarily afford no special qualification for service in the substituted production process. Frequently, as in the case of mechanization in the cigar industry, there is at least an apparent advantage in substituting new personnel with the new process. The character of the technological change is thus important in determining the number and type of workers who become unemployed. On the other hand, the extent of unemployment facing the workers immediately affected by the loss of job is controlled, not by the type of technological change, but by the economic conditions under which the change takes place and by the characteristics of the workers affected. In the case of the cigar industry, the economic conditions have been those of markedly declining production, reducing opportunities for employment in the industry, and the characteristic worker is a skilled artisan long associated with his craft and an "older worker."

Examples of industries characterized by declining production and declining opportunities for employment are, of course, much more numerous than those of industries affected by the drastic type of technological change represented by the transformation of handicraft to machine methods. Moreover, during the past 8 years almost all industries have been subject to severe curtailment of production and employment for relatively long periods of time. Under such circumstances the pressure for cost reduction is indeed very great, and a technological improvement which reduces the number of jobs or substitutes one group of workers for another is likely to impose prolonged unemployment among many of the workers laid off. When jobs elsewhere, in the worker's usual industry or in other industries utilizing his special qualifications, are scarce, the worker's eagerness to work is usually of little consequence.

The cigar maker's skill is not transferable to other industries and this is characteristic of skills in many industries. The

skills of hand operatives and of skilled workers generally are, to a greater or lesser degree, specialized to an industry, and this specialization may fundamentally limit their transferability. These skilled workers are quite generally subject to the effects of technological changes, whether singularly drastic, as in the case of the cigar industry, or continuous and cumulative, as in most instances. Their security is therefore much more generally undermined by the more common types of technological change than by the complete conversion from hand to machine production.

Apart from the mechanical capacity to utilize or adapt skills required in other industries, long-established association with one industry may also limit the opportunity to become established in another industry. Men who have worked in the mines traditionally remain dependent on the availability of jobs as miners. It is the farm youth rather than the experienced farmer who finds his way into industry. While machinists were in demand by many Philadelphia metal industries in 1936, machinists attached to the heavy-equipment industries remained unemployed. In the same year, the Minneapolis metal-working plants were seeking machinists, but railroad machinists remained on the relief rolls. In all these cases the workers' skills are, in greater or lesser degree, specialized to the particular requirements of their usual industry. Other factors than the ability to adapt or acquire the skill required for jobs in another industry are, however, important. The absence of extensive and adequately used placement services may account for the worker's dependence on his habitual associations in his quest for work.

A number of studies of the National Research Project are concerned with the degree to which and the conditions under which workers in given occupations and industries find employment in other occupations and industries. Since age also is a selective factor, with older workers frequently finding it more difficult to establish themselves anew in industry than young workers, the relationship between age and the characteristics of employment and unemployment experience are subjects of analysis in a number of forthcoming reports in this series.

A debt of gratitude is owed to all the cigar makers who were interviewed and without whose generous cooperation this survey would not have been possible. We also are indebted to the R. G. Sullivan Company and the Manchester Local No. 192 of the Cigar Makers' International Union for their help in making necessary records available to us. Mr. John Bogaert, secretary of the union, Mr. Fritz Kuehn, and Mr. Michael Quinn, all former hand cigar makers at the R. G. Sullivan plant, were particularly helpful in tracing the whereabouts of persons in our sample and in providing general information on the history of the industry in the Manchester area. To Mr. Lucianus Altenau of Manchester we are obligated for information on the problems of the "buckeye" proprietors, and to Miss Jules Teras, forelady at the R. G. Sullivan factory, for material on the present-day conditions of employment of the machine operators. Finally, acknowledgment is made to the Portsmouth, New Hampshire, office of the United States Bureau of Internal Revenue, to the Division of Unemployment Compensation of the New Hampshire Bureau of Labor, to the office of the Commissioner of Charities of Manchester, the office of Charities and Correction of Hillsboro County, New Hampshire, and the Central Index of Agencies of Manchester for making available special tabulations included in the report.

DAVID WEINTRAUB
IRVING KAPLAN

PHILADELPHIA

December 7, 1937

SECTION I

INTRODUCTION

Vice President Marshall is reported to have remarked during a period of war anxiety that what the country needed was a good 5-cent cigar. He could scarcely have realized that the need would so soon be filled. When, in 1919, a leading cigar manufacturer demonstrated that cigars could be made entirely by machines, the good 5-cent cigar was well on its way toward becoming a reality.

Up to that year cigar making had been largely a hand process. The successful introduction of machines meant a virtually complete change in manufacturing technique and an almost complete change in the labor personnel. Artisans, mostly men, with a highly specialized skill, were replaced by machines operated by young women whose work falls into the category of semiskilled. The problems arising from this replacement concerned the sort of adjustments which could be made to an abrupt change in manufacturing technique - a change which involves the substitution of a completely mechanized process for a hand process and the complete turnover in personnel.

As an approach to the specific problems of the cigar industry within the framework of the general problems posed by technological innovations of the above type, a particular case was selected for a special study. In 1931, the R. G. Sullivan Company, located in Manchester, New Hampshire, decided to discontinue the manufacture of cigars by the hand process and to substitute the machine method. About 5 years after the hand workers had been dismissed by the management, this survey was undertaken in an attempt to find out what sort of readjustment these displaced workers had been able to make. The following specific problems of technological unemployment within the cigar industry presented themselves for analysis: To what extent does the long-time shrinkage in the demand for the industry's product intensify the difficulties of adjustment of the displaced worker? To what degree do the personal characteristics of the displaced group

Note.- The authors wish to acknowledge their indebtedness to the many who have made contributions to this study. Few can here be specially mentioned. Marion Hayes designed the charts and made numerous suggestions that have been incorporated in the text. Thomas G. Casey assisted in selecting the sample, Susan R. Caldon and Theresa Corbett were responsible for the scheduled interviews, May Belle Baird, Lillian Wolkin and William Barnum prepared the tables, and Margaret Snowden and Roselle Moore prepared the charts.

condition the type of adjustment that is actually achieved or might possibly be achieved? Finally, what effect has this technological change had upon labor income?

SURVEY PROCEDURE

These problems are dealt with according to the following procedure. The fluctuations in the R. G. Sullivan Company's business and the circumstances that determined mechanization are traced against the background of the trends in the cigar industry as a whole during the decade of the nineteen twenties and the ensuing depression. The reaction of the workers to the Company's proposed alternative of mechanization or wage reduction has been ascertained by reference to the trade-union minutes covering the negotiations with the management and by personal interviews with individuals. The increase in productivity resulting from the use of machines is evaluated, together with the displacement of manpower. The problems and the extent of readjustment of the displaced hand workers are analyzed in the light of the workers' personal characteristics and occupational history before the lay-off.

The personal characteristics and occupational history of these displaced workers were analyzed from data recorded on schedules¹ for a part of a sample of all displaced workers. This sample was obtained by copying from the records of the Manchester local of the Cigar Makers International Union the first 316 names of cigar makers on the membership rolls of 1931. These 316 names represented approximately 50 percent of the displaced hand workers. Since the names had been entered by the secretary in the order in which the men sat in the factory and since there was no planned seating arrangement, the sample may be regarded as a random one. In addition, the names of 12 small cigar-factory operators, or "buckeyes", in Manchester were obtained from the Internal Revenue Department in order to investigate the adequacy of small cigar factory operation as a method of economic adjustment. Two trained investigators called at the men's homes during a 3-week period in February 1937 and obtained detailed personal and occupational histories for 150 of the 328 cases. In-

¹The schedule with the explanation of terms is reproduced in Appendix D.

INTRODUCTION

3

cluded in these 150 were the 12 cases added from the Revenue list and 138 from the random sample.

Many of the men had moved away or could not be reached personally in the time allotted. Under these circumstances, other sources of information were utilized, and for all but six cases it was possible to secure some items of information, such as the current employment status or the location of the job or the place of residence. From union records the date of birth and the union local of first affiliation were ascertained for almost all of the 328 cases. Many workers were traced through the secretary of the union local and through certain former union members, such as the secretary-treasurer of a workmen's sick and death benefit fund, the City Clerk, and a number of the older men. In addition, the records of the Bureau of Vital Statistics of the city and of the relief agencies were consulted, as well as the files of the American-Canadian Association, a beneficial society operating extensively among the French-Canadian population. Accordingly, the size of the sample will vary with the items under consideration.

To complete the investigation of the effects of machine production, consideration is given to the regularity of employment and the earnings of the machine operators who replaced the hand workers. The findings are based on returns made by the R. G. Sullivan Company to the New Hampshire Division of Unemployment Compensation. The gradual demoralization of the trade-union local is also regarded as an aftereffect of mechanization. The concluding section summarizes the efforts, generally unsatisfactory, at economic readjustment on the part of the displaced hand workers, and undertakes an evaluation of the adequacy of the usual types of social assistance available to such a group.

SECTION II

TRENDS WITHIN THE CIGAR INDUSTRY AND THEIR RELATION TO THE COMPANY

The Company has been in existence for more than 60 years, and during its entire history ownership has resided with Mr. Roger G. Sullivan and his children. Its development from a very modest retail tobacco shop, employing one cigar maker, to a factory employing 1,500 persons at the peak during the war years seems to have been due to the business talents of the founder. His genial personality enabled him to introduce his cigar, the "7-20-4", into ever widening markets in New England, and his practice of manufacturing the cigar with quality Havana filler assured him that orders once given would be repeated.¹

At an early date the union obtained a closed-shop agreement, and it was generally understood that the employees at the Company were to have a slight differential above whatever terms and conditions prevailed in Boston, once an important cigar-making center. As a result, cigar making was the highest paid industry of size in Manchester, and the cigar maker enjoyed an enviable position in this mill city. By virtue of his handcraft, he was permitted a degree of independence unknown to other factory workers in an age of mechanization. Up to the time of the great depression the factory enjoyed the reputation among hand cigar makers of being the best place to work of all the cigar plants in the country.

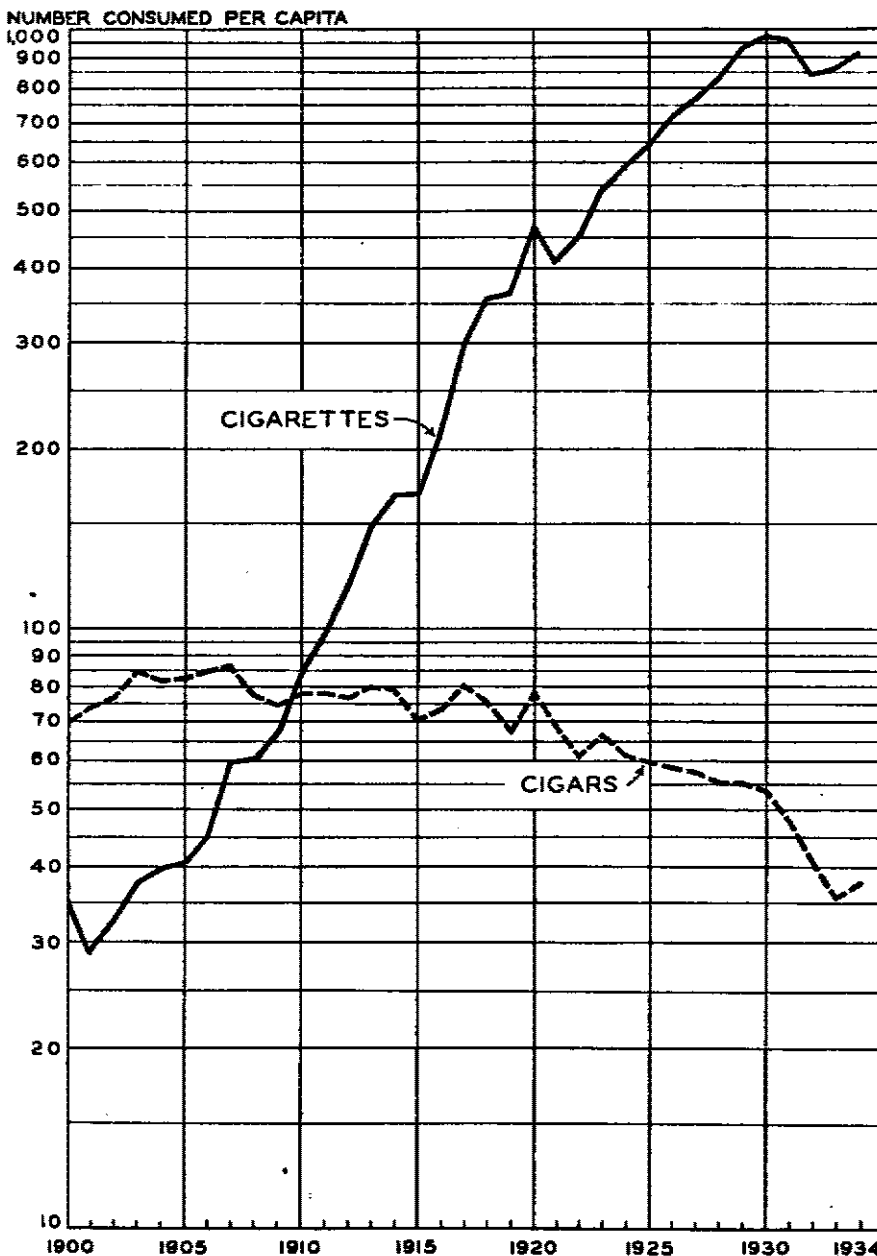
ECONOMIC PRESSURES

Economic pressures, however, made themselves felt. For some time the popular taste had been changing in favor of the cigarette, which represented a cheaper smoke. The per capita consumption of cigars in this country, as shown in figure 1, began to decline in the first decade of the century, but the peak of annual production was reached in 1920. That the cigar production of New Hampshire, represented to the extent of about 90 percent by the

¹The cigar gets its name from the address on Elm Street, Manchester, New Hampshire, where the business was first housed.

FIGURE 1.- PER CAPITA CONSUMPTION OF CIGARS AND CIGARETTES*
1900-1934

(Semi-logarithmic scale)



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LS-7

*Tax-paid cigars and cigarettes sold per fiscal year, as derived from Annual Reports of Commissioner of Internal Revenue, divided by annual midyear population estimates of the Bureau of the Census, Department of Commerce.

CIGAR MAKERS

Company, affords no striking exception to national trends, can be seen from table 1 and figure 2.²

Table 1.- PRODUCTION OF LARGE CIGARS,^a IN NEW HAMPSHIRE AND THE UNITED STATES, 1920-36^b

Year	Number of cigars produced in -		Cigar production relative to 1920	
	New Hampshire	United States	New Hampshire	United States
	(Millions)		(Percent)	
1920	69.7	6,097	100.0	100.0
1921	55.4	6,726	79.5	83.1
1922	56.5	6,722	81.1	83.0
1923	66.6	6,950	96.7	85.6
1924	74.0	6,598	106.2	81.5
1925	65.9	6,463	94.5	79.8
1926	66.5	6,499	95.4	80.3
1927	60.5	6,519	86.8	80.5
1928	55.3	6,373	79.3	78.7
1929	52.8	6,519	75.8	80.5
1930	40.4	5,894	58.0	72.6
1931	41.7	5,348	59.8	66.0
1932	44.5	4,383	63.8	54.1
1933	45.4	4,300	65.1	53.1
1934	56.1	4,526	80.5	55.9
1935	57.6	4,685	82.9	57.9
1936 ^c	59.4	n. a.	85.2	n. a.

^aCigars weighing more than 3 pounds to the thousand.

^bBased on "Tobacco Division," *Annual Report of the Commissioner of Internal Revenue* (U. S. Treas. Dept., Bur. Int. Rev., 1920-36).

^cFigure for the Company. Obtained from the Bureau of Internal Revenue records.

n. a. Data not available.

²At the request of the R. G. Sullivan Company, the Bureau of Internal Revenue provided us with the annual total production figures of this company for the period 1931 through 1935 and with the production figures by classes of cigars manufactured during the last 3 years of this period. The production records by classes for the years prior to 1931 have been destroyed by the Bureau in accordance with its congressional authorization.

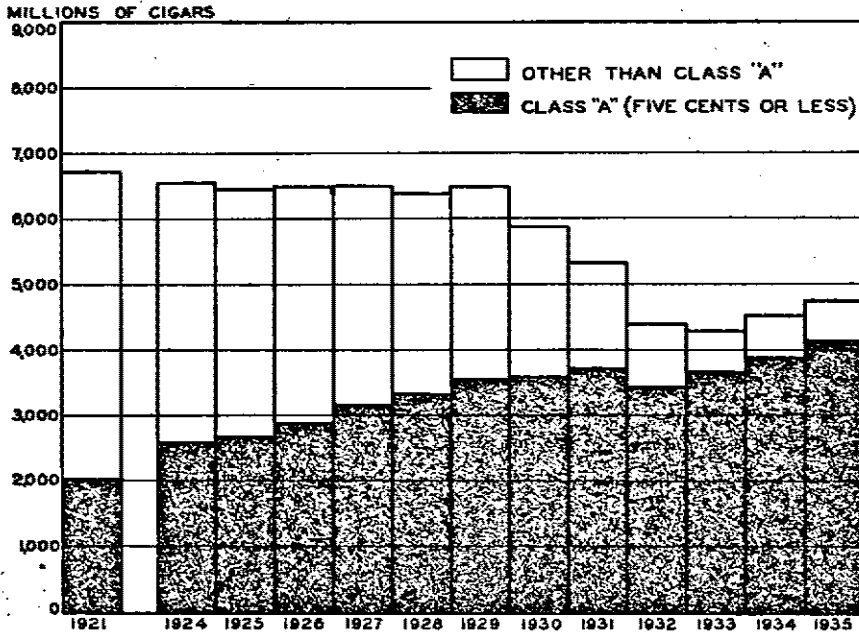
In the years 1931 to 1935 inclusive, the Company produced 97 percent, 92 percent, 95 percent, 94 percent, and 96 percent respectively of New Hampshire's total.

Thus the output of the Company during this period, all classes considered, was never less than 92 percent of all cigars manufactured in New Hampshire. This lowest percentage was produced in 1932 when many of the displaced cigar makers opened "buckeye" shops. As these shops gradually liquidated, the percentage produced by the Company increased.

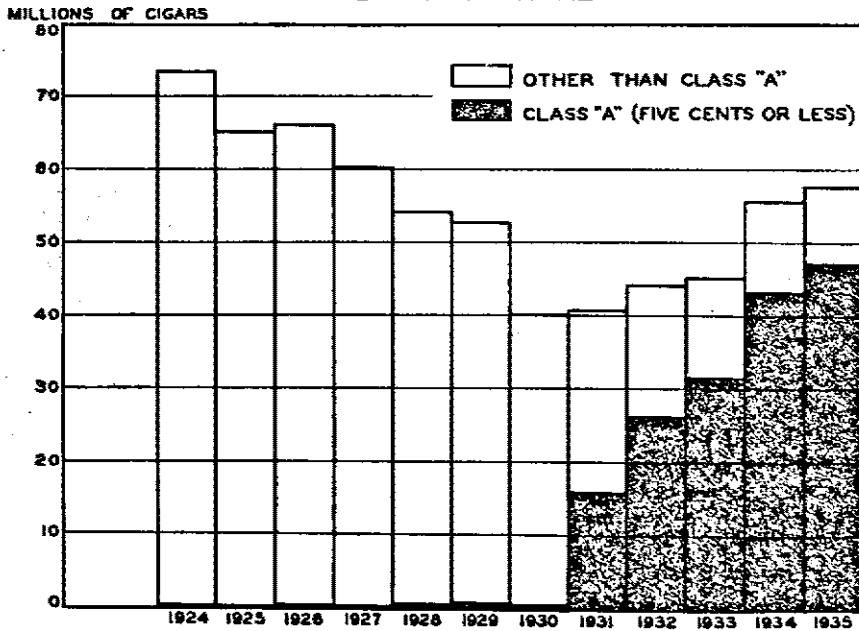
For this period, therefore, it certainly involves no distortion of facts to assume that the relative changes in the various annual production totals for New Hampshire represent accurately the relative changes in the respective totals of the Company. The assumption seems equally valid for the decade of the twenties, since the industrial directory compiled biennially by the New Hampshire Bureau of Labor lists for the period under consideration only two cigar manufacturers, the Company and a manufacturer whose personnel never exceeded 10. The *Census of Manufactures* has not published the statistics of this industry for New Hampshire in order to avoid disclosure.

FIGURE 2.— TOTAL CIGARS AND CLASS "A" CIGARS PRODUCED IN THE UNITED STATES AND IN NEW HAMPSHIRE 1921-1935

UNITED STATES



NEW HAMPSHIRE



Based on data in table 2.

Although the peak of production for the entire industry was reached in 1920, the peak for the Company's, or New Hampshire's, share of the industry was not reached until 1924. Production for this year was 6 percent above that for 1920, whereas production for the intervening years seemed to reflect cyclical rather than secular influences. But from 1925 to the end of the decade a downward trend in New Hampshire's production was discernible. Thus, New Hampshire's production for 1929 was 24 percent less than for 1920, although the production for the entire industry had been stabilized during the second half of the twenties at about 20 percent below its 1920 level. In the first year of the depression the rate of decline for the Company was greatly accelerated and reached its low point in the first half of 1931, whereas the somewhat accelerated but orderly decline for the entire industry did not reach its trough until 1933.

This general decline in the volume of cigar production after 1920 occurred at the very time that an important part of the industry was attempting to improve its competitive position by marketing a low-priced cigar of good quality. To carry this out profitably, it was necessary to effect a substantial reduction in costs. This was tantamount to requiring a substantial reduction in labor costs, since this item was a high percentage of the total. The perfection of the automatic "bunching" and "rolling" machine by 1919 provided a method for accomplishing the requisite cost reduction.

In that year the firm of Waitt and Bond, manufacturer of the "Blackstone" cigar, attempted to solve its labor difficulties by moving its factory from Boston to Newark, New Jersey, and there installing automatic cigar-making machinery.³ The successful use of the machine process by this company was sufficient demonstration of the practicability of applying automatic machinery to the industry, and mechanization, therefore, was not slow to take hold. Upon the basis of Bureau of Labor Statistics figures on cigars produced by machines it has been estimated that in 1919 machine-made cigars were 2.6 percent of the total; in 1929, 35.1 percent;⁴ and in 1933, 52.3 percent.⁵

³Russell H. Mack, *The Cigar Manufacturing Industry* (Philadelphia: University of Pennsylvania Press, 1923), p. 71.

⁴Technological Changes in the Cigar Industry and Their Effects on Labor, *Monthly Labor Review*, 33, No. 8 (Dec. 1931), 13 & 17.

⁵The Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 169.

MECHANIZATION AND THE 5-CENT CIGAR

The relationship between increased mechanization and the concurrent increase in the production of inexpensive cigars is suggested by the shift of production⁶ recorded in table 2. Class "A" cigars, which are made to retail at not more than 5 cents, represented only 30.2 percent of all cigars produced in the United



FIGURE 3.- CIGAR-MAKING MACHINE

This four-operator machine makes long-filler cigars. From right to left, the first girl places filler tobacco in the machine, which automatically makes the bunch. The next operator is responsible for the binder leaf, and the third, for the wrapper. The machine then drops the finished cigar for inspection by the fourth girl.

States in 1921.⁷ By 1929 this class accounted for 54.9 percent of the total production and by 1933 for over 85 percent. The gain in class "A" production by 1935 resulted in the virtual elimination of class "B" and the reduction of class "C" by three-fourths.

⁶ Production of cigars by classes is not available, but data for removed tax-paid cigars are available. Since there is only a slight difference between the two series for the period under consideration, for purposes of exposition tax-paid removed figures have been regarded as production figures.

⁷ Throughout this report, the word "cigars" refers to large cigars weighing more than 3 pounds per thousand. Small cigars (weighing less than 3 pounds per thousand) have constituted a negligible proportion of total production.

Table 2.- PERCENTAGE DISTRIBUTION OF CIGARS PRODUCED, BY CLASSES,^a IN NEW HAMPSHIRE
AND THE UNITED STATES, 1921 AND 1924-35^b

(Cigars weighing more than 3 pounds per thousand)

Calendar year	Total		"A"		"B"		"C"		"D"		"E"	
	New Hampshire	United States	New Hampshire	United States	New Hampshire	United States	New Hampshire	United States	New Hampshire	United States	New Hampshire	United States
1921	n.a.	100.0	n.a.	30.2 ^c	n.a.	27.8 ^c	n.a.	39.2 ^c	n.a.	2.7 ^c	n.a.	.1 ^c
1924	100.0	100.0	.4	39.3	19.7	20.8	79.9	38.0	0	1.8	0	.1
1925	100.0	100.0	.4	41.6	23.1	17.6	78.5	38.7	0	2.0	0	.1
1926	100.0	100.0	.5	44.0	23.4	14.5	76.1	39.3	0	2.1	0	.1
1927	100.0	100.0	.5	46.4	22.5	11.5	77.0	37.9	0	2.1	0	.1
1928	100.0	100.0	.9	51.7	22.9	10.0	76.2	36.2	0	2.0	0	.1
1929	100.0	100.0	1.4	54.9	20.6	8.8	78.0	34.2	0	2.0	0	.1
1930	100.0	100.0	1.7	61.1	20.1	6.7	78.2	30.3	(d)	1.8	0	.1
1931	100.0	100.0	39.0	69.7	3.4	3.3	57.6	25.5	(d)	1.5	(d)	(d)
1932	100.0	100.0	59.6	78.7	.1	1.2	40.3	19.0	(d)	1.1	0	(d)
1933	100.0	100.0	70.1	85.6	(d)	.7	29.9	12.9	(d)	.8	0	(d)
1934	100.0	100.0	77.8	86.2	(d)	1.2	22.2	12.0	(d)	.6	0	(d)
1935	100.0	100.0	81.9	88.1	(d)	1.4	18.1	9.9	(d)	.6	0	(d)

^aClass "A" cigars manufactured to retail at not more than 5 cents each.

Class "B" cigars manufactured to retail at more than 5 cents each and not more than 8 cents each.

Class "C" cigars manufactured to retail at more than 8 cents each and not more than 15 cents each.

Class "D" cigars manufactured to retail at more than 15 cents each and not more than 20 cents each.

Class "E" cigars manufactured to retail at more than 20 cents each.

^bBased on "Tobacco Division," Annual Report of the Commissioner of Internal Revenue (U. S. Treas. Dept., Bur. Int. Rev., 1921-35). See also footnote 6, p. 9.

^cThe Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 176.

^dLess than one-tenth of 1 percent.

n.a.-Data not available.

The production record of the Company (as indicated by the New Hampshire columns of table 2) also provides a confirmation of the relationship between mechanization and the shift to a cheap cigar. Prior to 1931, the year of mechanization, class "A" cigars represented less than 2 percent of the Company's production, whereas class "C" cigars accounted for about three-fourths. In the first full year of production by machines, 1932, the production of class "A" cigars was greater than that of class "C" cigars; the respective shares were 60 and 40 percent.

The makers of the "7-20-4" cigar realized, even before the depression, the necessity for offering a cheaper cigar. In addition to the "7-20-4", which retailed at 15 cents and upon which the firm's reputation was built, they were producing the "Dexter", which retailed since the boom year of 1924 at 10 cents apiece or two for 15. Other brands, inconsequential in terms of volume, were the "7-20-4 Pony" and the "Little Gold Dust", both made to retail at 5 cents. At the first evidences of serious shrinkage in business in 1927 and 1928, the management was ready to resort to the use of machines. The step, however, was not taken.

As a result of friendly conferences on matters relating to shop conditions, an amicable agreement was reached between the officials of the company and of the Cigar Makers Union, Local 192, assisted by the president of the international organization, whereby the present brands bearing the name of R. G. Sullivan "7-20-4" will continue to be hand made.

. . . controversy over the contemplated introduction of machines in the factory has existed for some time. The satisfactory arrangement between employer and employee means that one of Manchester's largest and most important industries will continue to function as in the past. Cigar makers are among the highest paid workers in the community and the weekly payroll of the Sullivan Company, when operating at capacity, totals many thousands of dollars.

In view of the fact that many of the large cigar manufacturers are using machines, the decision of the Sullivan Company is most important for this industry.⁸

The failure of the Company to mechanize prior to the onset of the depression accounted in large part for the precipitate drop in its production during 1930 as compared with the more moderate decline in national production. That is, since a large part of the cigar industry was already mechanized, it could profitably

⁸The Manchester Leader, Manchester, New Hampshire, June 7, 1928.

manufacture a cheap cigar and thereby was in a better position to meet the competition of cigarettes. The "7-20-4" plant, on the other hand, was in no such position, since it still relied on a 15-cent cigar. As a cigar of that price is in the category of luxuries, the demand for it would be more drastically curtailed during a period of business recession than would that for a cheap cigar.⁹

During the period preceding the mechanization of the Company's plant, the management saw the demand for its 10-cent cigar, the "Dexter", increase and the sales of its 15-cent cigar, the "7-20-4", decline. By 1930, about two hundred cigar workers in the factory were employed on "Dexters" and six hundred on "7-20-4's."¹⁰ The makers of the "7-20-4" had taken a \$3 cut in the wage rate of \$21.50 per thousand and were working only 24 hours a week. Though the rate was \$18.50 per thousand cigars and the daily production about three hundred cigars per man, the weekly wage of the "7-20-4" worker averaged under \$20.00. A "Dexter" mold worker averaged about five hundred cigars a day, but at the rate of \$10 per thousand his weekly wage very likely did not exceed that of the "7-20-4" worker. The firm stated that business was so poor that they could lay off fifty to one hundred men and still operate on a 3-day week.

It was under these conditions that the management again turned to the cigar-making machines as a solution. The manufacturers of high-priced cigars were finding that the public accepted the machine-made product, which could be retailed at much less though the tobacco content was the same or better. In the latter part of 1930 a few machines were introduced into the "7-20-4" plant for making the "Dexter" cigar. By the early part of 1931, the machines had justified themselves for "Dexter" manufacture, but the "7-20-4's", which had been the mainstay of the Company's business, were lagging behind in sales. The tail was wagging the dog, and again a change was indicated.

⁹The fact that the fluctuations in the Company's production have greater amplitude than those for the entire industry is, in part, due to statistical reporting. In a series composed of many reporting firms, there is a possibility of rises offsetting declines and vice versa and thereby moderating the amplitude of fluctuations, since the business fortunes of all firms in a given industry are not perfectly synchronized. In a series composed of only one firm, this possibility does not exist.

¹⁰Both were full-size, hand-made cigars, but the "Dexter" had a bunch composed of Havana scrap, whereas the "7-20-4" was made with Havana whole-leaf bunch. In addition, the molds used for shaping the "Dexter" decrease the time required for making it.

PROPOSED WAGE CUT AND REFUSAL OF HAND WORKERS

Before turning to machines for producing the "7-20-4's", in February 1931 the Company made a wage-reduction proposal to the six hundred hand workers with the installation of automatic machinery as the alternative to its rejection. It proposed a rate of \$14 per thousand, which represented a cut of \$4.50 from the prevailing rate of \$18.50. Demoralized by the constant attacks upon hand work and the part-time employment of the last year, the men, nevertheless, were united in refusing the offer. In their special meeting of February 25, 1931, they elected a committee of five to negotiate with the firm, specifying that "if anyone is fired as a result of taking part in this controversy, others would go out on strike." It appears plain from the record of the negotiating committee which met with the management that the men pressed to know if their acceptance of the lower rate would keep additional machines out of the factory. It appears equally plain that the two executives who met personally with the union committee replied frankly that they could make no promises that machines would not have to come and

. . . . added that they were surprised that they kept on making cigars by hand as long as they did, considering the price at which the machines make them. In the beginning, they were afraid to try the machines, but they find that the public is buying machine made cigars. With their trade falling off continually, the fact that their product is made by hand, does not even influence the public to pay an extra cent for their goods. All the salesmen report that it is a matter of price. The shop should be making 1,500,000 a week and they are shipping only 421,000 and a part of those are "Dexters" that were made at Christmas. All our friends in the tobacco business have advised us to go into machines. To be frank, when we figured everything down to a rock bottom basis, we realized that the machine is the only solution to our problems. We do not feel positive that the price that we propose will meet the situation. Even at the \$14 rate, we have no assurance that this figure will not delay the inevitable.¹¹

Again in summarizing the management's position the same lack of assurance was expressed thus:

¹¹Minutes of Cigar Makers Union, Local 192, Manchester, N. H., under date of Feb. 27, 1931.

Union spokesman:

. . . . Now as we understand it, we will report back to the meeting and state that \$14 is your price, that you do not urge the men to take it and that even if they do take it, you have no expectation and are not sure that even at that price it will act as a deterrent to the machine.

Management:

That is right.¹²

That even the acceptance of the wage cut could not forestall the use of machines is evident from the cost figures mentioned by the management at this meeting.

. . . . So when you ask for a compromise [on the wage rate], we say there isn't any possibility of that when you figure that with four girls on machines, the royalty and interest figured in, you have a total cost of \$6.25 per thousand.¹³

This is to be contrasted with the proposed cost by hand of \$14 per thousand. The large differential in the cost between the two methods of production lends much credence to the statement of one displaced cigar maker that by accepting the cut, "we would have stayed only long enough to have paid for the machinery."

The union received the report of the negotiating committee and persisted in its decision to reject the proposed wage cut. On March 7, 1931, the firm was notified of the action of the union and stated that "as everything had been thrashed out, there was nothing more to say."¹⁴

When, in April, the management was asked if it would discontinue the use of machines provided the workers would accept the \$14 bill of price, it had apparently irrevocably decided on mechanization.

. . . . They [the firm] started to make "7-20-4" by machines last week and are satisfied with results. When they learned of the action of the union on the \$14 price last February it was then decided to use machines. If the men had accepted the reduction they [the firm] would have been willing to gamble. They

¹²Ibid.

¹³Ibid.

¹⁴Minutes of Cigar Makers Union, Local 192, Manchester, N. H., under date of Mar. 7, 1931.

would have put the "7-20-4" in the 10-cent class, taken the differential between machine made cigars of their competitors and \$14, and tried to put it over, although they were not sure of success. Their competitor's price is between 75 and 78 dollars per thousand [compared with \$95 for the Company's], therefore they must make the cigar cheaper in order to continue.¹⁵

MECHANIZATION AND LAY-OFFS

In April 1931, the lay-off of the six hundred hand workers started and by January 6, 1932 it was completed.¹⁶ The cigar makers had expected that about a hundred would be retained to supply the market for the hand-made "7-20-4", but only 13 remained to make the original product which still retails for 15 cents.

The union record indicates that at best it is only a partial truth to claim that the hand cigar maker himself must take the main responsibility for his displacement by machines, a displacement which, it has been alleged, had arisen out of his lack of foresight and his naive, arrogant belief in the undiminished efficacy of his skill.¹⁷ Such a claim overlooks the additional facts that some of the workers had come to the Company only after they had been displaced by machines elsewhere, and that the union journal carried news of technological displacement throughout the industry at home and abroad. It appears unjustified to say that the workers failed to appreciate the technological trends in the industry, even though a few were reported to have believed that "the machines wouldn't stay", or that "if the old man were living, the machines would not be brought in."

But appreciation of technological trends did not necessarily provide a satisfactory solution. The union record also shows the lack of resourcefulness of the hand workers in the face of machine competition. In their lengthy discussions with the firm the most that their strategy could suggest was to press for information on costs, in order to prove that they were being asked

¹⁵Minutes of Cigar Makers Union, Local 192, Manchester, N. H., under date of Apr. 28, 1931.

¹⁶Information provided, at the request of the Company, by the Treasury Department, Internal Revenue Service, Cigar Manufacturer's Monthly Returns, 1931 and 1932.

¹⁷According to union sources this judgment has been fostered by the Company to offset the community ill-will evoked by the displacement of a skilled and well-paid group of artisans. It could not be determined to what extent the union is justified in this belief.

to take a cut out of proportion to the loss borne by their firm. Once the machines were installed, suggestions for action, which were dropped after much discussion, were reduced to declarations that the lay-offs were a lock-out or to insistence upon a different union label for the machine-made product - an issue on which the manufacturers had won 5 years earlier. More practical was the suggestion that the union negotiate with the firm for the employment of the hand workers as machine operators. This suggestion, however, was not acceptable to the Company because:

. . . when they considered putting in machines they also considered women to operate them as all their competitors were doing the same. They could not consider the men at this time.¹⁸

According to several cigar workers, the refusal on the part of the management to put men on the machines was conditioned to some extent by its experience with two young men who had just completed their apprenticeship as hand cigar makers. They were allowed to operate the first "Dexter" machines but, since they expressed dissatisfaction with them, no men were given the opportunity to operate the machines thereafter.

As the impending lay-offs became a reality, the resulting distress among the workers was reflected at once in the minutes of the union. It was the custom of the union to permit old or sick members or widows of former workers to solicit funds in the factory. One widow reported a collection of \$44. When the men were laid off, many solicited similar box collections to raise funds to leave Manchester or to help support themselves. Notices of such requests for collections appeared at nearly every meeting toward the end of the year 1931 and were never refused. If an opening for a cigar maker was reported to the secretary of the union local, he put the names of all unemployed men in a hat and drew a name at random to determine whom to recommend.

PRODUCTIVITY AND PRODUCTION COSTS OF MEN AND MACHINES

In the course of negotiations with the union, the firm commented that "they were surprised that they kept on making cigars

¹⁸Minutes of Cigar Makers Union, Local 192, Manchester, N. H., under date of Apr. 28 and Aug. 31, 1931. For evidence that this was the usual procedure in the industry, see p. 24 & table 8.

by hand as long as they did."¹⁹ It is indeed surprising after an inspection of the relative productivity of the hand and machine process. So striking is the difference that the lack of refined measurements is no serious deficiency.

The productivity of the machine can be measured with accuracy for 1936. The "Dexter"²⁰ cigars are made by a two-operator machine, requiring a binder operator and a wrapper operator. The Company listed the names of 67 binder operators and 74 wrapper operators, and the Division of Unemployment Compensation of the Bureau of Labor in New Hampshire cooperated by submitting for analysis the year's weekly record of earnings and man-hours for each operator on the above lists. From this the annual earnings for each operator were computed as well as the aggregate of the hours worked throughout the year. Annual earnings divided by annual man-hours yielded earnings per hour. Since each operator in 1936 received \$1.25 per thousand cigars, this amount divided into the earnings per hour gives a quotient representing the number of cigars produced in an hour. A frequency distribution of the output per hour of the 74 wrapper-machine operators is presented in table 3. This may be regarded as a distribution of production per machine-hour.

The productivity of hand makers is shown in table 4 for comparison. These displaced cigar makers who are now operating "buckeye" shops in Manchester were asked to state what they considered their average daily output when working for the Company. The answers of these 26 former employees are here tabulated. It would be only natural for these estimates to have a somewhat upward bias.

The vast difference in productivity is evident. Thus, the median output per machine-hour is 459 cigars and the median output per machine operator is 229.5 per hour,²¹ whereas the

¹⁹ *Vide supra*, p. 13.

²⁰ The "Dexter" cigar leads the "7-20-4" now in production, and, since many of the "7-20-4" machines were idle, the "Dexter" machines making a scrap-filler cigar were considered best for this analysis.

²¹ Expressed in terms of man-hours per thousand cigars, this would be 4.36 hours. In a plant making a short-filler cigar retailing at 5 cents, surveyed by the U. S. Bureau of Labor Statistics and the National Research Project, the comparable figure was 3.89 hours. (W. D. Evans, report on productivity of labor in the cigar manufacturing industry, in preparation.)

The speed of the machine is set within wide limits by each team of two operators. The upper limit is set by the physical capacity of the machine and the lower limit by what the firm considers an uneconomical use of its machine. In practice, the operators of the Company are given much latitude in determining their own speed.

CIGAR MAKERS

Table 3.- DISTRIBUTION BY AVERAGE PRODUCTION PER MACHINE-HOUR
OF 74 WRAPPER MACHINE OPERATORS
AT THE COMPANY, 1936^a

	Number of wrapper operators	Average production of cigars per machine-hour
Total	74	-
	9	403 and under
	2	404-411
	0	412-419
	3	420-427
	2	428-435
	5	436-443
	6	444-451
	10	452-459
	13	460-467
	13	468-475
	9	476-483
	2	484-491
	0	492-499
	0	500 and over
Median	-	459

^aComputed from records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

Table 4.- DISTRIBUTION OF THE ESTIMATED DAILY PRODUCTION OF
26 HAND CIGAR MAKERS WHILE WORKING
FOR THE COMPANY^a

	Number of hand cigar makers	Estimated daily production of cigars
Total	26	-
	1	200
	2	275
	10	300
	2	325
	5	350
	2	400
	3	450
	1	475
	Median	-

^aThe estimates were furnished by the men and refer to production of the #7-20-4⁺ cigar.

median output per hand worker per day is 300.²² The machine in 1 hour produces, on the average, 53 percent more cigars than a hand worker did in a day, and the average output per machine operator in 1 hour and 18 minutes equals the average daily output of the hand worker.

The difference is still striking when the output of the machine operator is compared with the output of the former "Dexter" hand worker. According to union sources, the latter averaged about 500 cigars whereas the machine operator produces 1,836 per man-day of 8 hours - an increase of productivity of 267 percent.

If the productivity of the machines could be translated into pecuniary terms, the real advantage over manufacture by hand could be established. Unfortunately, the cost of machine operation per thousand cigars could not be determined for this company. The only figure available is \$6.25 quoted by the management in the course of its negotiations with the union over the wage cut. But this was before the firm had had any extensive experience with machine operation and before the current wage rate of the operators had been set. An approximation of this cost may be attempted, however, on the assumption that the cost of operation of its cigar-making machinery, other than the wages of operators, does not differ from that of other large companies manufacturing a 5-cent cigar under the terms of the President's Reemployment Agreement.

These cost items were incorporated in an investigation of the cigar-manufacturing industry conducted by a firm of New York public accountants, Rossmoore, Robbins and Company. The investigation was sponsored by the group of cigar manufacturers who were interested in having a code adopted by the industry. The most detailed cost information was supplied by the four leading companies producing machine-made 5-cent cigars. The costs are for September 1933. The following costs of machine operation have been adapted from National Recovery Administration file material.²³

From Company and union sources it has been established that each machine operator at the Company is paid \$1.25 per thousand.

²²No allowance is here made for any change in the size of the cigar and the length of the working day. The fact that both were greater before mechanization than they were after it is, in this case, an offsetting consideration. Of course, no account is taken of any qualitative differences.

²³As transcribed by W. D. Evans.

CIGAR MAKERS

Added elements of cost chargeable to machine production (excluding wages of operators)	Costs per 1,000 cigars
Total	\$3.0409
Wages of machinists and oilers ^a	.3291
Power ^a	.1489
Machine repairs and repair parts ^a	.1895
Depreciation on cigar machines	.3670
Interest on cigar machines	.2844
Insurance on cigar machines	.0047
Machine production overhead (includes overhead applicable to direct machine production, including supervision) ^a	.5615
Application of cost of maintaining idle cigar machines to production	.1054
Loss on defective cigars and on learners	.0953
Royalties on leased machines	1.0051

^aTotal for factory. It is impossible to allocate that proportion of these items which is due to use of cigar-making machines.

Since the machine making the 5-cent "Dexter" cigar requires two operators, \$2.50 must be added to the above cost, making a total cost for this stage of production of \$5.54. Since the hand worker on the "Dexter" cigar was paid \$10 per thousand, there has been a net saving of \$4.46 on production costs if the above cost figures apply to the Company. How much of this margin had to be sacrificed in order to enable the cigar to retail at 5 cents instead of two for 15 cents or 10 cents straight cannot be determined in the absence of the prices charged the wholesaler.

EXTENT AND NATURE OF THE LABOR DISPLACEMENT AT THE COMPANY

In view of the extreme difference in the costs of the two methods, of the limitations to expansion of demand, and of the complete labor turnover at the Company's plant, the displacement of workers was considerable. This displacement of workers is proved by other statistical relationships also, even after full allowance has been made for the crudeness of the statistics. The number of hand workers employed by the Company previous to 1931, when machine installation was completed, cannot be as-

certained. However, the biennial reports of the New Hampshire Bureau of Labor contain a directory of manufacturing establishments with the number of males and females employed by each. The annual average number of cigars produced for the same biennial periods has been obtained from the Bureau of Internal Revenue. From Company sources it has been established that there have been no technological changes in any of the other departments of the factory. Consequently a divergence in the rates of change in numbers employed and number of cigars produced may be attributed almost entirely to the technological improvements in the cigar-making branch of the business.

These rates are presented in table 5. They are striking even for the biennium 1931-32, during which the transition was made to the machine-made product. Compared with the average for 1929-30, production decreased in this 2-year period by less than one-seventh, but employment by more than one-third.²⁴ Production in the succeeding period, 1933-34, was almost 2 percent above production in the base period, 1929-30, but the number employed continued to decline, being only 46 percent of the average number employed in 1929-30. Although the decline in

Table 5.— AVERAGE ANNUAL NUMBER EMPLOYED AND THE AVERAGE ANNUAL PRODUCTION OF CIGARS AT THE COMPANY BY BIENNIAL PERIODS, 1929-36

Biennium	Number		Percent	
	Annual average employed ^a	Annual average of cigars produced ^b (thousands)	Annual average employed	Annual average of cigars produced
1929-30	1,068	46,665 ^c	100.0	100.0
1931-32	664	40,295	62.2	86.3
1933-34	489	47,457	45.8	101.7
1935-36	522	57,131	48.9	122.4

^aAdapted from the biennial reports of the New Hampshire Bureau of Labor.

^bObtained from the Bureau of Internal Revenue records.

^cProduction for New Hampshire from "Tobacco Division," *Annual Report of the Commissioner of Internal Revenue* (U. S. Treas. Dept., Bur. Int. Rev., 1930-31).

²⁴The production figures for 1929-30 are those for the State of New Hampshire. They are probably from 3 to 5 percent in excess of the Company's production for this period. However, since no adjustment was made, a conservative bias was thereby imparted to the results.

employment was arrested in 1935-36, it was still less than 50 percent of the 1929-30 average, and the disparity in relative rates of change between employment and production had become greater, production being more than 20 percent above the 1929-30 level.²⁵

The rate at which the hand makers were dismissed is indicated in table 6. Within a year their number had been reduced from 626 to 13. The distribution by sex of all workers at the Company from 1921-22 to 1935-36 is shown in table 7 and figure 4. When production was by hand, the number of males greatly exceeded that of females. In 1929-30, for example, there were 3.2 males for each female. With the installation of machinery, however, the proportion was reversed, and in 1935-36 there were nearly two female workers for each male worker.

Table 6.- NUMBER OF HAND CIGAR MAKERS EMPLOYED
AT THE COMPANY, 1931-32^a

Month	Average number of hand cigar makers employed daily in -	
	1931	1932
January	626	3 ^b
February	620	13
March	620	13
April	555	13
May	493	13
June	539	13
July	515	13
August	515	13
September	417	13
October	323	13
November	228	13
December	196	13

^aTreasury Department, Internal Revenue Service, Cigar Manufacturer's Monthly Returns - copies of returns supplied by the Bureau at suggestion of the Company.

^bUntil January 6, 1932 hand cigar makers were employed. The number dropped precipitately to 3 on January 11. The 3 is therefore not the actual arithmetic average of the number employed during January but the representative one.

²⁵The increase in output between 1933-34 and 1935-36 is due to a decrease in part-time operation rather than to any improvement in the machinery.

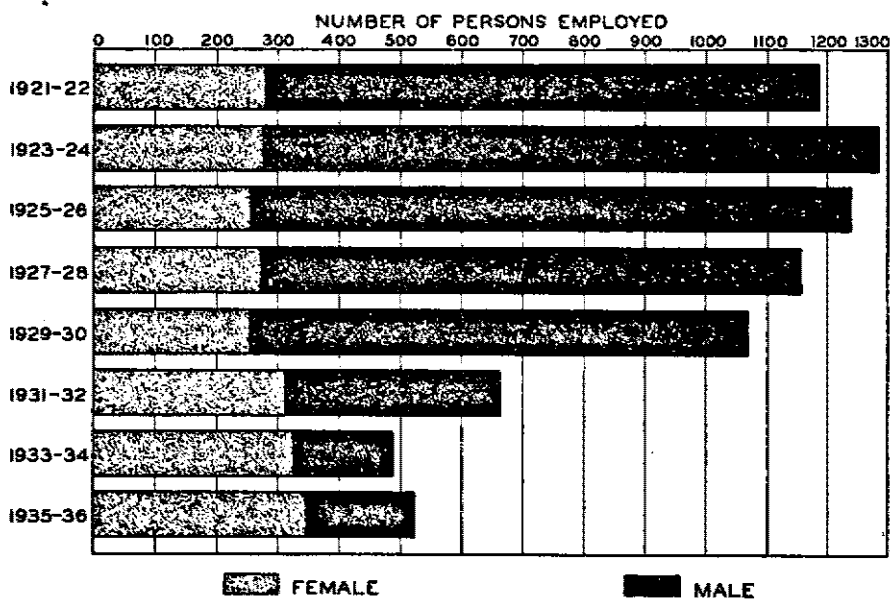
Table 7.- DISTRIBUTION BY SEX OF THE COMPANY EMPLOYEES
1921-36^a

(Annual average for biennium)

Biennium	Total	Male	Female
1921-22	1,183	903	280
1923-24	1,282	1,004	278
1925-26	1,239	981	258
1927-28	1,156	882	274
1929-30	1,068	813	255
1931-32	664	351	313
1933-34	489	182	327
1935-36	522	176	346

^aAdapted from the biennial reports of the New Hampshire Bureau of Labor.

FIGURE 4.- NUMBER AND SEX OF EMPLOYEES OF THE COMPANY, 1921-36



See table 7 for data.

WPA - National Research Project
LS-9

The displacement may be expressed in still another way. The 626 hand workers employed in January 1931 had been replaced by 1936 by 13 hand workers on part time, 202 machine operators, and 20 machinists. This reduced number produced more than the larger force of hand workers.

The refusal to retrain hand workers for machine operation appears to have been general throughout the industry. Indeed, so thoroughgoing was the discrimination against them that in 1933, according to a special survey of the industry made by the *Census of Manufactures* for the National Recovery Administration, only 23 male hand workers were employed out of a total of 12,001 machine piece-workers.²⁶ Moreover, women hand workers were in almost equal disfavor.

Not only were men being displaced in the modern organization of the industry but the older women were losing ground to the young girls. Wherever machine equipment had been installed superintendents expressed a preference for young girls in place of the older women who were skilled hand makers.²⁷

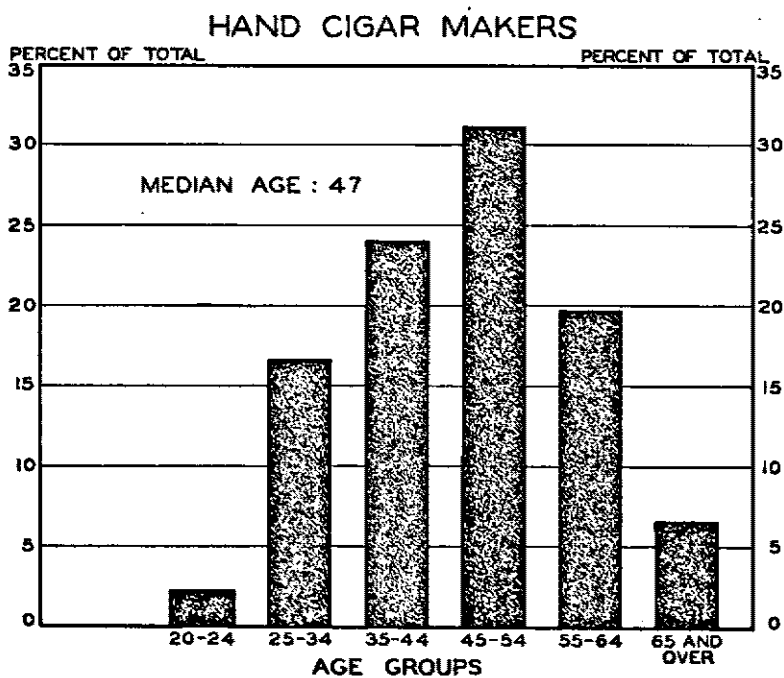
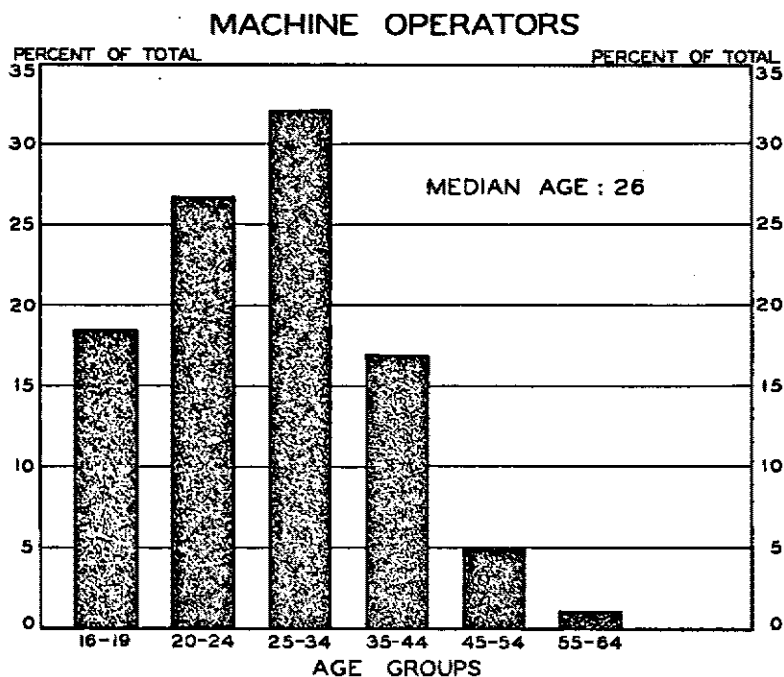
Little other than their age is known about the young women employed to operate the machines in Manchester. This item of information, supplied by the Bureau of Unemployment Compensation of New Hampshire, is classified in table 8 and compared with the age distribution of the hand workers. (See also figure 5.) The comparison is for 1931, the year in which the displacement occurred. The tabulation discloses that a group with a median age of 26.2 replaced an industrially-aged group with a median age of 47. Twenty-one of the 321 hand workers in the sample studied, or about 7 percent, were 65 years of age or over, and about one-fourth were at least 55 years old.²⁸ Whether the young girls had had any previous industrial experience could not be ascertained. Previous experience with cigar-making machinery was

²⁶*The Tobacco Study* (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), pp. 159-80.

²⁷Caroline Manning and Harriet A. Byrne, *The Effects on Women of Changing Conditions in the Cigar and Cigarette Industries* (U. S. Dept. Labor, Women's Bur., Bull. of the Women's Bur., No. 100, 1932), p. 37.

²⁸That the hand worker generally was an older worker is confirmed by Manning and Byrne, *op. cit.*, p. 41. Of the 847 women hand workers interviewed, ". . . about two-fifths were less than 30, and about three-tenths in each case were 30 and under 40 and 40 years of age or more." Additional evidence to the same effect is provided by the distribution by age of 1,908 hand cigar rollers of class "A" cigars in York County, Pennsylvania District, as of August 1934. Their modal age was between 46 and 55. See *The Tobacco Study*, p. 154.

FIGURE 5.— AGE OF CIGAR MACHINE OPERATORS AND HAND CIGAR MAKERS
As of July 1931



See table 8 for data.

CIGAR MAKERS

not a prerequisite for employment, since a forelady instructed the newcomers in the use of the machine.²⁹

Table 8.- COMPARISON OF THE AGE DISTRIBUTION OF 302 MACHINE OPERATORS WITH THE AGE DISTRIBUTION OF 328 HAND CIGAR MAKERS^a

(As of July 1, 1931)

Age on July 1, 1931 ^b	Machine operators (female)		Hand cigar makers (male)	
	Number	Percent	Number	Percent
Age unknown	18	-	7	-
Total reporting	184	100.0	321	100.0
16-19 years	34	18.5	0	0
20-24 years	49	26.6	7	2.2
25-34 years	59	32.1	53	16.5
35-44 years	31	16.8	77	24.0
45-54 years	9	4.9	100	31.2
55-64 years	2	1.1	63	19.6
65 and over	0	0	21	6.5
Median (age in years)	26.2		47.0	

^aData on machine operators from records of New Hampshire Bureau of Labor, Division of Unemployment Compensation, and data on hand makers from records of Cigar Makers Union, Local 192, Manchester, N. H.

^bAges ascertained were calculated back to July 1, 1931. Dates of entering upon or of leaving employment were scattered; the entire group was not engaged at the same time.

²⁹It appears that local girls were selected and the family names of some are identical with those of the displaced workers. It has been claimed the Company attempted to mitigate the hardships of displacement by employing the daughters of the cigar makers as operators. This is denied by union sources which claim that whatever representation the cigar makers' families have among the machine operators does not result from the systematic pursuance of a Company policy but is rather the result of plant politics.

SECTION III

PERSONAL CHARACTERISTICS OF THE HAND WORKERS

NATIVITY

It has been stated that the hand worker was industrially-aged at the time of displacement. That he was typically foreign-born is indicated in table 9.

Table 9.- CLASSIFICATION BY COUNTRY OR STATE OF BIRTH OF 150 HAND CIGAR MAKERS IN MANCHESTER, NEW HAMPSHIRE^a

Country or State of birth	Number of cigar makers
Total born in foreign countries	110
Belgium	61
Canada	22
Holland	15
Germany	3
France	3
Scotland	2
Russia	2
England	1
Switzerland	1
Total born in United States	40
New Hampshire	28
Massachusetts	8
Pennsylvania	2
Illinois	1
Maryland	1
New York	1
Rhode Island	1
Vermont	1
Washington	1

^aField survey data.

The cigar makers compose an ethnic group somewhat apart from the textile and shoe workers of Manchester who are French-Canadian, Irish, Polish, and Greek. Over one-half of the cigar

makers are of Germanic origin, having come from Belgium, Holland, Switzerland, and Germany. The Netherlands have been prominent in tobacco trading since the discovery of the weed, and Dutch and Belgian cigar makers migrated to Manchester in considerable numbers. French-Canadian cigar makers form the other large group, having come down from the eastern cities of Canada. The younger men of native birth are generally the cigar makers' sons who were inducted into the trade by their fathers. The period of apprenticeship is 3 years for hand workers and 2 for mold workers, and union regulation in 1931 limited the number of apprentices to 5 at a time in a factory employing 500 cigar makers. These limitations have no doubt operated to restrict the occupation to certain families. This is confirmed by the recurrence of certain surnames.

YEARS AT CIGAR MAKING

An idea of the degree of their occupational habituation may be had from a tabulation of the years spent at cigar making up to 1931. Thus, 50 percent of the workers had been engaged at the single trade of making cigars by hand for 30 years and more, and 72 percent had been so engaged for at least 20 years.

Table 10.- DISTRIBUTION OF 150 CIGAR MAKERS AT THE COMPANY BY TIME SPENT AT MAKING CIGARS BY HAND^a

As of 1931		
Time spent at making cigars by hand	Number of cases	Percent of total
Total	150	100.0
6 mo. to 4 yrs., 5 mo.	4	2.7
4 yrs., 6 mo. to 9 yrs., 5 mo.	6	5.3
9 yrs., 6 mo. to 14 yrs., 5 mo.	14	9.3
14 yrs., 6 mo. to 19 yrs., 5 mo.	16	10.7
19 yrs., 6 mo. to 24 yrs., 5 mo.	17	11.3
24 yrs., 6 mo. to 29 yrs., 5 mo.	17	11.3
29 yrs., 6 mo. to 34 yrs., 5 mo.	21	14.0
34 yrs., 6 mo. and over	53	35.4

^aField survey data.

The continuity of employment at their trade can be indicated in still another way. The years spent at cigar making by an in-

dividual may be expressed as a percentage of the total number of years that he has been in the labor market. Table 11 represents such a tabulation for the year 1931.

Table 11.— DISTRIBUTION OF 150 CIGAR MAKERS AT THE COMPANY BY YEARS AT MAKING CIGARS BY HAND AS A PERCENT OF YEARS IN THE LABOR MARKET^a

As of 1931

Years at making cigars by hand as a percent of years in the labor market	Cigar makers	
	Number	Percent
Total	150	100.0
Under 50 percent		
50-74	4	2.7
75-79	16	10.7
80-84	9	6.0
85-89	8	5.3
90-94	22	14.6
95-99	21	14.0
100	25	16.7
	45	30.0

^aField survey data.

In this sample, 30 percent had been engaged at cigar making for all their working years; 60 percent worked at the trade for at least 90 percent of all their years in the labor market, and three-fourths had spent a minimum of 85 percent of their working time at cigar making.

While the degree of occupational habituation of this sample seems extreme, it appears not uncommon for the hand cigar maker to have spent many years at his trade. The Women's Bureau, for example, interviewed 1,086 women who had been employed in hand cigar factories. Of this number, one-quarter had been employed in the industry less than 5 years, slightly more than one-half had been so engaged a minimum of 10 years, and almost one-fifth had spent 20 or more years in the industry.¹

¹Caroline Manning and Harriet A. Byrne, *The Effects on Women of Changing Conditions in the Cigar and Cigarette Industries* (U. S. Dept. Labor, Women's Bur., Bull. of the Women's Bur., No. 100, 1932), p. 49.

YEARS IN MANCHESTER

Community ties were nearly as strong as occupational ties, as may be seen from a distribution of the sample of 150 cigar makers by years of residence in the community. Twenty-one, or 14 percent of the total, reported residence in Manchester since birth, while an additional 85 persons, or 56.7 percent, had resided there at the time of enumeration for at least 20 years. As many as 85 percent claimed Manchester residence for at least 15 years.

Yet in their younger years many of them must have been quite mobile. This is evidenced not only by the fact that a large percentage of the workers came from foreign countries in pursuit of employment in the United States, but also by the fact that a substantial fraction of the sample was first initiated into the union by some local other than the Manchester one. How many locational changes were made before coming to Manchester is not known. A list of the locals of first affiliation is given in table 12.

Table 12.- THREE HUNDRED AND TWENTY-EIGHT HAND CIGAR MAKERS EMPLOYED BY THE COMPANY, CLASSIFIED BY THE CIGAR TRADE UNION LOCAL OF FIRST AFFILIATION^a

Location of local of first affiliation	Number of persons
Total	328
Manchester	97
Rest of New Hampshire	6
Boston	96
Rest of Massachusetts	9
Vermont, Maine, Rhode Island, and Connecticut	10
New York, New Jersey, and Pennsylvania	41
Southern States	9
North Central and Mountain States	10
Canada	33
Unknown	17

^aFrom records of Cigar Makers Union, Local 192, Manchester, N. H.

The number for Manchester, 97, undoubtedly is largest because men had come to the Company from shops which were not unionized or from foreign countries and therefore joined the union for the first time in Manchester. The next largest group, 96, gave

Boston as their local of first affiliation. This number includes many Belgians and Hollanders who left Boston because of the aforementioned advantages enjoyed at the Company's factory. Only 19 of 311 known cases came from west of the Atlantic Seaboard States; only 5 of them were from the far West.

YEARS WITH THE COMPANY

The men were not asked how long they had worked for the Company, and the detailed occupational history begins only with 1926. The characteristic tenure of this group may be inferred, however. The "7-20-4" factory was virtually the only one in the Manchester area. Hence, when a schedule shows fewer years in Manchester than years at cigar making, the former figure may be taken to represent the years of employment at the Company. Likewise, when years in Manchester exceed the years at cigar making, the latter figure may be taken to represent the years of employment at "7-20-4."² A distribution of the cigar makers by the length of their service with the Company at the time of the lay-off follows. This discloses that 31 percent had been employed for more than 20 years, more than 50 percent for at least 15 years, and more than 75 percent for a minimum of 10 years.

Table 13.- DISTRIBUTION OF 150 HAND CIGAR MAKERS BY LENGTH OF SERVICE WITH THE COMPANY, 1931^a

Length of service with the Company	Number of cases	Percent of total
Total	150	100.0
Under 5 yrs., 5 mo.	6	4.0
5 yrs., 6 mo. to		
10 yrs., 5 mo.	29	19.3
10 yrs., 6 mo. to		
15 yrs., 5 mo.	34	22.7
15 yrs., 6 mo. to		
20 yrs., 5 mo.	35	23.3
20 yrs., 6 mo. and over	46	30.7

^aField survey data.

²In those cases where the individual either was born in Manchester or took up residence there before entering the labor market, years of residence in Manchester were computed from the year of entering the labor market.

EMPLOYMENT PATTERN AT THE COMPANY BEFORE THE LAY-OFF

Association with one company over a considerable number of years was not the only item of security enjoyed by these artisans. The actual employment provided was steady. Except during the dull winter season from January to April, full-time work was the characteristic employment status. At least, this may be implied from the data available for the 5-year period, 1926 to 1930.



L. C. Durette

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FIGURE 6.- PREPARING THE BINDER FOR A HAND-MADE CIGAR

Note pile of binder leaf at left and, in front of the worker, the mold containing bound bunches ready for molding. This man is now a "buckeye" whose factory is the cellar of his home.

Thus, out of 149³ cases 144 reported no employer shifts between 1926 and 1930, and 5 cases reported one to two employer shifts. Equally indicative of stability is the lack of occupational shifts. No occupational changes were recorded for 142 workers, and only one to two shifts were reported for 7. That these shifts represent mostly advancement from jobs of lesser skill in the cigar industry is suggested by the fact that only one

³One case out of the 150 was reported unknown with respect to the items here enumerated.

worker in the sample changed industries (from textiles to cigar making) in this 5-year period, and this change occurred in the first year of the period. It is also of significance that in this period none attempted to operate his own cigar shop or engage in any enterprise that would involve self-employment.

In view of this evidence of stability, it is not surprising that unemployment was all but nonexistent. Only 8 of the 150 reported a period of 1 month or more duration of unemployment seeking work. None of these was unemployed for more than a year and only one was unemployed for more than 6 months. But even these figures exaggerate the extent of unemployment, for in one case the unemployment occurred before the worker's connection with the Company, and in 5 cases the unemployment period was placed in 1930 after final separation from it.⁴ Hence, according to our records, in only two cases was tenure with the Company interrupted by unemployment periods of a month or more in which the cigar worker was seeking work. Unemployed but not seeking work was recorded for only five of the cigar makers, and the period of unemployment never exceeded 6 months.

In 1930, however, this economic security was shaken by the extension of the part-time employment of the dull winter season to the remaining months of the year. As subsequent events proved, this was a mere foreshadowing of the change in status.

To summarize, at the time of his displacement by machines the typical cigar maker was elderly and, in terms of industry's requirements, industrially-aged. He had learned cigar making early and had followed this trade almost to the exclusion of any other. His long tenure with the Company enabled him to grow roots which went deep into the community, and the regular employment that he enjoyed gave him little opportunity to learn the art of job hunting. Considering these personal handicaps, what were his avenues of adjustment?

⁴Quite probably these five cases of unemployment result from faulty memory. Machines were not introduced as early in 1930 as the remarks of the persons interviewed indicate.

SECTION IV

DIFFICULTIES OF REEMPLOYMENT IN INDUSTRY AFTER THE LAY-OFF

SPECIAL OBSTACLES PRESENTED BY THE CIGAR INDUSTRY AND THE MANCHESTER AREA

Possibly if the times had been favorable, the limitations of training would have been less severe. But the widespread depression at the time of the lay-off militated against any easy adjustment. Workers were being laid off generally throughout the country. Moreover, the demand for cigars had declined to such an extent that, while production in other manufacturing industries from 1920 onward was increasing, cigar production had dropped 20 percent by 1929. A special survey of employment conditions in the cigar industry in 1933 was made by the Bureau of the Census at the request of the National Recovery Administration. The statistics obtained showed that "weekly wages in the cigar industry throughout the period [1921-1931] were far below those paid in the other industries."¹

Sweatshop conditions already existed among hand workers employed on the cheap "two-for-five" cigars, notably in Pennsylvania and Florida, where nearly half of the total output of cigars is produced. When an attempt was made to establish a code of hours and wages under the National Recovery Administration, the state of the industry was chaotic. The code provided for a 40-hour week and a minimum wage of 30 cents an hour in the north for hand workers on the cheap cigars, and allowed a lower rate for so-called slow workers. In York County, Pennsylvania, however, an exemption to these rates was granted to avoid closing of factories. In a memorandum of the Industrial Advisory Board of the National Recovery Administration of October 19, 1934, it was stated that:

The average wage paid cigar rollers [in York County district] is \$9.00 a week, minimum wage in the Code is \$10.80 [per week]. Manufacturers are making no profit and, if a higher wage has to be paid, they cannot stay in business and make 2 for 5 cent cigars. . . . If

¹The Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 159.

the Code is enforced, over 8,000 will be thrown out of work; if it is not enforced it will have a bad effect on the wages and hours provisions of the Code.²

This was the state of a craft whose members had once boasted of making their \$60 per week.

With a future sodark for employment at their own trade, where else could the displaced workers turn? The larger number were too old to acquire a new skill, and the generally depressed conditions of 1932 gave no encouragement to them to do so. Manchester had been settled by Amoskeag Mill workers and the well-being of the city depended upon the mills. The Amoskeag Company had employed more than fifteen thousand persons in its heyday in the pre-war and war years, but its business had declined steadily, and by 1931 was severely affected by the depression. It closed in 1935. Although in 1931 the company employed on the average about seven thousand operatives, a portion of them were extra hands who were taken on and laid off at brief intervals as orders were received and completed. Depressed wages and increased speed of production were additional factors making the workers' position unenviable. The great majority of the employees, though classed as semiskilled, were performing machine operations which could be mastered in a few hours' time. Although preference was ordinarily given to former employees, the cigar makers had some chance at Amoskeag jobs, unstable in character as these were.

The other large industry in Manchester is shoe manufacturing, employing 4,800 persons in 1935. It had experienced many vicissitudes during recent years, and by 1931 the companies which remained in the city had established a labor policy of open shop. Only young persons, however, were employed as beginners.

Industrial workers in this city, never a highly paid group, were suffering in 1931-32 from loss of work incident to the depressed world markets. Retail trade and the personal service industries in this city of 77,000 quickly reflected the state of the workers' pocketbooks. Construction work was practically non-existent in the area, and many skilled mechanics could get no work. Agriculture, which many unemployed craftsmen attempted to pursue during the depression, did not favor the novice here; for the soil was stony, and even poultry raising, the most generally pursued form of the agricultural industry in this section, re-

²Ibid., p. 172.

quired a considerable capital outlay. Finally, the odd-job field of the untrained laborer was largely closed to men who had been accustomed to a sedentary occupation which made no demands upon physical strength.

UNEMPLOYMENT BETWEEN LAY-OFF AND NEXT JOB

The findings of this survey indicate moreover that this picture of employment opportunities for the displaced men has not been too darkly painted. That the difficulties manifested themselves at the outset is indicated by the distribution of the interval of unemployment between leaving the Company and obtaining the next job in private industry, including self-employment (table 14). Since 13 of those of the random sample with whom personal contact was established withdrew from the labor market at the time of the lay-off and since 9 of the random sample were retained as hand makers at the "7-20-4" plant, the sample in this connection covers 116 cases. About one-eighth of this total, 15,

Table 14.- DISTRIBUTION OF 116 CIGAR MAKERS BY MONTHS OF UNEMPLOYMENT BETWEEN LAY-OFF FROM THE COMPANY AND NEXT JOB^a

(Including self-employment)

Interval in months ^b	Number of persons	Percent of total
Total	116	100.0
0	15	12.9
1-2	5	4.3
3-5	8	6.9
6-8	4	3.4
9-11	2	1.7
12-23	21	18.1
24-35	19	16.4
36-47	11	9.5
48-59	9	7.8
60-67	22 ^c	19.0

^aField survey data. ^bJob^a excludes government emergency work, but not permanent government positions.

^bExcludes periods of "not seeking work."

^cOf these, 19 had no job between the lay-off and the interview in February 1937. (See p. 48.)

found work again without experiencing any unemployment.³ This included 10 who had never been unemployed since the lay-off. Within a year 29 percent of the 116 workers had secured employment and within 2 years almost half were back in private industry for the first time since the lay-off. This about coincides with the trough of the great depression. In the third year after the lay-off, one of general revival, an additional 16 percent obtained employment. But 2 more years had to elapse before another 17 percent left the ranks of the unemployed for the first time. Finally, when business had attained a large measure of recovery, 22, or, almost one-fifth of the sample, had been unemployed at least 5 years. Three of these found some work, but the other 19 have been continuously unemployed since the lay-off.

TOTAL UNEMPLOYMENT

Equally revealing of the difficulties of reabsorption into economic life is the distribution by the total months of "unemployment seeking work" experienced anytime between displacement and the date of our census, a maximum interval of 67 months (table 15). As noted above, the sample is reduced to 116 cases. Of this

Table 15.- DISTRIBUTION OF 116 CIGAR MAKERS ACCORDING TO THEIR TOTAL UNEMPLOYMENT SINCE LAY-OFF^a

(As of February 1937)

Duration of unemployment in months ^b	Number of persons	Percent of total
Total	116	100.0
0	10	8.6
1-2	4	3.4
3-5	8	6.9
6-8	0	0
9-11	0	0
12-23	12	10.4
24-35	18	15.5
36-47	12	10.4
48-59	20	17.2
60-67	32	27.6

^aField survey data.

^bExcludes periods of "not seeking work."

³Since the enumerators were instructed to disregard employment or unemployment of less than a month's duration, it would be more accurate to say that 16 found employment within a month after the lay-off. Two of these were performing less skilled jobs at the "7-20-4" plant.

number 10, or 9 percent, experienced no unemployment, having been continuously employed either by others or for themselves. But 32, or 28 percent, had been unemployed for at least 5 years, and 19 of this number had had no employment since leaving the Company.⁴ Of the 32, 20 were aged 55 or over. Slightly more than 50 percent had been unemployed a minimum of 3 years, while only 19 percent had been unemployed not in excess of 8 months, including those with no unemployment. As for the remainder, 15.5 percent had been unemployed from 24 to 35 months and 10.4 percent from 12 to 23 months.

EMPLOYMENT STATUS AT TIME OF INTERVIEW

Even at the time of our interview - about 5½ years after the lay-off - the readjustments were far from satisfactory. Out of 307 cigar makers (excluding the 12 "buckeye" proprietors who were known to be employed at the time of sampling and the 9 retained on hand work at the "7-20-4" plant), 129, or 42 percent, were either working for others or were self-employed at the time of the interview; 23.4 percent were unemployed seeking work (this includes those doing government emergency work) and 7.5 percent were no longer seeking work. The employment status of 48, or 15.6 percent, was unknown. Of this number 45 were no longer living in Manchester. In all probability many of these were unemployed, for when a man finds work the news spreads rapidly among a displaced group and is quickly passed along, whereas relief status or unemployment is not so readily reported. Almost 10 percent had died by February 1937, additional evidence of the high age level of the group, and for 6 cigar makers, or about 2.0 percent, no information whatever was obtained.

Excluding the last 3 groups (employment status unknown, dead, and no information), the distribution of the remainder of the sample by employment status is shown in table 16. (See also figure 7.) Some 5 years after displacement 58 percent were employed, 32 percent were unemployed but looking for work, and 10 percent had withdrawn from the labor market. As subsequent analysis will show, the extent of employment indicated here gives a more favorable impression than is warranted.

⁴After several years of seeking work 3 additional persons withdrew from the labor market.

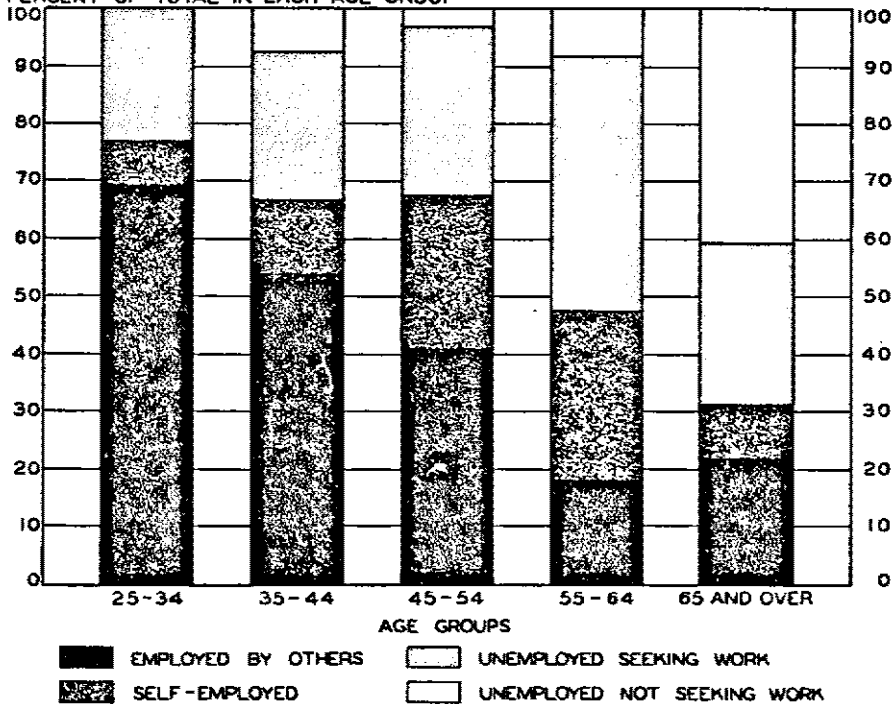
Table 16.- EMPLOYMENT STATUS AND AGE DISTRIBUTION OF 224 CIGAR MAKERS LAID OFF BY THE COMPANY IN 1931^a

(As of February 1937)

Status	Total		Distribution by age groups (numbers)					
	Number of persons	Percent of total	Unknown	25-34	35-44	45-54	55-64	65 and over
Total	224	100.0	2	26	39	64	61	32
Employed by others	83	37.1	0	16	21	26	11	7
Self-employed	46	20.5	1	2	5	17	18	3
Unemployed seeking work	72	32.1	1	6	10	19	27	9
Unemployed not seeking work	23	10.3	0	0	3	2	5	13

^a Employment status from field survey data and age data from records of Cigar Makers Union, Local 192, Manchester, N. H.

FIGURE 7.- EMPLOYMENT STATUS BY AGE GROUPS FIVE YEARS AFTER THE LAY-OFF
PERCENT OF TOTAL IN EACH AGE GROUP



Based on data in table 16.

WPA - National Research Project
LS-11

RELATION OF AGE TO EMPLOYMENT STATUS AT TIME OF INTERVIEW

That age had some relationship to status is borne out by table 16. The chances of being employed by others were greater for those between the ages of 25 and 44 than for those aged 45 to 54 and 55 and over. The group 45 to 54 has a significantly larger proportion of its workers employed than did the older group. These relationships were consistently maintained in the other categories. Thus, as the older workers experienced greater difficulty in finding an employer, they resorted to operation of "buckeye" shops. This is evidenced by the higher percentage who were self-employed in the age groups from 45 to 64 than in the younger age groups. The fate of the unemployed seeking work was shared in about equal proportion by all age groups except those aged 55 to 64. These experienced the greatest difficulty in finding employment, although they were not yet sufficiently incapacitated by old age or sufficiently well off to withdraw from the labor market. They are in sharp contrast to those aged 65 and over, 40 percent of whom had withdrawn from the labor market.⁶

THE ROLE OF MIGRATION

Even the precarious livelihood earned by this group was attained in many cases only at the expense of leaving their homes. The extent of the geographical dispersion at the time of the canvass is presented in table 17. It understates the amount of mobility, since some of those resident in Manchester in February 1937 had moved about during the 5-year period since the lay-off. A few, for example, returned to Europe, tried to find work, and later came back to Manchester. Likewise, among those known to be dead, some died after returning to their former homes in foreign countries and some died in other parts of the United States.

Out of the 307 comprising the sample about 29 percent, or 90, had left Manchester, 7 of whom were in unknown localities. More than

⁶This relationship between age and the difficulties of securing employment is similar to that found in another area and for a larger sample. For example, according to a former cigar plant superintendent in the Belt Area (the valley between Allentown and Norristown, Pennsylvania), ". . . There probably were a thousand hand cigar makers here 10 years ago, but barely a hundred are so employed now. . . . It was hardest for those over 20, and the older they were the harder it was. The great difficulty was that few of the cigar workers were under 26 or 40 when the slump came, since no apprentices had been trained in the industry for years." Caroline Manning and Harriet A. Byrne, *The Effects on Women of Changing Conditions in the Cigar and Cigarette Industries* (U. S. Dept. Labor, Women's Bur., Bull. of Women's Bur., No. 100, 1932), p. 17.

three-fifths of the known total remained in the New England region with concentrations in Massachusetts and Connecticut. Twelve were reported to be in Europe and 8 in Canada. The geographical dispersion of 59 former cigar workers not included in our sample confirms the regional distribution of the sample migrants, according to information from the tax assessor's files.⁶

Table 17.- GEOGRAPHICAL DISPERSION OF 149 CIGAR WORKERS WHO LEFT MANCHESTER AFTER LAY-OFF^a

Present location	Total	Number of cigar workers who left Manchester	
		Out of the total included in the sample of 307 cases	Others included in tax assessor's list of migrants after 1930 ^b
Total	149	90	59
Hillsboro County	10	5	5
Rest of New Hampshire	6	5	1
Massachusetts	42	22	20
Connecticut	26	18	8
Rest of New England	7	3	4
Middle Atlantic (Pennsylvania New Jersey New York)	19	5	8
Rest of United States	9	5	4
Canada	9	8	1
Holland	1	0	1
Belgium	12	10	2
Germany	2	2	0
Other	0	0	0
Unknown	12	7	5

^aField survey data.

^bTo facilitate the collection of the annual poll tax, the office of the tax assessor maintains a card index of each resident aged 21 years or over. In the course of the annual canvass, the cards of those who have moved from Manchester are placed in the inactive file with a notation of the community of immigration, if known. It is from this file of inactive cases that the above tabulation was made.

⁶It is interesting to note that only one of the hand workers in either sample is reported to have gone to Pennsylvania, where hand methods of manufacture are still extensively employed. (See table 23.)

CIGAR MAKERS

The factors causing immobility were ascertained from 111 cigar workers who limited their search for employment to Manchester. The largest number, or 45, found jobs of some kind at home before the matter became so urgent that they were willing to leave the city. Twenty reported family or community ties and 5 had property which kept them in the city. Nineteen either were aged or suffered from infirmities. In 22 cases the reasons were a composite of considerations which seemed to group themselves around the belief that the odds for security were greater at home than elsewhere. The continually decreasing demand for hand-made cigars was a general consideration, and the discouraging reports of men who went out and sought employment where hand workers were still used was a particular consideration. A more specific consideration was the responsibility for support of families, who would at least be fed as citizens of Manchester but would have no claim on other communities if efforts to find work or to live on work obtained were unsuccessful.

The age selection among the migrating cigar makers was contrary to that usually encountered among migrants. That is, a relatively larger number among the aged groups, 55 and over, than among the younger groups left Manchester. Since the employment status of half of the migrants is unknown, this is difficult to explain.

Table 18.- DISTRIBUTION BY AGE OF 90 HAND CIGAR MAKERS WHO EMIGRATED FROM MANCHESTER, RELATED TO AGE DISTRIBUTION IN ENTIRE SAMPLE, 1931-36^a

Age as of July 1, 1931

Age groups	Number of migrants	Number in total sample	Migrants as percent of total in each age group
Total	90	307	-
20-24	0	7	0
25-34	4	53	7.6
35-44	16	72	22.2
45-54	26	90	28.9
55-64	26	57	45.8
65 and over	- 14	21	66.7
Unknown	4	7	-

^aAge data from records of Cigar Makers Union, Local 192, Manchester, N. H., and migration data from field survey data.

- No meaningful figure.

CHARACTER OF JOBS AFTER THE LAY-OFF

An examination of the type of jobs held and of the duration of their current status discloses that even those who got employment, with few exceptions, were unable to make any adjustment that did not involve a serious lowering of their standard of living.

Table 19 classifies the types of jobs of the 83 men employed by others and the 46 self-employed (table 16) at the time of the survey. The jobs outside of Manchester are classified separately. By far the largest number of those in Manchester, or 37, were in the cigar industry, of whom 29 were making cigars and 8 had other jobs in the industry. These 8 represent transfers, principally of younger men, to semiskilled or unskilled jobs in the Company's factory. Of the 29, 18 were self-employed, but as a subsequent discussion will show, their status may be considered for the most part as a form of disguised unemployment. This applies

Table 19.— TWO HUNDRED AND TWENTY-FOUR HAND CIGAR WORKERS
CLASSIFIED BY INDUSTRY OF PRESENT JOB
IN MANCHESTER AND ELSEWHERE^a
(Including self-employment)

Industry	Present jobs (February 1937)		
	Total	In Manchester	Elsewhere
Total with jobs	129	87	42
Cigar manufacturing	66	37	29
Textile manufacturing	6	4	2
Shoe manufacturing	7	7	0
Retail and wholesale trade	15	12	3
Hotel and restaurant	9	8	1
Personal service	2	0	2
Recreation and amusement	3	3	0
Farming	6	3	3
Building and construction	2	2	0
City offices	3	3	0
Other	10	8	2
Total unemployed	95		

^aField survey data.

also to much of the self-employment and casual employment reported in industries other than cigar making. A mere enumeration of the jobs makes this evident.

Of the 50 men employed in Manchester outside the cigar industry, only 4 were in the textile industry. Two of these were laborers who helped to set up machinery while new companies were moving into the Amoskeag Mills. Seven were employed in the shoe industry, 4 of whom are known to be machine operators. The largest number who were employed at other than cigar making were in retail and wholesale trade in the city. Of the 12 so engaged, 3 were self-employed. One was the manager of a chain grocery. Two were grocery salesmen and 1 was a cigarette salesman. Of the remaining 5 jobs, 1 was skilled, 2 were unskilled, and 2 were semiskilled. Two of the proprietors noted in the group had no doubt been able to get a foothold in business through capital invested. The stock of the third is limited to doughnuts which he himself makes and sells from house to house. Six of the jobs are in food selling. Closely related to this field is the hotel and restaurant trade in which 8 men were engaged. Three were cafe or restaurant managers, 2 of whom owned their stock. Three were bartenders, 1 a waiter, and the eighth was a night clerk in a hotel. All of these were skilled jobs. Recreation and amusement offered employment to 3. One was a waiter in a club. Although bookmaking for horse races is illegal in the State, 2 men were so employed. Three men were farmers, 2 of whom were known to be poultry farmers. It is reported that other cigar makers had invested savings in poultry farms and had failed to make them pay. A few of those who opened "buckeye" shops have followed poultry raising as a concurrent occupation. Building and construction, private, State, or municipal, offered employment to only 2 men, a truck driver and a tool man on State highway construction.

The 3 city offices held by former cigar makers were the only positions which may be regarded as better than their former jobs. Of the 8 men who held miscellaneous jobs 2 were janitors and 1 a watchman, 1 a railroad laborer and 1 an insurance salesman. One man helped his son-in-law who was an upholsterer and 2 men trimmed lawns. The latter 2 were old men and their work was mainly unskilled and seasonal.

A description of the jobs held by the migrants suggests that their readjustment was no more fortunate than the readjustment

of those who remained in Manchester. Of the 42 migrants whose occupations are known, 29 were at their old trade, 11 in shops of their own. Two were working in textile mills, occupation unknown. Three were in retail and wholesale trades, 2 of them as gas station attendants and 1 as salesman. One was manager of a restaurant. Two were attendants in a State hospital. Three were reported as farming, 2 of them as poultry farmers. Two were miscellaneous as to industry, being an elevator operator and a painter respectively. Five of the 13 outside of the cigar industry were self-employed. In terms of skill, 5 were semiskilled occupations, 6 were skilled, and 2 were unknown. It is obvious that the type of work and the skill required do not vary to any appreciable extent in the two groups and that the bulk of the jobs, exclusive of cigar making, in both groups are semiskilled or unskilled.

Nor can it be maintained that the deterioration in the quality of employment was gradual, for the character of the jobs held at the time of the survey did not differ significantly from the kind of employment secured throughout the 5-year period since displacement, judging by the occupational histories taken for 116 workers of the sample (table 20). Previous to our census there were many more jobs in textile manufacturing, but these had been eliminated by the closing of the Amoskeag Mills in 1935. Another marked decrease was in the field of building and construction. Formerly there had been a number of laboring jobs on highways and municipal projects, other than emergency, where work was contracted for by a private firm. Some of the men who held these positions had become accustomed to physical labor while doing service in the city's woodyard for their relief check or while performing other emergency work. At the time of our survey, however, emergency work (which has not been tabulated as employment) had largely superseded all other State and municipal construction, and private building had had no revival in the Manchester area. It is especially noteworthy that only 14 jobs were held outside of Manchester; 10 were at cigarmaking and none were outside of New England.

The extremely precarious work status of some of the men during the depths of the depression is shown by the reasons given for termination of employment. An apprentice in a shoe factory lost his job because the factory closed, as did workers in a beer saloon and a store that went out of business. A house-to-house

CIGAR MAKERS

salesman could not sell enough goods, nor could a taxi-driver who covered night calls pay expenses. A taxidermist could not make a living at his trade. An outdoor man on an estate had to leave when the weather got cold because he could no longer sleep in the barn. A dishwasher in a hotel was discharged at the end of the summer. Thirteen cigar makers who opened "buckeyes" had to close them for lack of markets for their cigars, although two of them reopened later. In the Amoskeag Mill, wool sorters, laborers, and a watchman had two periods of temporary work.

Table 20.- CLASSIFICATION BY INDUSTRY OF ALL JOBS HELD BY 116^a
HAND CIGAR WORKERS SEEKING WORK AFTER
LAY-OFF IN 1931^b
(Including self-employment)

Industry	Total jobs held	Present jobs (Feb. 1937)	Former jobs (Separated before Feb. 1937)	
			In Manchester	Elsewhere
Total	143	63	66	14
Cigar manufacturing	58	35	13	10
Textile manufacturing	22	2	19	1
Shoe manufacturing	7	4	3	0
Retail and wholesale trade	15	9	6	0
Hotel and restaurant	6	3	3	0
Personal service	2	1	1	0
Recreation and amusement	4	1	3	0
Farming	2	1	1	0
Building and construction	19	2	14	3
City offices	2	2	0	0
Other	6	3	3	0

^a19 of these cigar workers have had no job at all since the lay-off although continuously seeking work for at least 60 months (see table 21). 3 of these 19 men, after having been continuously unemployed for 5 years or more, were no longer seeking work at the time of interview. The 143 jobs were therefore distributed among 97 workers.

^bField survey data.

DURATION OF CURRENT STATUS

The description of the jobs held by these workers has indicated the quasi-casual character of their employment. This is also suggested by the data in table 21 on the duration of their status as of February 1937. Such information can be presented only for the 129 workers of the random sample, who were interviewed for their occupational histories. Of this smaller sample 42 were employed by others, but only six, or one-seventh, of these had been continuously employed for 5 years or more at the same job since the lay-off from the Company. At the other extreme, 7 had secured their jobs only within the 2 months preceding the date of interview, and 13, or 31 percent, within a year prior to this date. While 17 held their jobs from 12 to 35 months, only 6 had been continuously employed at their current positions from 36 to 59 months.

Table 21.- DURATION OF CURRENT EMPLOYMENT STATUS OF 129 CIGAR MAKERS LAID OFF BY THE COMPANY IN 1931^a

Status as of February 1937

Duration in months	Current status			
	Employed by others	Self-employed	Unemployed seeking work ^b	Unemployed not seeking work
Total	42	21	47	19
0-2	7	2	5	3
3-5	0	1	4	0
6-8	2	1	1	0
9-11	4	0	0	0
12-23	8	1	9	0
24-35	9	0	3	3
36-47	4	4	5	0
48-59	2	3	1	0
60-67	6	9	19	13

^aField survey data.

^bIncludes those employed on emergency work.

Those who reported themselves as self-employed enjoyed at least superficially a somewhat more lasting tenure. Thus 9 out of the

21 so reported had been self-employed continuously for 5 years or more, and for 5 of these this represents the entire time since the displacement. On the other hand, only 4 had acquired this status within the year preceding the survey. Of the remaining 8, 1 had been self-employed for 12 to 23 months and 7 for 36 to 59 months.

At the time of the interview 47 were recorded as unemployed but seeking work, 19 of whom had been without private employment since leaving the "7-20-4" factory, a period of more than 5 years. Since 6 additional had been continuously unemployed for at least the last 3 years, half of the total may be regarded as chronic unemployed, particularly since 15 of the 25 were aged 55 or over. For nine of this group the present status of unemployment had set in only within the 5 months previous to the interview.

Of the 19 who were unemployed but not seeking work 13 withdrew from the labor market when they were displaced by the machines. Three had withdrawn only within the last 2 months and the remaining 3 from 24 to 35 months previous to enumeration.⁷

The experiences of the 129 displaced hand workers may be summarized by a distribution, according to employment status, of their total elapsed time between the lay-off and the date of interview (table 22). This total elapsed time amounted to 8,287 man-months for the 129 workers. More than half of these months were reported as "unemployment seeking work" and more than one-tenth of the months as "unemployment not seeking work." The remaining 36 percent of the time represented employment. However, less than a fifth of the total time involved employment in the cigar industry, and almost half of this employment was in "buckeye" shops, a type of self-employment that may be regarded in large part as

⁷It would appear that the results of our survey in this respect are not unrepresentative. At least the investigation made by the Women's Bureau shows that the women hand workers, even though laid off during an upswing in general business, were reduced in the main to outright unemployment, part-time employment, and quasi-casual jobs. The results were summarized as follows:

Of the total 1,150 women, 144 [about one-eighth] had had no job since the enforced separation. The 1,006 with subsequent work had had 1,889 jobs. Almost one-half of these, 477 women, had had only one job, 306 had had two, and 223 had had three or more.

Of the 1,889 subsequent jobs reported by the 1,006 women, just over 80 per cent were in manufacturing pursuits. Almost two-thirds of these were in tobacco, practically all in cigars. The proportion of the women 40 years of age or more who had found manufacturing jobs was less than such proportions in the other age groups. Manufacturing jobs in other lines than cigars were reported much more commonly by the women under 30 years of age than by those older. . . . Manning and Byrne, *op. cit.*, pp. 59-60.

disguised unemployment, as indeed was much of the employment in industries other than cigar making.

Table 22.- DISTRIBUTION OF TOTAL ELAPSED MONTHS BETWEEN LAY-OFF AND DATE OF INTERVIEW, BY EMPLOYMENT STATUS^{a b}
(129 Hand Cigar Workers)

Employment status	Number of months	Percent of total
Total elapsed time between lay-off and date of interview	8,287	100.0
Unemployed not seeking work	959	11.6
Unemployed seeking work	4,360	52.6
Employed in cigar industry for others	842	10.2
Employed in cigar industry for self	729	8.8
Employed in other than cigar industry	1,397	16.8

^aEmployment or unemployment of less than a month in duration was not recorded.

^bField survey data.

PUBLIC ASSISTANCE

In view of the extent and duration of unemployment among the workers, the role of public assistance must have been considerable.⁶ At the time of the interviews with the 129 men⁷ whose histories were recorded, no inquiry was made regarding relief status, and unless the man was on emergency work there was no way of knowing this status. If a cigar worker had grown children who were unemployed, a son rather than his father would possibly be assigned to work as a laborer on WPA. In such cases, the father would merely be noted as unemployed and the fact of public assistance would not be known. In this random sample of scheduled

⁶The role of private relief agencies seems to have been negligible in Manchester. This is not surprising in view of the small percent of the population which could be expected to support them. The Amoskeag Manufacturing Company maintained health and welfare services among its workers until the strike of 1922.

⁷In this connection the sample numbers 307. Of this number, 129 were interviewed, another 58 were checked with relief case records, and an additional 120 either had moved away, had died, or were unknown.

cases 23 of the 66 unemployed cigar makers were on WPA. Of the 43 remaining, 24 were seeking work and 19 were not. Among the latter number, 12 were disabled, - 9 permanently, - 5 were reported as aged and 2 as retired. Among the disabled and aged group, as well as among the 24 who considered themselves still in the labor market, there were undoubtedly some indigents. Many of those who were self-employed or working only part time were not making a living. Among some full-time employees, the nature of the unskilled work performed did not pay enough to live on. Many were reported to have lost their property, to have moved to smaller quarters, or to be living with relatives. Savings accumulated in previous years have been drawn upon until they have been exhausted.

Of the 23 on WPA rolls, 2 had just attained a relief status in 1937 and had been assigned to WPA jobs at the time of the survey. Three had been on emergency work totaling from 3 to 8 months, 10 from 12 to 23 months, 6 from 24 to 35 months, and 2 from 36 to 47 months. In addition to these, 11 men among the scheduled cases who did not have a relief status in February 1937 have performed emergency work in the past. Two of them who were self-employed on this date had been on emergency work from 1 to 6 months; 4 holding jobs had been on emergency work for periods varying from less than 6 months to as much as 42 months. Two men in the labor market had worked from 1 to 6 months and another one from 13 to 18 months. In addition, two other men, who were not seeking work at this date, had worked from 7 to 12 months on emergency jobs. Thus at the very least, a total of 34, slightly more than one-quarter, had some time or other been on emergency work. With the exception of a few foremanships, which represented a promotion from a previous unskilled laboring status, all emergency employment reported involved unskilled labor.

Fifty-eight former cigar workers living in Manchester were not contacted personally. These 58 were checked for relief status with the case records of the City and County Commissioners of Charities and the family welfare agency of the city. It is known, however, that the records of all these agencies are incomplete for both past and present relief status. The Central Index of Agencies, which was also checked, did not cover possible omissions since only one of the Commissioners registers with it. Records were found for 23 of the 58, or 40 percent, who had

applied for assistance since the lay-off at the Company.¹⁰ Although the case records are fragmentary, the indications are that assistance was granted in all cases recorded, either in the form of employment under the CWA,¹¹ the State Emergency Relief Administration, and the WPA, or in the form of direct relief. Nineteen of the 23, or 33 percent of the total, were reported to be receiving public assistance at the time of this survey.¹²

There is no doubt that this is an understatement of the extent of public assistance, both past and present, among our sample of former "7-20-4" cigar makers. Concerning relief supplementary to a job, we know of two cigar makers engaged at their trade to whom work relief is granted. There are no doubt other such cases. For the 120 cases constituting those who had moved away or died or were unknown, no information whatever about relief status is at hand. But in view of the casual and part-time nature of much of the reported employment, as well as the periods of unemployment, it may be assumed that public relief has assumed a much larger role than our limited figures indicate. Moreover, the cigar makers constituted a special relief problem despite their relatively small share in the entire relief burden of Manchester. Their standard of living had been higher than that of most of the mill population of the city, and yet the relief grants were designed to meet the needs of the latter group. This imposed upon the cigar makers additional difficulties of adjustment.

SELF-EMPLOYMENT AT CIGAR MAKING

The extent to which self-employment at cigar making has really been disguised unemployment cannot be appreciated without a fuller discussion of the "buckeye" shops. We have already indicated that a considerable fraction of the 233¹³ men whose occupations are known have remained in the cigar industry. At the time of

¹⁰One case of temporary assistance following a flood in the Merrimac Valley in 1935 is not included in this figure.

¹¹CWA employment noted here was granted after need had been established, and is not to be confused with CWA appointments from the general unemployed population.

¹²Two men were on direct relief, one of whom was incapacitated by old age and the other by chronic illness. Two others were receiving institutional care.

¹³This includes the nine who were retained by the Company as hand makers. Two in the interim had left the Company, i. e., one secured employment as a cigar maker elsewhere, and one was employed as a caretaker on a private estate.

this survey 74, or 32 percent, still had employment in the industry. Of these, 29 were self-employed.¹⁴

On first thought one would expect a still larger percentage to have remained in the industry, especially in their own shops or "buckeyes."¹⁵ In most instances of technological displacement of a skilled group, it is not feasible for the artisan to continue to ply his trade as a self-employer. For example, a linotyper, displaced by improved machinery, cannot very well set up his own printing press in the back-yard shed, nor can a bituminous coal miner, displaced by a mechanical loader, ordinarily continue to make use of his skill on his own account. In hand cigar making, however, the equipment is extremely simple: a small table, a knife, and a set of wooden molds are the tools of the trade. An extra room or a shed in the rear of the house serves the purpose of workshop and storage place for tobacco and finished goods. Moreover, the capital investment involved is not great. One "buckeye" reported that \$150 was sufficient to set up in business. And there is no problem of complementary skills. As an employee he made the complete cigar from fashioning the filler tobacco into a bunch to rolling it in the final wrapper leaf. On the surface then, it appears that cigar making is an exception to the general rule applying to technological displacement in a craft enterprise.

But a closer examination indicates that several important considerations have been omitted. While employed in the factory the hand worker makes his cigars from the tobacco with which he has been supplied. As a self-employer he must select his own mixture of tobacco, and his long training as a cigar maker has not provided him with the adequate, specialized knowledge. Consequently he is at the mercy of his tobacco broker in a matter that is obviously important in conditioning the salability of his product. It is

¹⁴A geographical distribution of cigar makers employed by the Company in 1931 who were employed at cigar making in February 1937 is shown in table 23.

¹⁵The term "buckeyes" is used interchangeably for the shops and the men. Its connotations in the trade are usually derogatory. The name appears to have been current in the trade as long ago as 50 years according to some elderly hand cigar makers. From inquiries made in the trade as to the origin of the word, it would seem that the most plausible explanation is that a large number of the small factories first existed in the State of Ohio, which is popularly known as the Buckeye State. There is, moreover, some statistical evidence in support of this. For example, according to the *Annual Report of the Commissioner of Internal Revenue for the Fiscal Year 1889* there were 1,723 establishments manufacturing cigars in Ohio. This number was exceeded only by those in New York and Pennsylvania, which had 5,690 and 4,978 establishments respectively. On the basis of number of cigars produced per establishment, however, it would appear that of all the leading cigar-producing States, Ohio had the smallest shops. The number of cigars produced per establishment in 1889 was 170,493 for Ohio, 189,630 for New York, and 202,454 for Pennsylvania.

not without significance that the most successful "buckeye" in Manchester had worked at sampling tobacco for 4 years in Holland. Nor does the trade of cigar making prepare him to be a good salesman when he becomes a "buckeye" operator. And yet an unusual amount of salesmanship is necessary to sell in a declining market in competition with large business units that make use of all the methods of high-pressure sales promotion. Thus, the successful operation of a "buckeye" shop demands a variety of talents which factory employment does not develop.

Apparently, these facts were realized by the displaced cigar workers only after bitter experiences. According to the 1932 *Annual Report of the Commissioner of Internal Revenue*, 45 cigar factories were opened in New Hampshire in 1931, making a total of 61 in business on January 1, 1932. In the ensuing year 32 were opened, and 80 were in business at the beginning of 1933. Thereafter, the number of failures exceeded the number of shops opened.

Table 23.- GEOGRAPHICAL DISPERSION OF CIGAR MAKERS WHO ARE WORKING AT THEIR TRADE^a

(As of February 1937)

Location	Employed by others	Self- employed
Total	37	40
Manchester	19	29
Rest of Hillsboro County	0	0
Rest of New Hampshire	2	2
Massachusetts	4	4
Connecticut	9	3
Maine	0	1
Pennsylvania	1	0
Canada	1	0
Belgium	0	1
Germany	1	0

^aExcludes occupations in the cigar industry other than hand making. In addition to those now employed at cigar making in the sample of 224, this table includes the 8 employees kept on as makers at the Company who are still employed at making, and 11 "buckeyes" whose names were added from the Bureau of Internal Revenue report. The twelfth person listed by the Bureau was no longer in the cigar industry at the time of our field survey. All of the persons included in this table worked for the Company prior to 1931.

In Manchester, 64 "buckeyes" were reported to have been operating in 1933, and on the date of this survey (February 1937) 35 shops were reported to be in existence. Twenty-nine of these are included among the 40 self-employed cigar makers shown in table 23. The duration of operation is known for only 27 of the 40; 18 had been in business for at least 5½ years while 3 had begun to operate only within the 6 months preceding the date of interview. The remaining 6 had been in business anywhere from 7 to 48 months.

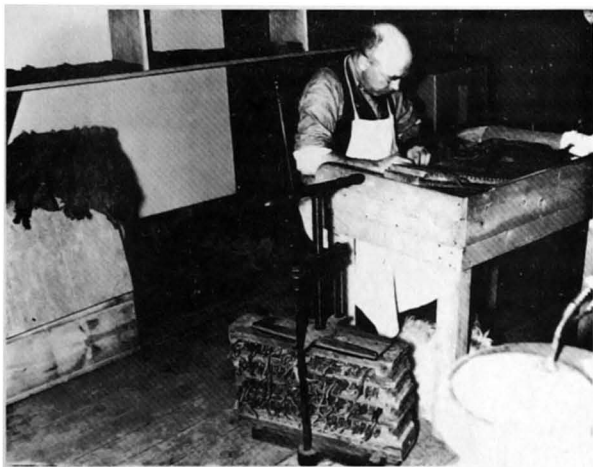
It is known that 12 others had failed in the 5½-year interval between the lay-off and our survey. The duration of operation of only 6 is known. None of these lasted more than 3 years and 3 withdrew within 18 months. The major difficulties have already been mentioned. Perhaps a contributory factor is the variation among the men of the quality of their product, particularly since the high standard of workmanship on the machine-made product requires a good hand-made article to compete with it. Lacking advertising, the hand-made cigar has nothing to recommend it except itself.

EARNINGS AS "BUCKEYES"

But even those who have managed to hold on to their shops have had only a meagre livelihood from the business. Of the 35 "buckeyes" in Manchester, only 4 were reported to be making a living from their work. There is reason to believe that those who avoided competition with other "buckeyes" by moving to neighboring cities in New Hampshire or other parts of New England have been more successful.

The fact that the "buckeye" shop must compete in the market of the 5-cent cigar suggests that it could yield but a poor return in most cases. The "buckeyes" agreed to sell at a wholesale price of \$1.75 for 50, or 3½ cents apiece, but few have lived up to the agreement owing to the pressure of competition. One dollar and sixty cents for 50 has been the usual amount obtained. Some had sold their cigars to retail as low as 2 for 5 cents. From his gross income of 3½ cents a cigar - if he got it - the "buckeye" had to pay the revenue tax and union dues and cover the cost of a band, a cellophane cover, and a portion of a box or pack, in addition to the cost of the tobacco. During the life of the

Agricultural Adjustment Administration the processing tax cost from \$8 to \$10 per month additional, and the market was too precarious to pass the extra cost along to the retailer. Detailed cost figures are not needed to make the point that the combined wages of labor and of management per cigar must be very, very small.



L. C. Durette

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FIGURE 8.- HAND WORKER "BUNCHING THE FILLER"

The mold in which the bunches are formed under pressure is seen alongside the bench. This "buckeye" is also shown in figure 6.

The nature of "buckeye" markets suggests, moreover, that the smallness of the per-unit return above material costs was not compensated for by large volume of sales. The chief selling places have been drug stores, restaurants, cafes, and the clubs run by the various ethnic groups in Manchester or nearby communities. Some men have been their own retail salesmen, canvassing the offices and even the streets of the city selling their cigars singly or in packs at 5 cents a cigar.

None of the "buckeyes" who were scheduled put in full time at cigar making. They have been their own salesmen and collectors, and the time consumed in these activities varied with the distance to their selling place and the difficulties of collection. Some

have had assistance from other members of the family in cellophaning and packing the cigars. The majority have not been able to sell enough cigars to keep them fully occupied in the cigar business and when possible have been doing other work. One man who has been regularly employed in a store made cigars after hours. A few have had poultry farms in addition to their shops. Only



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WPA - National Research Project

FIGURE 9.- HAND CIGAR MAKER APPLYING THE BINDER LEAF

Note in front of him the grooved mold for bunches. This "buckeye" uses for a factory the living room of his cottage in the country near Manchester.

a few have been able to maintain the standard of living of previous years. One small manufacturer who employed four assistants and reported his 1936 income as \$600 stated that if he could get a job at \$15 a week, he would throw away his cigar making equipment tomorrow. These facts suggest the feasibility of a classification "self-employed but seeking work."

The difficulties inherent in self-employment in this industry are reflected in the annual income earned in 1936 at cigarmaking, as reported by 22 "buckeyes." (See table 24.) The median earnings of the "buckeyes" were \$550 with only one person reporting earnings of over \$1,000 and two under \$150. There were concentrations at \$150-\$249, \$450-\$549, and \$750-\$849. The retrench-

ment that this must have caused can be appreciated by the comparison with the estimated annual earnings reported as received by these 22 "buckeyes" and 4 others when employed at the Company in 1930, a year of part-time employment even during the usual "busy" months. The median wage was \$1,070¹⁶ with the range beginning with \$750, i.e., \$200 above the median earnings of the "buckeyes." Earnings of \$1,750 and over were reported by four.

Table 24.-- ESTIMATED ANNUAL EARNINGS FROM CIGAR MAKING AT THE COMPANY IN 1930 AND AS "BUCKEYE" PROPRIETORS IN 1936^a

Annual earnings	Cigar makers at the Company in 1930	"Buckeyes" in 1936
Total	28	22
Under \$150	0	2
\$150-\$249	0	4
\$250-\$349	0	0
\$350-\$449	0	1
\$450-\$549	0	4
\$550-\$649	0	1
\$650-\$749	0	3
\$750-\$849	1	5
\$850-\$949	4	1
\$950-\$1,049	8	0
\$1,050-\$1,149	1	0
\$1,150-\$1,249	3	0
\$1,250-\$1,349	1	0
\$1,350-\$1,449	0	0
\$1,450-\$1,549	3	0
\$1,550-\$1,649	1	0
\$1,650-\$1,749	0	1
\$1,750-and over	4	0
Median (annual earnings)	\$1,070	\$550

^aField survey data.

¹⁶It would appear that this figure is representative. The Internal Revenue records disclose that 8,096 thousand class "B" and 31,446 thousand class "C" cigars were manufactured in New Hampshire in 1930. Production in the other classes was negligible. It is known that the Company produced 97.2 percent of New Hampshire's total in this year. Using this as a correction factor for each class, a very close approximation to the Company's output is obtained. Since the makers of the "Dexter" cigar (class "B") were paid at the rate of \$10 per thousand and the makers of the "7-20-4" (class "C") at the rate of \$18.50 per thousand, the Company's wage bill for cigar making for the year can be determined. This amounted to \$644,152.50. The records show that on January 1, 1931 there were 628 hand workers in the Company's employ. Since displacement had not yet occurred, this number very likely represents the average number employed in 1930. This number divided into the wage bill gives an average annual earnings of \$1,028.

OTHER EMPLOYMENT AS CIGAR MAKERS

There remain the 37 other cigar makers who were still employed at their trade. (See table 23.) Seven of them continued to work in the "7-20-4" factory from 1 to 2 days a week, producing the hand-made "7-20-4" for its strictly limited market. The remaining 12 in Manchester were employed by other "buckeyes", generally on part-time, so that at least one is known to receive public assistance in the form of emergency work. Of the other 18, 9 had gone to Connecticut where union wages still obtained in factories where hand workers were employed. Their hours of employment were not reported. The exact status of six is unknown and three are reported to have been working for "buckeyes." With the possible exception of the 9 in Connecticut, therefore, the 37 men who were not in business for themselves had not fared any better than those who were. They were either employed on short hours in factories or were working for "buckeyes."

It would appear from this survey that the avenues of readjustments with few exceptions have been only the dead-end streets of part-time employment for others or for self, unemployment, and emergency or direct relief.

SECTION V

COMPARISON OF EMPLOYMENT PATTERN, EARNINGS, AND UNIONIZATION OF MACHINE OPERATORS AND HAND WORKERS

EMPLOYMENT OF MACHINE OPERATORS

The full effects of the use of machines in this particular instance cannot be gauged without a consideration of the type of employment and the amount of earnings enjoyed by the machine operators. From the records filed by the Company with the Division of Unemployment Compensation of New Hampshire it is possible to obtain this information for 1936.

For this year the Division required a statement of the hours worked and the wages earned in each week of the year for each of the 202 machine operators who were employed by the Company during the year. By computing an average of the weekly aggregates of man-hours for each month and relating these to the average for the year, the month-to-month fluctuations can be shown. (See table 25.) If the monthly fluctuations in 1936 are represen-

Table 25.— MONTHLY INDEX^a OF MAN-HOURS WORKED BY MACHINE OPERATORS AT THE COMPANY IN 1936^b

Month	Percent of average for the year
January	50.7
February	74.5
March	84.0
April	95.3
May	108.3
June	111.4
July	117.5
August	108.5
September	106.4
October	114.4
November	117.7
December	111.4

^aBased on averages of weekly man-hours.

^bComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

tative of the seasonal movement in the 4 preceding years, it is clear that the use of machines has not ironed out the seasonal variations in employment. The winter months still constitute the dull season.¹

The degree of full-time employment represented by the man-hour data can be shown in several ways. For example, the 202 operators can be distributed by the percentage of man-hours worked during the entire year to the theoretical maximum. Since the day shift works a 40-hour week and the night shift a 33.75-hour week and since there is an interchange of shifts once each week, the full-time hours in a biweekly period equal 73.75. The product of the latter multiplied by 26 yields the theoretical maximum full-time employment in this 53-week period reported to the Bureau after allowance is made for five holidays. On this basis slightly more than half of the operators were employed, on the average, 85 percent of the work-year and only four operators more than 90 percent. An additional one-fifth was employed three-quarters of the time; almost one-tenth had worked half of the time or less. (See table 26.)

Table 26.- DISTRIBUTION OF 202 MACHINE OPERATORS AT THE COMPANY BY THE PERCENT OF ACTUAL MAN-HOURS WORKED IN 1936 TO THE THEORETICAL MAXIMUM^a

Percent of theoretical maximum	Number of operators	Percent of total number of operators
Total	202	100.0
30 and under	3	1.5
31-40	6	3.0
41-50	10	4.9
51-60	9	4.4
61-70	23	11.4
71-80	43	21.3
81-90	104	51.5
91 and over	4	2.0

^aComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

¹This seasonal index is similar to the one based on stamp sales which Russell H. Mack computed for class "A" cigars for the period 1925 to 1931. *The Cigar Manufacturing Industry* (Philadelphia: University of Pennsylvania Press, 1933), p. 96.

This suggests that complete unemployment in contradistinction to partial employment was not widely prevalent. The statistics on weeks of no employment confirm this inference. Thus 28 percent had some employment in each week of the year and an additional 27 percent was completely unemployed for only 1 week. Only in a little more than one-quarter of the cases did the weeks of unemployment exceed 4, but one-fifth of these were unemployed at least 26 weeks. (See table 27.) Failure to achieve a fuller degree of employment cannot therefore be explained by complete unemployment but rather by partial unemployment.

Table 27.- DISTRIBUTION OF 262 MACHINE OPERATORS AT THE COMPANY, BY NUMBER OF WEEKS WITH NO EMPLOYMENT, 1936^a

Number of weeks with no employment	Number of operators	Percent of total
Total	202	100.0
0	56	27.7
1	54	26.7
2	18	8.9
3	12	5.9
4	9	4.5
5	6	3.0
6-7	7	3.5
8-9	6	3.0
10-13	6	3.0
14-20	10	4.9
21-26	8	4.0
Over 26	10	4.9

^aComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

There is additional evidence of part-time employment resulting from the company policy of sharing the work in the dull seasons. From table 28 it can be seen that more than two-thirds of the operators had from 6 to 8 months of not less than half-time but



L. C. Durette

WPA - National Research Project

FIGURE 10.- MAKING CIGARS BY HAND

The worker is tapering off the wrapper of a nearly finished cigar. In one day the hand worker makes about 500 cigars of the kind made by the machine in figure 11. The picture was taken in the interior of a "buckeye shop" which is housed in the rear of a small store operated by the same man.

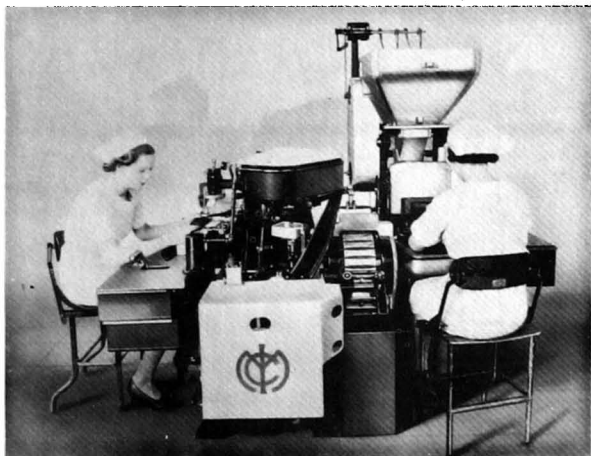
Table 28.- DISTRIBUTION OF 202 MACHINE OPERATORS AT THE COMPANY,
BY WEEKS OF LESS THAN FULL-TIME BUT NOT
LESS THAN HALF-TIME EMPLOYMENT, 1936^a

Number of weeks of less than full-time but not less than half-time employment	Number of operators	Percent of total
Total	202	100.0
0	0	0
1-8	1	0.5
9-16	12	5.9
17-24	30	14.9
25-32	138	68.3
33-40	20	9.9
41 and over	1	0.5

^aComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

less than full-time employment.² Another 10 percent had from 8 to 9 months of such employment while only 6 percent were so employed for less than 4 months.

Obviously, this leaves but a small margin for full-time weeks as is disclosed by the distribution in table 29. While only two operators had zero weeks of full-time employment, almost two-thirds had full-time employment, including overtime, from one-



International Cigar Machinery Co.

FIGURE 11.— TWO-OPERATOR CIGAR-MAKING MACHINE

This machine, making scrap-filler cigars, is of the type which has largely displaced hand workers at the Company. The filler is fed into the hopper at right, and the girl places the binder in position. The operator at the left places the wrapper leaf and inspects the finished cigar. In one hour about 460 cigars are manufactured on this machine.

quarter to one-half of the year. None had more than 28 weeks of such employment, while the duration of full-time employment for the remaining one-third was less than a quarter of a year. Nor did the peak demands require many overtime weeks of employ-

²As previously explained it has been necessary to analyze the operators' employment in units of biweekly periods with 73.75 hours constituting full time. However, because of a decided concentration of cases at 72 hours for a fortnightly period, this number of hours has been taken to represent full-time employment. Accordingly, 36 hours over 2 weeks constitutes half-time employment. For purposes of presentation the biweekly periods have been converted to a weekly basis.

ment in this year which was a relatively prosperous one in terms of production.⁵ For example, 29 percent had only 1 to 4 overtime weeks, another 38 percent 5 to 8 weeks, and one-quarter, 9 to 12 weeks. None had more than 13 overtime weeks.

Table 29.- DISTRIBUTION OF 202 MACHINE OPERATORS AT THE COMPANY BY WEEKS OF FULL-TIME EMPLOYMENT,^a 1936^b

Number of weeks of full-time employment	Number of operators	Percent of total
Total	202	100.0
0	2	1.0
1-4	10	5.0
5-8	21	10.4
9-12	37	18.3
13-16	49	23.8
17-20	43	21.3
21-24	36	17.8
25-28	5	2.4

^aIncluding overtime weeks.

^bComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

From these facts it seems clear that the seasonal utilization of labor for peak demands has created a labor reserve. That is, the peak operations, which occur during 2 or 3 months, provide full-time work for practically all of the 202 operators and occasionally provide overtime work. To insure the availability of the full force for the busy season, and thus avoid the cost of training new personnel each year, the entire group of operators is kept attached to the plant throughout the dull seasons by part-time employment that results from sharing the work.

EARNINGS OF MACHINE OPERATORS

It is for this reason that partial employment was the typical experience of the operators, despite the fact that 202 operators displaced about 600 hand workers and that the operators produced more cigars in 1936 than the hand workers in 1929 - a year of

⁵See table 1.

full-time employment outside the slack winter months. This is reflected in their annual earnings, which are classified in table 30.

Table 30.- DISTRIBUTION OF 202 MACHINE OPERATORS AT THE COMPANY, BY ANNUAL EARNINGS, 1936^a

Amount of annual earnings	Operators with a maximum unemployment of 4 weeks		Operators with a minimum unemployment of 5 weeks	
	Number	Percent of total	Number	Percent of total
Total	149	100.0	53	100.0
\$250 and under	0	0	2	3.8
251 to \$500	0	0	15	28.3
501 to 750	2	1.3	21	39.6
751 to 800	8	5.4	5	9.4
801 to 850	15	10.1	8	11.3
851 to 900	32	21.5	2	3.8
901 to 950	29	19.5	2	3.8
951 to 1,000	44	29.5	0	0
1,001 to 1,250	19	12.7	0	0
Over 1,250	0	0	0	0
Median (annual earnings)	\$931		\$621	

^aComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

The operators are divided into two groups: one is composed of those whose unemployment, measured in pay-roll weeks, did not exceed 4. These may be regarded as the regular working force. They constituted about 75 percent of the operators. The other 25 percent did not have employment in as many as 48 weeks. It is instructive to compare the median annual wage of \$931 of the regular operators with \$1,070, the median of the annual earnings reported by 26 hand workers at the Company in 1930, a poor year. The lower and upper limits of the range for the former are below the respective limits of the range of annual earnings of the hand workers. This may be explained in part by the fact that the latter are subjective estimates with something of an upward bias. But even with some allowance for this factor it would appear that the operators with the fullest employment in a rather prosperous year earned less on an annual basis than the hand workers

in a year of depressed trade. That is, despite the increased productivity of the operator over the hand worker, due to the greater use of capital, labor's share of the product is less on an absolute basis and perhaps still less on a relative basis.

The "7-20-4" plant, moreover, appears to be paying an hourly wage considerably above that of some other large manufacturers. The hourly wage rate at the Company was derived for each of the 202 operators by dividing the annual man-hours into the annual earnings. The rates are classified in table 31. The median hourly wage in this distribution was 57.2 cents. In a recent survey of four large machine-operated factories making short-filler cigars to retail at less than 5 cents apiece - which of all the factories surveyed are the most comparable to the Company - the average hourly wages were 30, 35, 42, and 48 cents.⁴ To what extent the differential may be due to the presence of the union at the Manchester plant cannot be indicated, since it is not known whether the four factories that enter into the comparison deal with the union.

Table 31.- DISTRIBUTION OF 202 MACHINE OPERATORS AT THE COMPANY BY HOURLY EARNINGS IN 1936^a

Hourly rate	Number of operators	Percent of total
Total	202	100.0
\$.40-\$.44	3	1.5
.45- .49	10	4.9
.50	0	0
.51	2	1.0
.52	2	1.0
.53	8	4.0
.54	5	2.5
.55	10	4.9
.56	11	5.4
.57	34	16.8
.58	39	19.3
.59	51	25.2
.60- .64	25	12.4
.65- .69	2	1.0

^aComputed from data in records of New Hampshire Bureau of Labor, Division of Unemployment Compensation.

⁴NPA National Research Project in cooperation with U. S. Bureau of Labor Statistics, report by W. D. Evans on productivity of labor in the cigar manufacturing industry, in preparation. *Vide infra* p. 68.

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If available data on costs and net profit were adequate, it would be of interest to determine whether the increased productivity of the machines alone was sufficient to enable the manufacturer to produce a 5-cent cigar with an adequate profit margin, or whether the reduction in the workers' earnings was also necessary. Unfortunately, the requisite information is not at hand. However, since an increasing fraction of the industry has mechanized, it may be assumed that the combination of mechanization and reduced wages has yielded profits.

Just how much leeway there has been for establishing earnings for machine operators at or closer to the earnings of the hand makers who were displaced, maybe subject to dispute, but, under existing circumstances, it is not difficult to understand the demoralization of wage rates and earnings that has overtaken the industry.

. . . . Machine use has established a standard of competition such that hand manufacturers can survive only by paying pitifully meager wages to their employees. Paralleling the problem of wages paid by hand-made cigar manufacturers, the wage rates in effect throughout the machine-made cigar industry provided but a bare subsistence for the workers.⁵

Moreover,

. . . . It will be observed [from a special survey by States made by the Census of Manufacturers in 1933] that low as wage payments seem for the country as a whole, they were even lower for some of the principal cigar producing states. Attention is directed to Florida and Pennsylvania in particular.⁶

To appreciate the effect of the changes in the cigar industry on the hand rollers who are still employed, it need only be added that Florida and Pennsylvania are the locations at which the surviving hand production is concentrated.

THE UNION AFTER THE LAY-OFF

The change in status of the Manchester local of the Cigar Workers' International Union subsequent to the lay-off must also be considered as an effect of the introduction of machines. The

⁵The Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 140.

⁶Ibid. p. 164. *Vide supra* pp. 34 and 35 and *infra* Appendix C.

union local seems to have enjoyed no better fortune than the displaced cigar workers; it too has merely continued to exist. In this instance there were fewer extenuating circumstances, since the management continued to observe the closed shop agreement and the female machine operators were obliged to join the union. The young girls, however, came to the union without any previous trade-union experience or any current interest in labor problems and organization. Nor was such interest developed by the older members. It is not clear whether personal difficulties of economic adjustment which the older members experienced precluded any such activity or whether organizational and educational ability were lacking among the membership. Yet at one time this union was the strongest and best organized in the central labor body of Manchester. It had apparently developed a strong sense of labor solidarity as judged by the reports that this local had contributed \$40,000 to the strikers in the Lawrence mills in 1912 and \$35,000 to the Amoskeag workers during their 9-month strike in 1922. It had engaged also in some welfare activities for its membership. Thus, the monthly dues of \$2 entitled each member to a death benefit of \$350. A fund for the sick and disabled was created by assessing each member 1 percent of his earnings, and when a member was unable to work through sickness or disability, his dues were paid from this fund. Because of the high mortality rate of cigar makers resulting from the large number of older men in the trade, two classes of membership had been established by the International in May 1931. Two-dollar dues continued the death benefit; \$1 covered organization benefits only. In June 1933 the former class of member in this local was discontinued, and all employees of the factory paid the same rate of \$1 per month, which is the rate that still prevails.

The demoralization of the union was gradual. Although it was undergoing a transition from craft to industrial status in 1931, when the machines were being installed, nevertheless, it had evidenced an aggressive spirit. In May of that year, an executive committee investigated charges of favoritism and coercion by two foremen, and adjusted the complaints satisfactorily with the firm. Moreover, as soon as the women were employed to operate the machines, a bill of price of \$1.25 per thousand cigars was made for them. This wage rate prevails today and is said by the secretary to be 10 cents in advance of the Boston rates.

But within a few months the dismissal of the hand workers was reflected in the treasurer's balance. The union found cheaper office space and sold some fixtures. The secretary took a 25 percent reduction in salary. With the further demoralization of the older members and the complete lack of interest on the part of the new members no meetings for the membership had been held since 1932. The secretary has called the executive committee to order only once a year since this date, in order to have himself legally reelected. Little wonder then that the machine operators regard the dues as another tax on wages without any apparent *quid pro quo* in the present or future.

SECTION VI

SUMMARY AND CONCLUSIONS

SUMMARY

Sufficient evidence has been presented to show that the problems and results of readjustment presented in our survey may be considered representative of the problems faced and the results achieved by hand cigar makers throughout the industry after they were displaced by machines. The problems and results may be summarized as follows:

The data are concerned with that type of technological change which substitutes one complete process for another. In this case it is the substitution of a machine process for a hand process. This change in process took place at a time of recessive trends in the cigar industry. The per capita consumption of cigars had begun to decline in 1905 but the volume of production reached its peak in 1920. The continued swing to cigarettes in the popular taste resulted in a 47-percent decline in the volume of production from the high point of 1920 to the low point of 1933. In the face of this intensive competition, the cigar manufacturer was forced to shift his production from the class "C" cigar (to retail at more than 8 and not more than 15 cents) to the class "A" cigar (to retail at not more than 5 cents). In 1921, class "A" cigars constituted 30.2 percent of the total production. By 1935 they were 88.1 percent of the total production. The profitable production of a less expensive cigar necessitated a substantial reduction in labor costs. This reduction was accomplished by the use of automatic cigar-making machinery. It was estimated that in 1933, only 14 years after the commercial introduction of the machines, about 52 percent of all cigars were machine-made. The economic pressures just reviewed were accelerated by the decline in demand resulting from world-wide depression. Between 1909 and 1933 the decline in demand and the use of labor-saving machinery resulted in the loss of 60,000 jobs, according to an estimate based on *The Census of Manufactures*.¹

¹*The Tobacco Study* (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 141.

The social consequences of the factors of economic pressure just described have been traced in one community. At the time of the change in process from hand work to machine work a complete substitution of personnel occurred. Although more than a quarter of the displaced men migrated in search of work, an entire population of artisans was left stranded in the sense that it has never been reabsorbed in industry. After 5 years of seeking work and after more than 2 years of business revival, 30 percent of the workers were unemployed and 20 percent operated "buckeye" shops which, with few exceptions, yielded such a meagre return that they may well be regarded as a form of disguised unemployment. The bulk of the 40 percent who were employed by others were working at part-time, casual jobs. The remaining 10 percent were no longer in the labor market, the majority having withdrawn because of physical disabilities, while a few were living on their savings.

The difficulties in finding satisfactory reemployment were largely conditioned by the personal characteristics and the occupational background of the displaced workers. It was found that the displaced workers were an industrially-aged group which had long been habituated to a single skill. This skill was now practically obsolete, and the workers' age and limited experience in industrial adaptation represented an insurmountable hurdle to all but a few. A Government study made in 1930 covering 109 cigar factories in 11 States shows that the same lot befell its sample of displaced hand workers, who had an average age and a degree of occupational habituation almost as great as those in this study. The similarity of our findings with those of a much more extensive study of displaced hand workers in the cigar industry warrants generalization that such has been their usual fate.

The median age of our displaced group was 47, and the median years of employment at cigar making were 29. This last figure was approximated by the number of years of residence in Manchester, indicating the high degree of stability which derives from employment with one company over a large number of years. The tabular data representing occupational history reflect the contrast between the relatively regular employment experienced by the hand maker prior to 1931 and the frequent job shifts, casual employment of a semiskilled or an unskilled nature, and unemployment experienced after their separation in 1931.

The earnings for the year 1936 of those cigar makers who were running "buckeyes", or small factories of their own, in Manchester were contrasted with their earnings during their last year at the "7-20-4" plant. Their median 1936 earnings were found to be \$520 less than they had been during a slack year at the factory.

The hand workers were not permitted to remain as machine operators. But even had they been, a study of the wages and hours of the present machine operators reveals that the median wage of the operators in 1936 was \$139 less than that of the hand workers in the slack year of 1930. Although few of the girls are on full time, a comparison of wage rates at the "7-20-4" plant with those of other plants shows that the wage rate is higher at the "7-20-4" plant than at most factories.

APPRAISAL OF SOCIAL RESOURCES

As already suggested, the natural tendency of workers to seek reemployment in their own field was unavailing because of conditions within the industry itself. Job opportunities outside of their own field were of an inferior sort, as an analysis of actual jobs held at home and afield shows. The conditioning factors of advanced industrial age and occupational habituation were a severe handicap as long as economic developments failed to reabsorb current large numbers of unemployed who were younger. It is doubtful whether the aid of employment exchanges and vocational training, which were not available to our sample, would have helped much, for the group most in need of assistance was and will be the older workers, who are difficult to retrain and still more difficult to place in employment.

No account has been taken of emergency work or direct relief history as such. However, among the 129 men who were interviewed, one-quarter reported emergency work at some time in their occupational histories, and more than one-third of those seeking work at the time of the interview were holding current WPA jobs. The facts concerning direct relief or concerning other persons in the household engaged in emergency work, or even concerning relief supplementary to a job held at present or previously, were not ascertained. In the case of 58 other men living in Manchester, the names were checked with the relief agency as an aid to tracing them. Though the relief records are known to be incomplete,

40 percent of those 58 had a relief history. For the remaining 120, 29 of whom are now dead and 85 moved away, no information whatever about relief status is at hand. In view of the casual and part-time nature of much of the reported employment as well as the periods of unemployment, it is reasonable to suppose that many more than we know of have received assistance off and on during the years or are receiving it now. Even upon the basis of partial information, the conclusion seems inescapable that without public relief the condition of many of these artisans would have been truly desperate.

Presumably the inability of the cigar makers' union at the Company to force any concessions in behalf of the displaced workers was typical of other locals of this union. At any rate, no evidence has come to light where any other local in the industry was able to secure dismissal wages for its displaced members or to have them retained as machine operators. At best, however, dismissal wages are temporary expedients which tend to reduce the magnitude of the difficulties somewhat, but not to eliminate them. Under the most generous arrangements a dismissal wage, whether paid in a lump sum or in monthly installments, has rarely exceeded a year's earnings, even for those with a long service record. Usually the payment amounts to much less. Whatever the sum - and in view of the state of the industry, it could not have been a large amount - it would doubtless have been a welcome addition to the workers' savings. Nonrecurring income, however, is no solution to a condition of chronic underemployment and unemployment. Possibly it would have enabled a still larger number to have become owners of "buckeye" shops, but our study indicates that these shops may well be regarded as a misdirected investment.²

²The limited efficacy of dismissal wages is analyzed by Robert J. Myers, "Occupational Readjustment of Displaced Skilled Workmen," *The Journal of Political Economy*, XXXVII, No. 4 (Aug. 1929), 473-89, and by Ewan Clague and W. J. Couper, "The Readjustment of Workers Displaced by Plant Shutdowns," *The Quarterly Journal of Economics*, Vol. XLV (Feb. 1931), pp. 309-48. The former discusses the experiences of the cutters laid off by Hart, Schaffner and Marx with a dismissal wage which had been negotiated for them by the Amalgamated Clothing Workers. The latter discusses the experiences of the employees of the L. Candee Company, a subsidiary of the United States Rubber Company in New Haven, which granted a dismissal wage at the time of its permanent shut-down. More recently there have been several examples of organized labor obtaining a dismissal wage. See for example the contract entered into by the International Seamen's Union of America and the North-western Pacific Railroad Company in behalf of the ferrymen who were to be dismissed because of the completion of the San Francisco-Oakland and Golden Gate bridges. For the terms of this contract as well as other contracts negotiated at this time see "Dismissal Compensation for San Francisco Ferrymen," *Monthly Labor Review*, 43, No. 4 (Oct. 1936), 867-9. Probably the most spectacular case is the arrangement through Federal legislation for protecting railroad workers to be displaced by contemplated consolidations. This is discussed by Otto S. Beyer in "Unemployment Compensation in the Transportation Industry," *The Annals of the American Academy of Political and Social Science*, Vol. 187 (Sept. 1936), pp. 96-9.

The expedient of retaining some of the hand workers to operate the machines would have affected the incidence of unemployment but not its volume. Had they been retained at the Company's plant, there would have been 202 fewer hand workers seeking employment in 1931-32, but there would have been 202 additional young women in need of jobs. Since they were younger than the hand workers and occupationally more flexible, perhaps they would have had a better chance to find employment than did the hand workers. However, in the absence of a shortage of that type of labor, whatever jobs the young women would have obtained would have been at the expense of others. Of overshadowing consequence is the fact that there would still have been a very considerable net displacement of workers because of the great increase in the productivity of the machines, which was not overcome by the increased volume produced. Moreover, if the hand workers had been retained, very probably the youngest in the group, who had the least difficulty in making the adjustments, would have been selected as machine operators.

Another possibility open to the hand workers was the acceptance of a wage rate low enough to have removed any incentive for mechanization. Apparently this is the solution that was effected in the York County, Pennsylvania, cigar district, where cheap cigars are still made by hand. It is clear that such a step entails a serious loss in annual income and standard of living compared with the earnings and status of the hand workers before the advent of machines.⁵ Whether this is to be preferred to the standard of living and the income of those displaced from the industry is not easy to determine.

How effective will the Social Security program be now or in the immediate future if the particular circumstances that have surrounded displacement in our case study continue to obtain in other cases? In those States in which partial unemployment is compensated, it is likely that only a few displaced workers would qualify for benefits at the time of displacement, for the part-time character of the employment that precedes the lay-off would leave little or no uncharged earnings upon which to claim unemployment benefits at the time of the lay-off. That is, the uncharged earnings in all probability would be exhausted before full unemployment set in. Even in those States which compensate

⁵ *Vide supra* pp. 24, 35, and 67. See also Appendix C for weekly earnings of cigar makers in July 1933.

only weeks of complete unemployment, the protection accorded the worker displaced by changes similar to those affecting these cigar workers will be decidedly limited. Although many will qualify for benefits at the time of displacement, the duration of unemployment before obtaining the new job will very probably greatly exceed the duration of benefits. The provision most usually encountered in unemployment compensation legislation allows the payment of benefits for a maximum of 16 weeks in 52. In our particular case, however, slightly more than one-fifth of the displaced cigar workers found employment within the first 4 months following displacement,⁴ and about 70 percent were unemployed a minimum of 1 year. Therefore, unemployment insurance as administered by present statute would be grossly inadequate in circumstances such as these.

For those aged 65 and over at the time of displacement, financial aid based on a means test is available under the old-age assistance laws of the various States, and in 1942 monthly Federal old-age benefits become payable to workers who qualify. In our survey, however, only 7 percent of the 328 men had reached the pensionable or benefit age at the time of the lay-off. As displacement occurs in this industry in the future, a larger percentage will be of retirement age, since there has been virtually no recruiting of apprentices for hand work.

The income from these sources would doubtless be a very helpful supplement to the savings of the group that has most difficulty in finding employment. But it appears that the majority of the workers in our survey, since they were below the pensionable age at the time of displacement, will be little affected by the Social Security measures for the aged. Those under the retirement age at the lay-off who are covered by the old-age insurance system may derive very restricted assistance when the benefits do become payable; for during the period of unemployment subsequent to the lay-off there will be no taxable wage, and consequently there will be no accruals increasing the monthly benefit payments to be received. This may serve to suggest the desirability of lowering the qualifying age for old-age benefits under circumstances illustrated by this case and the need for making some provisions for the continued accrual of earnings credit for old-age benefits by having either the former employer or the Government pay the

⁴See table 14, p. 36.

worker's premium until he obtains either other employment or a pension.

The question may also be raised of the desirability of regarding occupational immobility, created by the circumstances that have been considered here, as a form of disability compensable under a scheme of disability payments supplementary to our present Social Security Act.

CONCLUSION — RESIDUAL RELIEF PROBLEM

It seems that the results which might have been obtained through the various alternatives discussed do not differ appreciably from the results of the adjustments actually made. These results may be summarized as a lowered standard of living even for the one-half of the displaced workers who found some employment during a 5-year period, the exhaustion of the savings of all, and the dependence on the private charity of relatives and on public relief for a considerable portion, i.e., it has constituted a residual relief problem.

Indications are that economic pressure is compelling the continuation of the recent and current trends in the industry and that such adjustment as may be possible must continue to depend upon social resources which lie largely outside the sphere of the industry.

The adjustment discussed above may be regarded as typical of that which could be made by displaced hand workers generally throughout the cigar industry. The judgment is also ventured that similar results would attend the introduction of any extremely labor-saving invention into an industry undergoing a secular decline in which the work had been performed by an industrially-aged group of artisans who have long followed a specialized skill.

APPENDIXES

APPENDIX A

A FEW CASE HISTORIES

To help the reader visualize the men whom our study concerns, the following case histories have been appended.¹ The cases are representative of the chief groupings presented in the tables. Case 1 represents a characteristic "buckeye" owner of rather more than usual resourcefulness. Case 2 is one of those still following the trade who were receiving an adequate wage. Case 3 is typical of the group receiving public assistance. In case 4 we have a white blackbird, a cigar maker who has accomplished the successful transition to other equally remunerative work. Case 5 is typical of those who found employment after the depression began to lift, but employment of a less skilled and dead-end sort. Case 6 represents those who in spite of active search have held only casual and part-time jobs and are unemployed today. Case 7 is representative of men in the higher age brackets who have had practically no employment since the lay-off though actively in the labor market and who are ineligible for WPA because relatives can assist them.

CASE 1

James Fontainbleau, a French-Canadian by birth, had 5 years of schooling and started to learn the trade at 14. He is now 55 and has 41 years of cigar making behind him. Married, he has lived in Manchester for 39 years. His first job was in Boston. Out of work there, he heard through other cigar makers of good conditions at the "7-20-4" plant and came to Manchester in 1898. His average output was 325 cigars daily. When the machines were installed in the Company's factory he rented the loft of an old building around the corner from the main street and acquired enough equipment for himself and two assistants. At first the response of the town to the "buckeye" shops was encouraging, and Mr. Fontainbleau, being early in the field, established a trade name and a list of customers. But as the number of "buckeye" shops increased steadily, the market became over-

¹The facts presented are true, but they have been rearranged to some extent, and the names and places have been changed to prevent recognition.

crowded in Manchester and its environs, with the result that selling became more and more difficult. He enlarged his field of selling, going many miles out of the city, but still the market fell off, and the small shops and saloons expected him to make purchases in return for handling his products. His men have been on part time, eking out a living by other employment, or forced to take WPA laboring work. Mr. Fontainbleau himself has tried to find a cigar maker's job in the New England factories where hand work still obtains, but without success. He estimated his net income during 1936 as between 12 and 13 dollars per week. More time goes into distributing and collecting on his wares than into making them. His comment on the whole situation was "If I could get a job at \$15 a week, I'd throw out my equipment tomorrow."

CASE 2

Fred Van Loon is 53 years old and a native of Belgium. After 6 years of schooling he started work at the age of 12, helping to set type in a printing plant in Antwerp. At the end of a year he left to learn cigar making and after 3 more years came to the United States. From the time of learning the trade until the lay-off at the "7-20-4" plant in 1931, a period of 34 years, he was steadily employed at cigar making. He came to the Company's factory 15 years ago from a shop in Philadelphia because his cousin who was employed in Manchester described the superior working conditions there. Immediately after the lay-off he found 2 months' employment during the Christmas rush in a neighboring cigar factory and then was without work for over a year. In the early part of 1932 he risked part of his savings in a shop of his own but lost money and at the end of 6 months gave it up. After another stretch of idleness lasting for a year, he took a job as a wool sorter in the Amoskeag mills in Manchester. Following 2 years of steady work he again found himself without employment when the textile mills closed in the summer of '35. There followed another 16 months of fruitless search, for there was no work to be had in Manchester for a man of his age and he lacked money to travel to more prosperous places. Through the good offices of a friend working in a cigar factory in Waterbury, Connecticut, he learned of an opening there and got the job in December 1936. His wife and two grandchildren are remaining in

Manchester until they know more of what the future holds for the head of the home. At the moment he may be regarded as a well-paid cigar worker for his wages are between \$17 and \$18 a week.

CASE 3

George Lederer was born in Germany 49 years ago. After 6 years of schooling he began work in a cigar factory at the age of 12 and within a few months went to work for his uncle as cigar maker. At the age of 25 he came to Boston, found work immediately, and was never without work at his trade until the lay-off at the "7-20-4" factory in 1931. He began work there in 1919 after other members of his family had preceded him and reported that wages were higher than in Boston. Since the lay-off he has found only unskilled work to do. For a year he "couldn't buy a job" but in the fall of 1932 he was employed for 2 months cleaning stables on a dairy farm. He had to leave when the weather became too cold for him to sleep in the unheated barn. The following summer he had 3 months of part-time, intermittent employment mixing cement for a private construction company. Being out of funds, he then applied for relief and became a wood chopper in the State woodyard for 10 months to pay for his groceries. Informed by a friend of an opening for cigar makers in a small factory in Vermont, he applied, got the job, and was occupied for 3 weeks. In the meantime he had lost his relief status and being single was unable to obtain emergency work again until 5 months had passed. Finally in December 1935, he was assigned to pick-and-shovel labor on a WPA highway repair project. Since that time he has been on relief, transferring from one project to another but always at unskilled labor. He was rejected for road-construction work by the Resettlement Administration following a doctor's examination but was returned to the same kind of work under WPA where he was working 3 days a week at the time of the survey.

CASE 4

Thomas Ryall, 42 years old, was born in Manchester and lived there all his life. He completed the seventh grade and started to work as a stock boy in the Company's factory at the age of

14. His father had been a cigar maker there before him, and the good wages and steady work were a source of much satisfaction to Thomas and his family. After 22 years of employment he was discharged in the last months of the lay-off. Three months of seeking work resulted in a laboring job with the city Department of Public Works. Within 7 months the job was completed, but he was successful in obtaining immediately a county position as assistant foreman in road building. After 4 months these jobs were designated for needy persons only and, as he was not eligible for relief, he was laid off again. But a city post of assistant commissioner fell vacant and he was appointed to the position after only 2 months of unemployment. He has held this position ever since, representing one of the very few cigar makers whose economic status is as good today as it was prior to 1931.

CASE 5

Johan Van der Bank was born in Amsterdam, Holland, but came with his parents to Manchester at the age of three and has lived there ever since. He is now 33 years old. His employment history was bounded by the walls of the Company's factory up to the time of the lay-off. He finished grammar school while still 13 and went to work when 14 years of age. His first job in the cigar factory was operating a banding machine. In 6 months he was promoted to stock clerk and continued as such for 2 years. At 17 he started making cigars. He had worked at this trade for 12 years up to January 1932. In the meantime, he had acquired a wife and 3 children and a home in Manchester. After leaving the "7-20-4" factory he was unemployed for nearly 3 years. During this period he sought work of any kind in all the industries in the city. He did not look for work outside, knowing he could not support his family at home and pay for room and board elsewhere at the wages obtainable during the depression. Finally in 1934 he got work as a warehouse clerk in a shoe factory which went out of business 5 months later. Within a month after this lay-off he found an opening as chauffeur for a private family for whom he has worked ever since.

CASE 6

Augustus Boerr was born in Belgium 39 years ago. After 7 years of school attendance he began making cigars at the age of 14. He worked for 5 years in the same factory in Ghent and then decided to try his fortune in America. Coming to Boston he found immediate employment at cigar making there. He had heard of the merits of the Company's factory and during a strike in the Boston factory he went to Manchester and applied for a job. He was accepted and did not return to Boston when the strike ended. Laid off at the "7-20-4" plant in the fall of 1931 after 20 years at cigar making, he did not try to continue at his trade as there were no good jobs available. He sought work of any kind in the shoe shops in Manchester and in the textile mills at Nashua, Lowell, and Lawrence. He also applied at the Portsmouth Navy Yard and at the trucking companies in Boston and surrounding towns. These out-of-town searches were made possible through the kindness of friends who took him along in their cars when they were going to these places. In spite of all efforts, however, Mr. Boerr has been able to obtain during the summer months only casual work inadequate in character to support himself and family. From June to September during the first two summers he got part-time employment as a caddy on the public golf course in the environs of Manchester. In November 1933 he was placed in the CWA at laboring work. But within 3 months all nonrelief workers were dismissed. Four months later in June 1934 he was offered a job at road building in a neighboring State. He took the job after arranging for his wife and child to stay with relatives. When in November the work was discontinued for the winter, he returned to Manchester. After another winter of idleness he found work as a construction laborer with a building firm. This employment was part-time and lasted for only 7 months. He immediately found another job as a cement mixer with a road-building contractor in a neighboring city but had worked only a month when the work was completed. That was in November 1936. Since then he has had no work.

CASE 7

Martin Eichhorn, 51, was born in Springfield, Massachusetts, and completed the grammar school. He started work as a roving

CIGAR MAKERS

boy in a cotton mill at the age of thirteen. His father was a friend of the foreman and got the job for him. After 3 years in the mill he decided to learn the cigar trade and got employment in a cigar factory there. For 17 years he worked in the factory but lost 1 to 3 months each year during the dull season. This continual loss of work finally prompted him in 1919 to seek an opening at the Company's plant. He knew of the favorable working conditions there and friends encouraged him. He was accepted and continued there until the lay-off. He had been a hand cigar maker for 30 years when the machines replaced him. Since that date in January 1932 he has had no employment with the exception of a few odd jobs each of less than a month's duration. He tried to get work at his trade in the cigar factories in Springfield by applying personally at the plants and writing to the union secretary but without any success. He also wrote to the overseers of several textile mills, but was told that he could not be given consideration in some of them because he resided outside the State. He believes his age has been the conditioning factor, but he is in good health and would take a job at \$10 a week. He applied for WPA employment but was refused because his son, with whom he lives, is working in private industry.

APPENDIX B

DESCRIPTION OF PROCESSES¹

PRELIMINARY OPERATIONS

Although cigars may be made by hand, by machine, or by a combination of both methods, the first steps in manufacture are the same in any case. The very first step is the assembly of the leaf tobacco. Cigar leaf is classified according to three general types - wrapper, binder, and filler,-although there is a substantial degree of alternative use within each of these groups.

Tobacco leaf comes to the cigar factories in bales. The bales are opened and spread out. The leaf is sorted and put into proper condition for handling by moistening, generally by dipping it in clear water and allowing it to stand covered in trays for a day or two. If further curing is necessary, the leaf may be stored in bins for a period of from 1 to 6 weeks; otherwise it goes directly to the strippers or stemmers who remove the hard midvein of the leaf. From the stemming operation the leaf goes to the hand cigar maker or to the cigar-making machine.

DESCRIPTION OF HAND MANUFACTURE OF CIGARS

The simplest and earliest method of making a cigar is still in use in some shops, particularly those making higher priced cigars. It is referred to as the "out-and-out" method. The worker uses no tools except a knife with a curved blade and a board on which to work.

The worker cuts a thin strip from a wrapper leaf, another from a binder, and selects the right amount of filler, which may be composed of long leaves, short leaves, or scraps of tobacco leaves. (See figure 8.) He then fashions the filler into proper form and size in the palm of his hand and wraps it in the strip of binder, making the "bunch." (See figures 6 and 9.) This is then placed on the strip of wrapper which lies flat on the board, and with a deft rolling movement the worker fashions the cigar, beginning

¹Adapted from an unpublished report on the cigar manufacturing industry prepared by W. D. Evans under the supervision of W. H. Dillingham of the National Research Project.

APPENDIX C

WEEKLY EARNINGS OF CIGAR WORKERS

The data presented in this appendix are for July 1933. These data are based on a special survey of labor in the cigar-manufacturing industry made for the National Recovery Administration by the United States Department of Commerce, Bureau of the Census. The survey covered, as of July 1, 1933, all manufacturers making \$5,000 or more worth of products per year.

The earnings data summarized in tables C-1 and C-2 relate only to individuals who were paid on a piece-work basis. Pieceworkers in the cigar industry predominantly are employed directly on the "making" operation. The columns, "low" and "high", represent averages of minimum and maximum rates of weekly earnings, re-

Table C-1.- AVERAGE EARNINGS PER WEEK, BY CLASSES OF CIGARS
PRODUCED IN THE UNITED STATES

July 1933^a

Class of cigars ^b	Hand work				Machine work	
	Men		Women		Women	
	Low	High	Low	High	Low	High
Class "A"	\$11.88	\$14.13	\$ 8.90	\$11.80	\$10.71	\$13.62
Class "B"	15.26	16.78	11.11	13.57	9.75	10.89
Class "C"	16.92	19.68	12.34	15.34	13.77	14.76
Class "D"	20.71	22.11	15.22	18.07	(c)	(c)
Class "E"	21.89	25.58	18.64	24.64	(c)	(c)

^aThe Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), pp. 159-60.

^bClass "A" cigars manufactured to retail at not more than 5 cents each.
 Class "B" cigars manufactured to retail at more than 5 cents each and not more than 8 cents each.
 Class "C" cigars manufactured to retail at more than 8 cents each and not more than 15 cents each.
 Class "D" cigars manufactured to retail at more than 15 cents each and not more than 20 cents each.
 Class "E" cigars manufactured to retail at more than 20 cents each.

^cNo machine work on this class of cigar.

Table C-2.- AVERAGE EARNINGS PER WEEK, BY STATES, OF WORKERS
ON CLASS "A" CIGARSJuly 1933^a

State	Hand work				Machine work	
	Men		Women		Women	
	Low	High	Low	High	Low	High
U. S. ^b	\$11.86	\$14.13	\$ 8.90	\$11.60	\$10.71	\$13.62
Calif.	11.28	13.19	10.60	12.37	10.00	10.00
Colo.	12.67	12.67	n. a.	n. a.	n. a.	n. a.
Conn.	16.02	18.27	n. a.	n. a.	n. a.	n. a.
Fla.	9.66	12.07	8.67	11.19	9.97	12.57
Ga.	5.08	9.25	5.45	7.85	(c)	(c)
Ill.	14.80	15.63	11.25	12.17	12.00	12.00
Ind.	13.81	14.39	9.47	9.83	10.50	11.50
Iowa	11.50	14.00	9.76	14.42	22.00	28.00
La.	11.66	13.50	8.08	9.29	10.99	12.60
Maine	15.33	17.52	n. a.	n. a.	n. a.	n. a.
Md.	8.73	10.47	11.37	12.10	(c)	(c)
Mass.	15.94	16.64	10.53	10.87	15.02	16.60
Mich.	15.61	16.07	9.79	13.10	10.08	14.32
Minn.	14.21	16.97	10.50	11.67	(c)	(c)
Mo.	13.29	14.45	7.80	10.07	(c)	(c)
N. J.	13.30	16.41	9.79	11.69	10.70	14.81
N. Y.	14.13	16.53	12.80	15.82	12.53	15.49
Ohio	9.47	11.33	7.60	9.67	9.03	10.77
Pa.	7.79	11.36	7.50	11.23	9.64	13.67
W. Va.	14.93	15.04	n. a.	n. a.	n. a.	n. a.
Wis.	15.22	16.19	16.09	16.09	(c)	(c)

^aThe Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1933), pp. 163-4.

^bIncludes States not listed in the stub to avoid disclosing data for an individual establishment.

^cNo data obtained.

n. a. Data not available. Data are not shown to avoid disclosing information for an individual establishment.

spectively. The returns for all classes of cigars (table C-1) covered total numbers of piece workers as follows: 8,422 male hand workers, 18,518 female hand workers, and 11,978 female machine workers.¹

For more recent data on earnings, not grouped by classes of cigars, see *Monthly Labor Review* for April 1937.²

¹The Tobacco Study (U. S. Dept. Com., National Recovery Administration, Division of Review, mimeo. report, Mar. 1936), p. 120.

Not included in these tabulations are returns for 1,351 women and 405 men who were combination hand and machine piece workers. It is notable that the survey found a total of only 23 male machine operators in the country. These likewise are excluded from the tables of Appendix C. The weekly earnings of those of the 23 men who worked on class 'A' cigars ranged from \$14.01 (average low) to \$17.94 (average high). Of the 23 men, 15 were employed in Florida. (These details on the 23 men were obtained from National Recovery Administration file material by W. D. Evans and used in an unpublished report on the cigar manufacturing industry prepared for the National Research Project under the supervision of W. H. Dillingham.)

²"Earnings and Hours in Cigar Industry, March 1936," *Monthly Labor Review*, 44, No. 4 (Apr. 1937), 963-88.

APPENDIX D

SCHEDULE AND EXPLANATION OF TERMS USED IN THE SCHEDULE

The occupational history schedule, NRP Form #20, shown on page 93, was used for the survey. Certain terms on the schedule which are not self-explanatory are defined below:

Age is the age on last birthday.

Years in City were calculated from the beginning date of the most recent period of continuous residence in the community. Absences of 6 months or less were not counted.

Employment History: The employment data were divided into the first job, the longest job, and all jobs between 1926 and February 1, 1937, the date of the survey. This last section called for a chronological record of changes in employment status, the character of employment, and the kind of work performed. The information was entered in this section by beginning with the person's employment status at the time of the interview and working back in-chronological order to January 1, 1926.

A *job* was defined as gainful employment lasting for 1 month or more in an occupation with a single employer.¹ Periods of employment or unemployment of less than 1 month's duration were not entered. Unpaid apprenticeships were not considered as jobs. Self-employment and ownership were distinguished and included those usually self-employed, or doing contract or specialized work, or owning the establishment.

The character of employment was determined and classified into regular, casual or intermittent work in private industry, self-employment, emergency work, or unemployment. Full time and part time were also distinguished. Part-time work was defined as less than 30 hours a week. The designation of "casual" work was reserved for jobs in occupations or industries in which work is ordinarily contracted for by the hour or by the day, such as domestic service by day workers, "odd jobs" by laborers, or loads hauled by truck drivers. Intermittent employment was applied to the service of persons constituting "spare hands" or "contingent crews" on call for a particular employer or extra crews

¹For exception to work with a single employer, see definition for casual or intermittent employment.

hired to complete orders in the "rush" period in industries which ordinarily offered regular rather than casual employment. Casual and intermittent employment were recorded regardless of the number of employers involved in each period of a month or more. The industrial classifications were based on those in the United States Census. The tables in the report are constructed to conform to the industries and occupations found to be important in the locale of this study.

Unemployment History: Unemployment, to be recorded, was likewise of a month's duration or more. Unemployment was divided into unemployment seeking work and unemployment not seeking work. Employment status was determined according to whether or not the person had a job on the day the enumerator visited the house. If a man was employed at the time even though he was looking for another or an additional job, he was not regarded as seeking work. If the person was not seeking work during any month of the period between 1926 and the date of the survey, the reason for not seeking work was entered. Possible reasons were: out on strike, temporarily disabled (sick for over 1 month but under 1 year without pay), permanently disabled (illness of 1 year or more), retired persons living on income or pension, persons 65 and over who have not worked in the last 5 years, and those who consider themselves or are considered by their relatives as too old to work.

Emergency Work: Emergency work was used as an inclusive term to cover all forms of government-made work, whether city, State, or federal. If it was of more than 1 month's duration, it was entered, regardless of the number of hours employed per week.

SCHEDULE USED

A facsimile of the schedule used, NRP Form #20, appears on the following page.

OCUPATIONAL HISTORY SCHEDULE

7.	NAME	EMPLOYER	DATE	CLEARANCE DATA
	ADDRESS	SCHEDULE NO.		

10.	AGE	SEX	RACE	PLACE OF BIRTH	MARRIAGE STATUS	MILITARY SERVICE	AGE LEAVING SCHOOL	AGE BEGAN WORK	M-1	USUAL OCCUPATION	PRESENT EMPLOYMENT STATUS
	YEARS IN CITY								M-2	USUAL INDUSTRY	
	YEARS IN U. S. A.								M-3	YEARS AT USUAL	
A	B	C	D	E	F	G	H	I	J	K	

11.	TOTAL TIME EMPLOYED	TOTAL SEPARATIONS	TOTAL EMPLOYER SHIFTS	TOTAL OCCUPATIONAL SHIFTS	TOTAL INDUSTRY SHIFTS	AVERAGE LENGTH OF SERVICE PER JOB	AVERAGE LENGTH OF SERVICE PER EMPLOYER
	J	K	L	M	N	O	P

EMPLOYMENT HISTORY PRIOR TO 1906

12.	PERIOD		JOBS (OR UNEMPLOYMENT) OF MORE THAN ONE MONTH'S DURATION				CHARACTER OF EMPLOYMENT
	BEGINNING	ENDING	OCCUPATION	INDUSTRY	NAME AND LOCATION OF EMPLOYER	REASON FOR CHANGE	
	MO. YR.	MO. YR.					
			FIRST JOB				
		LONGEST JOB					

EMPLOYMENT AND UNEMPLOYMENT HISTORY 1906-1956

13.										

at the lighting end and finishing at the end which goes into the mouth, called the "head." It is necessary to trim the wrapper a trifle just before the head is formed; then, with a bit of gum tragacanth, the last bit of wrapper is fastened securely, and the head is smoothed between the thumb and forefinger. (See figure 10.) The cigar is then put in a gauge which stands on the table in front of the worker and is trimmed to the proper length.

This "out-and-out" method of cigar making prevailed generally until the introduction of the mold in 1869. The mold is a wooden block with cigar-shaped grooves carved in it, generally fifteen in number. Bunches of leaves are placed in these grooves, a duplicate block is placed on top, and the two are put under pressure for a few minutes. (See figures 6, 8, 9, and 10.) The blocks are then separated and the bunches are ready for wrapping.

Several decades after the mold came into use, the suction-table was introduced. This consists of a metal sheet with a perforated plate in the center, the plate being just the right size and shape for the cigar wrapper. The wrapper leaf is placed on the plate and held down firmly by air sucked through the perforations. A foot pedal raises the plate, and a roller is passed over it, cutting the leaf on the plate's sharp edges.

Although the mold and the suction-table changed the cigar maker's trade considerably, these devices probably should be considered tools rather than machines. Their use increased efficiency in manufacture but tended to supplement the skill of the hand cigar maker rather than to perform automatically any of the required operations.

DESCRIPTION OF COMBINATION HAND AND MACHINE MANUFACTURE OF CIGARS

About 1900 a machine was introduced which made short-filler bunches automatically. This machine, known as the automatic short-filler bunching machine, requires no labor other than that necessary to feed the hopper with filler and to place the binders. These operations can be performed by unskilled labor. The bunches, delivered in molds, are wrapped by hand. A significant but undetermined proportion of the cheaper short-filler cigars are made by this method.

DESCRIPTION OF MACHINE MANUFACTURE OF CIGARS

Although the automatic short-filler bunching machine reduced labor costs to some extent, the most expensive operation in the manufacture of cigars, wrapping, was still performed by hand. It was not until 1917, when a machine was patented which performed both the binding and wrapping operations and turned out a finished cigar comparable with the hand-made article, that the superiority of the hand-made product was seriously threatened.

This machine, the automatic long-filler cigar machine, requires four operators (see figure 3): one to place the filler on an endless feed belt; a second to place the binder leaf on the binder die; a third to place the wrapper leaf on the wrapper die; and a fourth to "catch" and inspect the finished cigar.

The machine performs the operations of the hand cigar maker mechanically. Knives cut the filler to the proper length, corrugated rollers compress it and pass it to the appropriate rollers where just the right amount of filler is cut off to form a bunch. The bunch is tapered and rolled in the binder, and then passed to the wrapper, spirally wound, formed, sealed, and clipped to the right length. The head end is smoothed by a roller, and the cigar is dropped on a table for inspection.²

The scrap-filler cigar is made by a two-operator machine (see figure 11): one operator places the binder leaf on the binder die and the other places the wrapper leaf on the wrapper die and inspects. The only major variation in procedure is in the processing of the bunch. Instead of a knife to cut the filler to the proper length, there is a balance to weigh the proper amount of scrap as it comes from the hopper.

SUBSEQUENT OPERATIONS

Subsequent operations are similar, by whatever method the cigars may have been made. The cigars are inspected, and then may be banded and boxed by hand or may go to a banding and wrapping machine. This machine, requiring one operator, automatically bands the cigars and wraps them in cellophane. The operator of the machine then usually packs the cigars by hand.

²A more detailed description of the operation of the long-filler cigar-making machine is given in "Technological Changes in the Cigar Industry and Their Effects on Labor," *Monthly Labor Review*, 33, No. 6 (Dec. 1931), 11-13.