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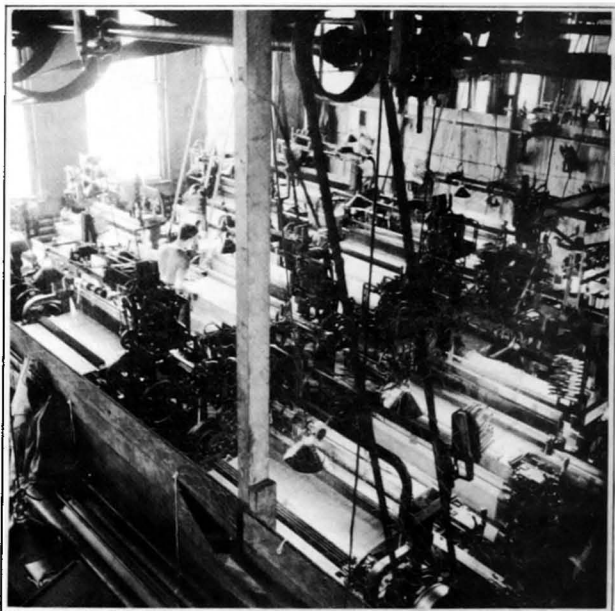
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**Reemployment Opportunities and Recent Changes
in Industrial Techniques**

DAVID WEINTRAUB

Director

Studies of the Effects of Industrial Change on Labor Markets



WPA - National Research Project (Bing)

A PATERSON BROAD-SILK SHOP

This shop, like many others in Paterson, is located in an old mill building and is separated from other petty shops by boarding and chicken wire.

**EMPLOYMENT EXPERIENCE
OF PATERSON BROAD-SILK WORKERS, 1926-36**

*A Study of Intermittency of Employment
in a Declining Industry*

by

James E. Wood

WORKS PROGRESS ADMINISTRATION, NATIONAL RESEARCH PROJECT

Report No. L-3

Philadelphia, Pennsylvania

May 1939

**THE WPA 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 *Corrington 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.

WORKS PROGRESS ADMINISTRATION

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

F. C. HARRINGTON
ADMINISTRATOR

May 19, 1939

Colonel F. C. Harrington
Works Progress Administrator

Sir:

Unemployment is not a simple problem which can be explained by reference to one or a few general causes. The sources of unemployment are many, and the problems faced by an agency charged with the responsibility of meeting them are varied in nature. Thus, there are the problems of the jobless youth, of the unemployed older worker, of the wage earner in a stranded community, and of the worker displaced by machinery. All of these, and other unemployment problems, grow out of special combinations of causes, and all of them require special remedial action.

The report transmitted herewith deals with the recent employment experience of broad-silk workers in Paterson, New Jersey. It shows how these workers were affected by circumstances allied with their industry and with related industries. The report demonstrates that general business conditions are only a partial explanation of changes in unemployment. The demand for the labor of the silk workers in Paterson, the length of time they held their jobs, and the frequency with which they became unemployed were dependent on special factors in their industry. These special factors included the competition of rayon, the migration of plants to other areas, the increased specialization of demand on the Paterson silk market, and the increased control of silk production by commission men and converters.

The findings of the present report can be summarized as follows: In November 1936, the busiest period of the year for the industry, one worker in four was unemployed. One worker in six had had no job at all during the year 1936. In general, the Paterson broad-silk workers were an older group. They had been in the industry all or the greater part of their

working lives. Despite the heavy unemployment in the years from 1926 to 1936, few had left the industry to look for work elsewhere. These workers could be considered, in part at least, a stranded group, because employment opportunities for them were scarce and intermittent and because their average age made transfer to other occupations very difficult.

The background of the heavy unemployment and the irregular employment among the silk workers of Paterson was an industry made up largely of small-sized establishments with a low level of production and with intermittent operation.

The unemployed silk workers of Paterson represent a group for whom the present public-welfare system appears inadequate. Most of them fall into the class of "older workers", and because there is little chance that job opportunities will improve, there is little that they can do to build up old-age benefits under the Social Security Act. Unemployment compensation can help these workers little, because their jobs are too intermittent. If old-age-benefit and unemployment-compensation laws remain unchanged, there will continue to be a need for other forms of relief for Paterson broad-silk workers.

Respectfully yours,

A handwritten signature in black ink that reads "Corrington Gill". The signature is written in a cursive style with a large, sweeping initial 'C' and a checkmark-like flourish at the end.

Corrington Gill
Assistant Administrator

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PREFACE

The high levels of unemployment which have prevailed since 1930 are justifiably centering attention on the causes and incidence of the type of unemployment that results from the complete separation of a worker from his job. It is, of course, this type rather than that resulting from short-term lay-offs that most rapidly leads to destitution and the need for governmental relief and other ameliorative measures. There is, however, another large though mainly unmeasured volume of unemployment that represents the cumulated workless periods due to frequent temporary lay-offs. The amount of such "unemployment within employment" that workers suffer while remaining associated with particular jobs or while moving from job to job reflects, in part, the effects of management policy designed to maintain a reserve of labor attached to the plant or industry and, in part, the fluctuations in production that characterize the plant or industry.

These patterns of employment and unemployment differ from industry to industry. For example, this Project's study of 10-year work histories of machinists, millwrights, and tool makers in Philadelphia¹ showed that during the period 1926-36 half the men had experienced no work interruptions that lasted as long as a month. On analysis, it was found that there were no significant differences in personal characteristics between the men who had and those who did not have any unemployment. There were, however, clear-cut differences between the two groups as to the industries to which the men customarily looked for employment.

Sometimes the fluctuations in production and employment mirror the seasonality with which the raw materials become available, as, for instance, in industries that process perishable agricultural products; sometimes the seasonal ups and downs represent the responses to fluctuations in consumers' demand, as in the case of certain types of clothing manufacture; then again, a method of handling a labor force prevails in a plant or industry because it is believed to provide management with a flexibility that reduces its own burden of costs owing to intermittency of operations (at least part of such costs are

¹Helen Herrmann, *Ten Years of Work Experience of Philadelphia Machinists* (NPA National Research Project in cooperation with Industrial Research Department, University of Pennsylvania, Report No. P-6, Sept. 1939).

then borne by the work force in the form of interruptions of work and income); the fluctuations may also reflect the effects of technological changes in an industry or in one producing a competing product, the migration of an industry, to other areas, or the exhaustion of a natural resource.

There are many examples of plants and industries that have succeeded in changing their patterns of employment when for one reason or another a change seemed desirable or unavoidable. Moving the date of the annual automobile show and thereby shifting the lull in production from winter to summer on an industry-wide basis is probably the most important recent instance. Other plants or industries obtained relative stability of employment by concentrating on the production of a product with a stable demand or by diversifying their products in such a fashion that the seasonality of their demand dovetailed over the year. Still another effort at the stabilization of employment and earnings was described in this Project's report on *Decasualization of Longshore Work in San Francisco*.² In this case the occupation and the industry involved were regarded as traditionally incapable of stabilization; yet the plan in operation in San Francisco seems to be succeeding.

Always, the form in which production is organized affects the stability of employment and the worker's security on the job. Conversely, the installation of measures designed to reduce intermittency of work and to provide security nearly always calls for improved controls over the flow of production and requires attention to plans and forms of organization that will yield the desired objectives. The men's and women's clothing industries used to be classic examples of chaotic conditions of production that had their counterpart in intermittent employment of "sweated" labor whose job tenure was largely casual. It was not until trade-unionism forced attention to the need for a measure of stability that collective bargaining brought order in the production and employment structure of these industries, involving the organization of jobbers, manufacturers, contractors, and subcontractors and the fixing of a hierarchy of responsibilities and controls over wages and methods of distribution of work.

For reasons that differ from those that prevailed in the needle trades 30 years ago, the production methods that obtain in the Paterson broad-silk industry today have similar effects

²By Marvel Keller (WPA National Research Project, Report No. L-2, Apr. 1939).

on the workers who look to it for a livelihood. The present report's account of the employment experiences of broad-silk worker in Paterson presents a picture of an industry which in that city (1) has been declining for over a decade owing to severe competition from outside areas and to a technological change which resulted in a new and competitive product, rayon; (2) has, in the process of adjustment to the shrinking demand, gone through a transformation that involved the growth of commission operation, production and financial control by converters and factors, high rate of opening and closing of plants and migration to other localities, and a decline in the size of plants; and (3) has forced its workers to compete in a glutted labor market for casual jobs at declining wages or even to purchase a few old looms in the hope that they would thereby acquire a somewhat sheltered position in their fight for work.

The insecurity of the Paterson silk workers is perhaps best illustrated by the fact that when, in the attempt to obtain their work histories, the interviewers engaged on this study tried to use a schedule that defined a job as "work with one employer lasting at least 1 month" - a definition that was used successfully in other labor markets - they found the schedule impractical for a significant number of workers because they had changed their employment status literally dozens of times in the span of a few years. The principal factors responsible for these rapid changes are: That whatever demand there may be for broad-silk manufacturing in Paterson consists, to a considerable extent, of small orders which by their nature can provide employment for only short periods; and that the existing demand is not directed through channels that are controlled in the interest of stability of production and employment but, rather, is diffused through numerous converters and commission merchants to reach a market which, at the manufacturing stage, is characterized by overcapacity, obsolescence of equipment, inability to plan production because of the absence of control over production, and a desperate competition for orders to cover at least part of the costs.

That under these circumstances the workers in this once great silk center should be subject to widespread unemployment of extended duration is of course to be expected in the absence of alternative employment opportunities. In a sample of 578 workers whose usual industry was broad silk, 30.8 percent had no employment in the industry in the first 11 months of 1936.

In part, at least, the labor supply of the broad-silk industry in Paterson must be regarded as stranded; but whether the intermittency of work for those whose labor is still needed in the industry is to be regarded as a necessary consequence of the industry's decline is, in the light of the experience of other labor markets, open to serious question.

This study was made on the basis of plans outlined by Irving Kaplan in his capacity of Associate Director of this Project. The field work was done under the administrative supervision of H. Paul Douglass who was in general charge of the field work on all labor-market studies outside of Philadelphia. The immediate direction of the field work was shared by G. Richard Ohmes and James E. Wood, who also analyzed the data and wrote the report. The completed manuscript was edited and prepared for publication under the supervision of Edmund J. Stone.

A number of organizations and individuals have contributed materials, and our indebtedness is herewith gratefully acknowledged to Abraham Brenman, counsel for the Silk Commission Manufacturers' Association, for giving generously of his time to review the situation in Paterson; to Irving Abramson, assistant regional director of the Textile Workers Organizing Committee of the Congress of Industrial Organizations, and his staff, for material and numerous interviews; to Herbert S. Swan, consultant of the Paterson Industrial Commission, for aid in obtaining information on the broad-silk industry in Paterson in 1936; to David L. Cole, counsel for the Silk and Rayon Manufacturers' Association; John J. Fitzgerald, secretary of the Paterson Chamber of Commerce; Irene L. Blunt, secretary of the National Federation of Textiles, Incorporated, New York City, for help in obtaining information; to the Crompton and Knowles Loom Works, for data on sales of looms in New Jersey; to the Davison Publishing Company, for use of corrected proofs of the 1937 issue of *Rayon and Silk Trades*; and to the various silk manufacturers who permitted their records to be used and to silk workers who gave their time to answering the questions of the interviewers.

The way in which the materials were used and the conclusions drawn are, of course, entirely the responsibility of the National Research Project.

DAVID WEINTRAUB

PHILADELPHIA

May 16, 1939

CHAPTER I

INTRODUCTION

The contraction of employment opportunities and the increasing intermittency and casualness of employment have been long-time trends in a number of industries and localities. Developments of this character frequently have arisen from the conditions of interarea competition within an industry and from consequent overcapacity in particular localities. Segments of industries seeking greater economic advantages have migrated to new locations in search of increased economies of operation. Whatever industry is left in the old location is then often faced with increasing competition from other areas of production for the existing demand.

Numerous examples from various parts of the textile industry could be subsumed under the pattern indicated. The history of the broad-silk industry in Paterson, New Jersey, has exhibited this pattern. For many years it has been losing its position in the industry as mills have originated in other areas and as its own larger manufacturers have migrated to those areas. Since 1927 its decline has been rapid. In a shrinking industry comprised predominantly of small, unstable shops, conditions became progressively worse. Changes in technology, which accompanied the decline of the local industry, brought about a further contraction in employment opportunities. Greater instability in the industry's structure in the form of concerns constantly going into and out of business and increasing fluctuations in production accentuated the casual and intermittent¹ character of employment.

Notes.- The author wishes to acknowledge his indebtedness to the following persons: Frank L. Sweetser, Jr. who aided in securing the cooperation of Paterson manufacturers for the study and supervised some of the tabulations; Dr. G. Richard Gimes who supervised the collection of the occupational-history sample; Jack E. Weissman and Martha Fineman who gave valuable assistance in the collection of field data; David N. Cohen who supervised most of the tabulations and revisions of the data, prepared the tables, and aided the study in other ways; and to other persons who were employed on the study for technical and interview work.

¹"Casual" employment, as used in this study, designates employment which is contracted for by the hour, day, or job, such as the work of twistlers, loom fixers, and enterers who go into a shop to prepare the warps for the looms and to adjust the looms. The work of a quillier or winder who is hired to wind a few pounds of yarn would also be considered casual. "Intermittent" employment, on the other hand, applies to the service of persons who constitute "spare hands" or "contingent workers" and who are hired to fill orders in the busy periods. Workers on this basis are hired, not for a specific piece of work that can be done in a few hours or a day but "for as long as the work lasts."

The purpose of this study is to analyze, against the background of the industry's history, the employment experience of the Paterson broad-silk workers during the period 1926-36. Some of the principal questions set by this problem were the following: What was the background of the workers in the industry? As the labor market contracted, what kinds of adjustment did these workers make? How was employment distributed by the industry and what were the resulting patterns of employment? To what extent did earnings change during the period?

SOURCES AND METHODS

To find out what changes occurred in the structure of the industry and what business methods were practiced during the period under survey, tabulations were made of data given in annual issues of *Davison's Rayon and Silk Trades*.² Yearly figures on the number of shops and looms in the industry, the number of openings and closings, and the number of concerns migrating were obtained from this source.

A schedule was used to obtain information on the occupational and business backgrounds of operators of petty shops and the characteristics of these enterprises. The data were collected in interviews with the operators of 100 shops having 20 looms or less, which are run in large part by family labor. The shops surveyed constituted approximately 50 percent of the shops of this size in the industry in 1936 and 25 percent of all establishments. Two hundred and twenty-three operators are represented in the sample; 100 persons were interviewed who were at the time operating their shops, and from these persons certain information was obtained on 123 additional operators who had been associated with them when they first went into broad-silk manufacturing.

The questions on the schedule called for such data as the occupational background of the proprietor before he entered business, the number of times he had entered and had gone out of business, why he had gone out of business, the amount of capital invested in each venture, and the source of his

²Davison Publishing Co., New York City. Tabulations for 1936 were secured from data in the corrected proofs of the 1937 issue.

capital. Although this information came from the operators of the smallest shops in the industry, the findings characterize the majority of operators and establishments in the Paterson industry. A special sample of 49 of the 150 shops that closed in 1936 was investigated by interview to ascertain the reasons for closing. This sample included establishments of all sizes.

Pay rolls covering the period 1926-36 were obtained from 22 of the approximately 400 shops that made up the industry at the end of 1936. The periods covered by the pay rolls of individual shops vary in length. These pay rolls were used in analyzing the employment experience of the workers.

To complement pay-roll data, which give employment experience with only one employer, a random sample was obtained of the work histories and personal characteristics of 616 persons who were either employed in broad silk in 1935 or whose usual industry was broad silk. The schedule³ covered the years 1926-36 and called for an enumeration of all periods (lasting 1 month or more) of employment, unemployment, and time not in the labor market. Certain information was collected on each period of a given status. On employment, for example, related questions were asked concerning the industry, occupation, employer, character of the employment, and the reason for its termination. If the respondent was gainfully employed before 1926, certain outline information on his work history was obtained, especially that pertaining to first job and longest job.

On the basis of pay-roll tabulations and of knowledge acquired of the labor market, it became obvious that the work histories could have only a limited use. Employment has been so highly irregular in the Paterson industry that most workers could not possibly recall with sufficient accuracy all their periods of employment and unemployment, the durations of these periods, and the other related data. As one worker replied in exasperation to the questions of an enumerator, "In the past 11 years I have worked in more than a hundred shops in Paterson." Similar statements telling of an extremely high mobility are also to be found in the schedules. This type of experience,

³The schedule used (NRP Form #20) was the same as that developed for National Research Project studies of work histories in other labor markets.

common to a majority of the workers in this market, indicates the impossibility of obtaining a representative sample of complete work histories through the interview method. Moreover, a large proportion of the jobs in this labor market do not last a month, and their enumeration could not be obtained under the definitions on which the schedule was based.

The work-history portion of the schedule was therefore used only to characterize patterns of employment experience in 1935 and to determine the employment status of workers in November 1936 and the proportion of workers in the sample who had received no employment during the first 10 months of 1936. Schedule data pertaining to personal background and characteristics were used to learn the source of the labor supply and the occupational backgrounds of the workers.

In addition to the data discussed, the United States Bureau of the Census studies on population and manufactures and a number of other secondary sources, including reports of Government and private agencies, were drawn on for the study.⁴

PLAN OF THE STUDY

The body of the study is divided into four parts. Chapter II deals with the principal changes in the industry between 1900 and 1936 and particularly with the rapid decline after 1926. Production trends in Paterson are analyzed with respect to the parallel trends in the broad-silk industry nationally. This is followed by a discussion of the origin and spread of the commission system⁵ and its effects on the structure of the industry. Changes in industry structure and its concomitant instability are considered further in terms of the decrease in shops and looms, rates of shop openings and closings, shop migrations, and the increasing predominance of petty establishments. The occupational background and business experience of small shop operators are then taken up with reference to their economic status and to the more recent aspects of the industry. The effects of technological changes in the broad-silk industry on labor requirements are briefly

⁴Unless otherwise indicated, the data and discussion refer to the broad-silk industry in Paterson, New Jersey.

⁵A system under which the manufacturer contracts for work to be done on a piece-rate basis for a middleman or "converter."

summarized. Employment trends in the local silk-manufacturing industry are then shown with relation to employment trends in all local industry.

Chapter III considers the background of the workers - where they came from, their age and sex composition, their background in the broad-silk industry, and their geographical mobility with respect to Paterson. The discussion then turns, in chapter IV, to the short-run factors affecting the demand for labor and to a demonstration of the manner in which the labor supply is utilized. Various measures are used to show how work is distributed to the labor force and the patterns of employment that result. Particular attention is given to two general types of employment patterns: that of the minority who belong to the regular labor force of plants and that of the majority who are casual and intermittent workers and are highly mobile in the market. Comparisons are made of the employment experience of different occupational groups and of workers employed on different shifts. Changes in earnings during the period are traced, and the earnings received by workers while on any pay roll in each year of the period are analyzed in relation to the amounts of employment obtained. Finally, the size of the unabsorbed labor reserve in 1936 is measured.

In the final chapter the study is summarized, and an appraisal is made of the application of recent social legislation to the needs arising from conditions in this labor market.

CHAPTER II

PRINCIPAL TRENDS IN THE INDUSTRY, 1900-1936

DEFINITION OF THE LOCAL INDUSTRY

Historically, silk weaving has been separated into two major divisions: broad fabrics and narrow fabrics. These distinctions originate in the types of looms used. Woven labels, ribbons, hat bands, braids, and other narrow goods are made on narrow looms. Dress, underwear, tie silks, and other fabrics are made on broad looms. Today, fabrics less than 24 inches in width are classified as narrow fabrics.¹

The terms "broad" and "narrow" with reference to looms are generic. There are several different types within each group. Looms in the broad-silk division may be classified in various ways - according to width, number of boxes, automaticity, and other possibilities of performance. We are here concerned only with the classification of broad looms with respect to whether or not they have Jacquard attachments.² This difference in looms, and all it entails, divides the broad-silk field into two parts: Jacquards and plain goods.³

The industry of interest in this study is the plain-goods division,⁴ also known as the broad-silk industry. The latter designation, probably in more general use and more descriptive of the subject matter, will be used in this study.⁵

¹Cf. Melvin T. Copeland and W. Homer Turner, *Production and Distribution of Silk and Rayon Broad Goods* (New York: The National Federation of Textiles, Inc., 1935), p. xiv. The point of demarcation was 12 inches some years ago, and the *Census of Manufactures* sets it at 18 inches. Cf. *Broad-Silk Manufacture and the Tariff* (Washington, D. C.: U. S. Tariff Commission, 1926), p. 1.

²This attachment serves the purposes of weaving fabrics with designs having curved lines, such as letters and pictures. A box loom properly equipped can weave plaids, herringbones, and other such patterns but cannot weave curved lines.

³These two divisions differ from one another in a number of ways: Jacquard weaving requires more skill and entails certain auxiliary operations which plain-goods weaving does not; the Jacquard industry is much smaller and more highly localized.

⁴This section of silk textiles is sometimes referred to as "plain goods" because most of its product is woven in the grey (or greige), that is, with undyed yarns. A small portion of its products, however, consists of fancy or novelty goods woven with yarn that is dyed prior to weaving.

⁵The Jacquards division is usually referred to under its own name. The plain-goods division, although generally called "broad silk" by people in and around the industry, also goes by its proper name. For example, the principal local labor union in the industry is called the "Plain Goods Workers Local", and a recent survey of the industry by the Paterson Industrial Commission is titled *The Plain Goods Silk Industry*. (See Herbert S. Swan, *The Plain Goods Silk Industry* [Paterson, N. J.: The Industrial Commission of the City of Paterson, 1937].)

The labor market of the shops that weave plain and fancy silk and rayon⁶ broad goods is the only one considered here. The throwing branch of silk textiles, which prepares filling or weft thread, and the warping and winding branch, which makes warps, are not included. They are important adjuncts of the broad-silk industry, but they also perform these functions for other branches of silk textiles. Warping and winding are carried on in the larger weaving shops as well as in the division specializing in these processes, but throwing is generally confined to a separate branch.

Up to recent years the bulk of the local industry's output consisted of silk goods for the dress trade. However, as rayons superseded silks in this trade and as Paterson manufacturers continued to produce silk goods, the local industry shifted to the production of fabrics for the underwear trade, which requires silk. It was estimated in 1936 that 75 percent of the Paterson industry's output of silk fabrics, which constituted probably between 70 and 80 percent of its production, went into underwear manufacturing.⁷ The rest of the silk fabrics and also the rayon, mixed, and novelty goods went into the manufacture of dresses, linings, ties, scarves, and other articles.

POSITION OF PATERSON IN THE BROAD-SILK INDUSTRY

Paterson became the chief center of broad-silk and silk-goods production in the United States in the years immediately following the Civil War, when the silk-textile industry was still in its early stages of development. The city was at that time called the "Lyons of America." Later, it became known as "The Silk City", a title it still carries despite its great loss of position in the industry.

Broad-silk production in Paterson increased steadily from the time the industry became localized in the city up to 1927, except for a brief period beginning with the depression of 1921. This trend is shown from 1899 to 1931 in figures taken from the *U. S. Census of Manufactures*⁸ (see table A-7). During

⁶ Silk and rayon yarns are woven in mixtures as well as by themselves, and they are sometimes also woven with cotton and wool. Netal, cellophane, and other novelty threads are also woven in the shops, but only to a very small extent.

⁷ Swan, *op. cit.*, p. 24.

⁸ Historically, Paterson has manufactured all or a preponderance of the broad silk produced in New Jersey, the proportion declining in more recent years. According to a survey made in 1934, Paterson was credited with 18,500 of the 25,200 looms (Jacquards included) in the State. Copeland and Turner, *op. cit.*, p. 21.

most of its history, however, the local industry has been declining relative to the industry located outside the city. In 1899, 46 percent of all broad silk (including Jacquard) manufactured in the country came from New Jersey. With the exception of 1919, when a slight reversal of trend occurred, the proportion of total production contributed by New Jersey decreased in every census year down to 1931.⁹ Between 1919 and 1929 the aggregate yardage of broad silk manufactured by the industry increased by 93 percent, while between 1919 and 1927 production in New Jersey increased by only 17 percent. The peak year of production in New Jersey was reached in 1927,¹⁰ according to the census, when 126,643,000 square yards of broad silk were manufactured in the State. This was 24.7 percent of the industry's output. From the peak year to 1931, New Jersey production decreased by 29.7 percent, to 88,980,000 square yards or 15.7 percent of total production of the entire industry. Although the period of absolute decline in Paterson was well under way by 1931, this was a relatively good year. Subsequently, the downward trends proceeded more rapidly and were not appreciably retarded by the general recovery after 1932.

The growth of the industry at a faster rate in outside areas than in Paterson was aided by the migration of concerns from Paterson. This movement, which became especially pronounced after 1913, involved the larger plants in the local industry. Since, at the same time, concerns comparable in size to the migrating firms did not enter the industry in Paterson, the city's position became increasingly unfavorable.

Frequent strikes have been claimed as an important factor responsible for Paterson's decline. While the causes of the silk industry's decline in general and of the decline in Paterson in particular do not come within the purview of this study, it is well to keep in mind the fact that Paterson's major labor disputes took place either at a time when the textile industries in a number of areas were experiencing labor difficulties or when the security of jobs in Paterson was being threatened by the industry's general decline and by the industry's migration from Paterson.

⁹Production figures for States are not available in the censuses of 1933 and 1935.

¹⁰The peak in shops and looms was reached in 1926, and 1927 is, therefore, considered here as the beginning of the period of absolute decline.

A labor movement has existed in Paterson since the last century. Although this movement was characterized until recent years by dual unions, memberships that fluctuated greatly, and an absence of written agreements and machinery for collective bargaining, the pro-union temper of the workers has made possible frequent and protracted strikes under union leadership. In contrast to this relatively turbulent history, there was either no unionism or very little active unionism in the other areas until recent years.

One of the principal issues in shop and industry strikes in Paterson after 1910 - and the immediate cause of the Great Strike of 1913 - was the question of loom assignments. While the increase of loom assignments was constantly opposed in Paterson, less opposition existed elsewhere. Assignments were raised more rapidly in other areas than in Paterson.¹¹ Automatic looms were not introduced into the local industry until 1935, whereas they were being installed in the industry elsewhere during the entire post-war period.

In its competition with other areas Paterson has occupied the position of a marginal area of production. This position is reflected by the percentage change in broad-silk production in each census year over the preceding census year for New Jersey and for the United States from 1904 to 1931. These figures show (see table A-7) that, with the exception of 1919, in the years when the country's production increased, that of New Jersey increased by a relatively smaller proportion or actually decreased (see figure 1). Conversely, when the country's production decreased, that of New Jersey decreased in relatively larger proportion.¹²

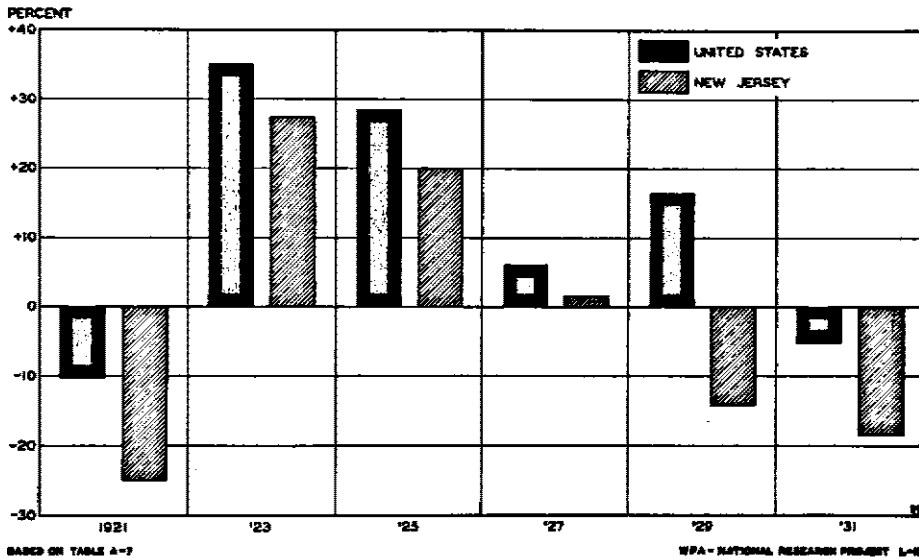
The more favorable position of the industry outside of Paterson in securing orders is further demonstrated by the fact that concerns having plants in Paterson and elsewhere have

¹¹Early in the 1920's Paterson manufacturers maintained, "It is impossible on the two-loom system to produce the plain, so-called 'bread and butter' fabrics in competition with the multiple loom system in Pennsylvania." *Regional Survey of New York and Its Environs*, Vol. IB, "Food, Clothing and Textile Industries, Wholesale Markets and Retail Shopping and Financial Districts" (New York: Committee on Regional Plan of New York and Its Environs, 1928), "The Clothing and Textile Industries," p. 92.

¹²Paterson's unfavorable position with respect to Pennsylvania, which became the leading producer of silk goods before the war, was commented on in a report published by the Tariff Commission in 1926. It was observed that "the latter half of that year [1914] was one of depression, and in time of depression New Jersey production . . . ordinarily suffers greater curtailment than does that of Pennsylvania. The fact that 1921 was a year of depression also explains the abnormal increase in Pennsylvania's share of total production from 1918 to 1921." U. S. Tariff Commission, *op. cit.*, p. 45.

PATERSON BROAD-SILK WORKERS

Figure 1.- PERCENTAGE CHANGE OVER PRECEDING CENSUS YEAR
IN PRODUCTION OF TOTAL BROAD GOODS IN THE
UNITED STATES AND NEW JERSEY, 1921-31



favored their outside plants in allocating production.¹³ Most frequently, the establishment of outside mills by these firms has occurred after a period of operating a mill in Paterson. During the period 1926-36, most of the companies having plants both in Paterson and elsewhere closed their Paterson plants. Twenty-four concerns located in the city in 1926 had 38 plants outside the city. In 1936, however, only four concerns in the city had seven plants elsewhere.¹⁴

Early in the post-war period broad silk and silk textiles generally became a "sick" industry, characterized by overproduction and excess capacity.¹⁵ Instability in the industry,

¹³Settlement of a recent dispute between the unions in Paterson and a firm with a plant in Pennsylvania turned in part on the question of how much production the employer would agree to allocate to his Paterson shop.

¹⁴Tabulated from annual issues of *Davison's Rayon and Silk Trades* (New York: Davison Publishing Co.).

¹⁵Since the war there has been much discussion of the need for stabilizing the industry. In Paterson, groups of manufacturers proposed at different times to shut down their plants to wipe out surplus stocks. (See "Silk Mills to Close to Force Price Rise," *New York Times*, July 29, 1926, p. 21 and "Paterson Silk Mills Adopt Four-Day Week," *New York Times*, November 1, 1929, p. 44.) In 1932 Mr. Jacob Widder of the Silk Association of America proposed to President Hoover a plan for stabilizing the industry. This plan called for price stabilization to be brought about, in part, by limiting production. Mr. Widder also suggested a dictator for the industry. ("President Hoover, Secretary Lamont, Consider Silk Industry's Problems," *Textile World*, Vol. LXXI, No. 14 [Apr. 2, 1932], p. 40.)

All machinery working under the Silk Textile Code was ordered stopped between May 14 and 21, 1934 (during the National Recovery Administration period) to relieve the market of surplus stocks. ("Machine Holiday," *Business Week*, May 12, 1934, p. 26.) Complaints of overproduction in the broad-silk industry were current in 1937. (Cf. *Silk and Rayon Digest*, Vol. LXXII, No. 10 [Mar. 8, 1937], p. 9.)

which became greater with the depression, gave added encouragement to manufacturers to find localities which offered the most favorable conditions for operation. Where cities were attempting to attract outside concerns, these conditions frequently included various forms of subsidy. Concerns continued to leave Paterson, and the industry that remained was faced with increasing interarea competition.

A further significant aspect of Paterson's unfavorable position may be shown by comparing trends in the types of production in the local industry and in outside areas. The proportion of all-silk goods in national production began to decline after 1921, giving place to fabrics woven with silk in mixtures with other yarns (see table A-7). From around 1926 on, the production of rayons increased rapidly. Of the broad-silk industry's total production in 1929, 11.1 percent consisted of all-rayon fabrics,¹⁶ but by 1933 the proportion had risen to approximately 50 percent. During the same years the proportion of all-silk goods fell from 71 to 36 percent, and yardage decreased more than 50 percent. While this shift was occurring in the broad-silk industry, a rayon-weaving industry was developing as an offshoot of the cotton-textiles industry. Although the yardage of all-silk goods increased slightly between 1933 and 1935, in the latter year they constituted only 23.6 percent of total production, while all-rayon fabrics were 72.0 percent.¹⁷ Silk and rayon mixtures, of course, made up the remainder of the industry's production.

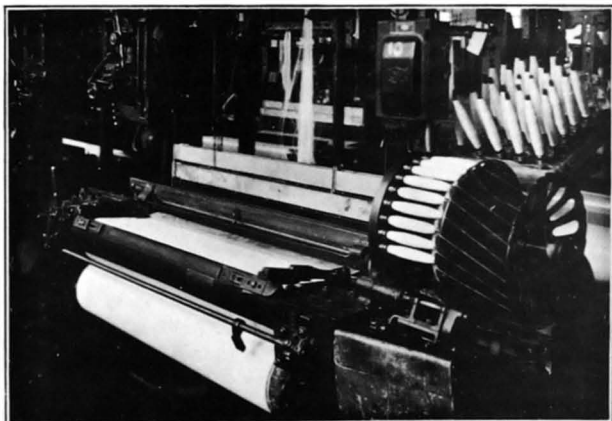
In contrast to these changes in national production, Paterson has continued to manufacture principally for the silk-goods market. From 1919 to 1931, with the exception of 1927 and 1929, the proportion of all-silk goods in New Jersey's production was more than 80 percent. There probably has been some increase in rayon production in Paterson since 1931, but at the end of 1936, 74 percent of the looms were weaving all-silk,

¹⁶ Production figures on all-rayon fabrics were not given separately in the *U. S. Census of Manufactures* until 1929.

¹⁷ Production data on silk and rayon manufacturing were compiled separately in the 1935 census. Data on rayon production in the broad-silk industry were combined with those for the rayon-weaving industry. Total broad-silk and rayon production in 1935 was 1,012,997,346 square yards (exclusive of tapestries and pile silks). This figure, on which the percentages of all-silk and all-rayon goods are based, is not comparable with total production figures for the broad-silk industry in previous years.

14.5 percent rayon, and 11.5 percent mixed goods.¹⁸ As a result of continuing to produce mainly silk fabrics, despite the decreased demand for these fabrics and the large shift to rayon manufacture, Paterson has been brought into increasingly severe competition with other areas in a declining market.

The failure of Paterson in recent years to follow the national trend and shift the larger part of its production to rayons was at least partly due to a lack of capital in the hands of the concerns still in Paterson to make the necessary changes in machinery. With minor adjustments, looms and other machines can be used interchangeably on silk and rayon. For greater efficiency, however, higher-speed, automatic machines are required to weave rayon, or considerable renovation must be made in the older types of equipment. Rayon is heavier than silk, has more uniformity, and is more adaptable than silk to automatic processes. Besides being adaptable to automatic looms, rayon can be warped on high-speed warping machines.



WPA - National Research Project (H&M)

FIGURE 2.- TYPE OF AUTOMATIC LOOM USED CHIEFLY TO WEAVE RAYON

The magazine (at right) is filled with full quills, one of which drops automatically into the shuttle when the yarn on the quill in use becomes exhausted and it is ejected.

¹⁸Swan, *op. cit.*, p. 14. Only 200 looms in New Jersey were reported under the Code for the Rayon Weaving Industry in 1934, and none of these were in Paterson (Copeland and Turner, *op. cit.*, p. 21).

This equipment is expensive. To place the older types of looms on a competitive basis with the automatic loom requires the installation of large shuttle boxes and other incidental changes at a cost of \$50 or more per loom. The impoverished condition of most of the local concerns in recent years has placed such investments far beyond their reach. Although the equipment in the local industry is efficient for the weaving of silk, changes in the demand for fabrics have narrowed the market and, in a sense, have made most of the existing equipment obsolete.

Despite all adverse conditions, a shrinking broad-silk industry continues to exist in Paterson. This is due to a number of reasons. Most important is the fact that Paterson offers a reserve of skilled labor and equipment. An idle shop, for example, can start up on short notice and, if necessary, operate 24 hours a day. This condition satisfies the requirements of rush-order business. Moreover, Paterson workers have the reputation of being the most skilled, and, largely as a result of this fact, the local industry secures much of the specialty work.¹⁹ There is, in addition, the advantage of being adjacent to the dyeing and finishing industry and to New York City, which makes possible more direct contacts and is a factor in reducing the time required for delivery of raw and finished goods.

In the event that rayon should become widely used in the underwear field and Paterson manufacturers should be financially unable to make the necessary changes in their equipment for the efficient weaving of rayon, the industry would probably be left with only specialty work.

The industry in Paterson expanded until 1927 despite the effects of the adverse conditions that have been described. Entering the period of absolute decline in that year, the industry's structure began to contract rapidly, and with it

¹⁹Historically, wage rates in Paterson have been higher than in other areas. An agreement made by the employers and the unions in 1933 called for the maintenance of a 6-percent differential in wage rates over competing areas. Differentials in average hourly earnings favorable to Paterson are shown in surveys made by the U. S. Department of Labor, Bureau of Labor Statistics in 1914, 1931, and 1934. See the following reports: *Wages and Hours of Labor in the Cotton, Woolen, and Silk Industries, 1907 to 1914* (Bull. No. 190, May 1916); *Wages and Hours of Labor in the Manufacture of Silk and Rayon Goods: 1931* (Bull. No. 566, Nov. 1932); and A. F. Hinrichs, "Wages and Earnings in the Silk and Rayon Industry, 1933 and 1934," *Monthly Labor Review*, Vol. 40, No. 6 (June 1935).

the opportunities for employment. Even before the onset of this decline the industry was unstable, and as the decline progressed this instability increased.

Structural change and instability in the industry, both before and after 1926, are the subject of the next six subsections of this chapter. The first three of these discuss commission operation, which has been so closely interrelated with the principal changes and conditions in the industry since the war, especially in recent years.

STRUCTURAL CHANGES AND INSTABILITY IN THE INDUSTRY

The Nature of Commission Operation

Since 1930 commission operation has been the predominant method of operation in the industry in Paterson. The widespread establishment of this system in the local industry has had a very considerable influence on the structure of the industry and also on the volume, flow, and incidence of production.

Before the advent of commission operation the silk mills in Paterson operated as independents or, as frequently called, stock-carrying or direct-selling mills. They purchased raw yarn and yarn partly prepared for weaving, wove it, and had it finished. Many of them produced for stock or inventory. If they didn't do their own marketing, selling directly to the needle trades or wholesalers, they consigned goods to commission agents to do it for them. Small manufacturers frequently carried pieces of cloth to New York, 15 miles away, and marketed them directly. Although independent mills received the conventional types of business financing as contrasted with concerns operating on commission, it may be said that they assumed the usual business risks and had a large measure of autonomy over their own production.

The introduction of commission weaving brought a distinctly different form of operation. Under this system the manufacturer has little control over his production. He supplies no markets directly. He is dependent on a small group of converters both for materials and orders, and he is placed in the position of bidding, along with other operators, for work which the converter may place as he sees fit.

Converter functions embrace, in part, "the business of owning unfinished or greige goods for the purpose of having same processed for one's own account, having same bleached, dyed, or printed, and subsequently selling same to the jobbing, cutting, or retail trade."²⁰ In addition to buying, processing, and selling the product of independent manufacturers, the converter may supply materials and specifications to plant operators and have fabrics woven on their own account on a contract or commission basis. A contracted rate is paid per yard of output.

Under this arrangement the converter purchases raw silk or other yarn and has part of it thrown, that is, twisted and tinted,²¹ on commission. He may, on the other hand, buy yarn thus prepared from the throwster. This is delivered to the commission weaver who winds it on quills for insertion in shuttles. If this operator has warping and winding machines, yarn is turned over to him by the converter to be made up into warps. Most of the petty shops in Paterson do not have these machines. In the absence of this equipment warps are supplied by converters who operate their own shops, buy them from warping and winding concerns, or have them made on commission.²² The latter is the common method. When weaving is in progress, pieces of cloth, usually 70 or 80 yards in length, are cut off the roll on the loom every few days and are turned over to the converter. If the fabrics meet specifications and payment is received, the weaver has no further interest in them. The converter may sell the cloth as it comes from the weaving shop, or have it dyed and finished, on commission, and then sell it.

²⁰Code of Fair Competition for the Silk Textile Industry, "Codes of Fair Competition, Nos. 1-57 (National Recovery Administration, 1933), Vol. I, "June 16 to October 11, 1933," pp. 591-2.

Before the war most broad goods were yarn-dyed. With this method dyeing precedes weaving. Patterns and colors are determined, and the skeins are dyed and then woven. The coming of piece dyeing changed this order; fabrics were woven in the gray (with raw silk) and dyed, printed, and finished afterward. The converter assumed the function of taking the woven goods through these processes, providing a market for manufacturers who wanted to dispose of their goods as soon as they were woven. Dyeing and finishing under these circumstances became closely related to marketing. By 1920 two-thirds of all broad goods were woven in the gray, and since that time the proportion has increased.

²¹Raw silk comes from the filatures only slightly twisted. In the throwing process, usually carried on outside of weaving mills, the twist or filling threads are given so many turns to the inch and the number of deniers or strands is increased, according to the type of yarn desired. Tinting is required in order that the direction of the twist may be readily identified when feeding the loom with quills of filling yarn. Most fabric constructions require twists in some alternating sequence. Taffeta, in which the fill-twist is in one direction, is an exception.

²²The lack of capital to purchase machinery required for making warps has thus resulted, to the extent implied, in a further disintegration of processes.

Commission operation is a method by which enterprisers with little or no working capital but with ownership of, or some equity in, fixed capital (machinery and, in a few cases, buildings) may operate. All working capital in the form of materials, except a negligible amount of mill supplies, is provided by the converter. The operator provides the plant and labor. He receives biweekly payments from the converter on the basis of yardage delivered. Out of these payments he has to meet the operating costs of labor, rent, power, and upkeep. He may also have to make payments on the purchase price of equipment and on debts resulting from previous failure to settle operating expenses.

The relationship of the operator to the converter is peculiar in the sense that the operator works for the converter and yet, within the sphere of his own plant, works for himself. The converter takes no responsibility for the prosecution of work and the standards of work in the shop. In fact, converters seldom, if ever, enter the places where their work is being carried on. The operator goes to the converter, or else they meet on the streets around the City Hall - humorously referred to as "The Curb" - to higggle over weaving rates.

A large portion of the operators evidently take the work of one converter exclusively over a period of a year or longer. According to information obtained on 74 commission shops, in the sample of 100 concerns having 20 looms or less (see page 33), 41 operators worked for only 1 converter in 1936, 21 worked for 2, and the remaining 12 worked for more than 3 to as many as 6 converters. The longest time spent with any converter by most shops was 3 years.

Unless the converter has sufficient capital to finance himself, he purchases raw silk and other yarn and woven goods on time by means of trade acceptances or other trade paper drawn against him. In selling goods to jobbers and to the cutting-up or needle trades in New York, he receives negotiable paper that ordinarily has a 60- or 70-day maturity date. In order to continue with their commitments the converters in Paterson, who are small as compared with those in New York, must be able to discount the paper received from sales; and they must have assurance against losses on sales. Guaranty against loss is obtained by insuring accounts. With a high

frequency of failure in the garment industry in recent years it has become increasingly necessary to insure accounts.²³

As a result of losses sustained on defaulted accounts and because of the necessity of obtaining trade paper that can be promptly discounted, some converters have had to resort to the factor.²⁴ The factor makes advances on sales and investigates and insures accounts. Because of the relatively high cost of these services, converters and manufacturers try to avoid being factored. The statement is heard in the trade that "factoring is a last resort."²⁵

Only a very few of the independent mills in Paterson are factored.²⁶ In other respects, however, they finance themselves in the same way the converter does, by discounting trade paper and having such paper drawn against them.

The converter thus represents a commercial-financial group to which commission operators must look for work. In addition, he provides an outlet for the goods of the independent manufacturers. In these positions, especially in the former, the converter is able to exercise a large measure of control over prices and production. He constitutes a bottleneck through which orders are placed and goods flow to the market. The locus of control is New York City, where perhaps 80 percent of the country's silk- and rayon-woven goods are marketed and where the converting concerns that place most of the work in Paterson are located. With the shift to commission operation in recent years, the local industry has become an industrial appendage of the commercial and financial groups that supply capital and provide markets.

Effects of Converter Control

The existence of overcapacity and surplus labor in the industry, even in the busiest months, creates a converters' market in the contracting of work. Consequently, there is

²³This is more imperative in the dress-goods field than in underwear. A change in fashion may greatly reduce the value of a stock of dresses within a short period. Underwear, however, is more of a staple.

²⁴One converter in Paterson claims to have lost 50 percent of his working capital in the last 2 years, principally as a result of defaulted accounts. To protect his remaining capital he now (1938) factored.

²⁵In order to obtain the services of a factor the client must contract to have the factor handle most of his business.

²⁶The large New York factoring houses do not want clients who do not do a minimum of around \$200,000 to \$250,000 of business annually.

sharp competition among commission operators to secure orders, and the converters occupy a strategic position.

About 25 converting concerns were giving out work in Paterson in 1936, according to informed sources. Of these, 11 were located in New York City and 14 in Paterson. The largest firm in the Paterson group, which had its main office in New York, at times had work in process in as many as 40 shops with an aggregate of over 1,000 looms. Nine converting companies in Paterson also had weaving shops, and 8 of the 14 local concerns supplied their commission weavers with warps from their own warping and winding plants. The bulk of the contracting-out business in Paterson was in the hands of the New York converters, the Paterson converters representing much smaller concerns.²⁷

These few converters, through the method of finding the lowest bidder, decide how work shall be allocated and, within the limits of availability, in what quantities. The converters are not limited to Paterson in contracting work; they can place orders wherever there are manufacturers who do commission work. Whether a piece of work is or is not placed in Paterson affects the production level of the local industry and, therefore, the volume of employment. Larger orders, unless it is feasible to break them up, cannot be placed with small shops. Many of these shops do not, moreover, have the equipment to handle fancy constructions, although such fabrics comprise a relatively small portion of total output.

Most of the fabrics woven in Paterson are of standard construction, and in any particular period they are identified with specific "prevailing" rates. Operators, however, have not been in a position to maintain or raise any level of rates. With equipment bare of material or with work running out and no orders contracted; with the necessity of meeting the fixed costs of a plant, with small reserves or no reserves at all; and with the need for earning a living - many commission weavers are willing to do work for less.²⁸ The reasoning has been expressed, "If I don't take the job at this price someone else will and I need it." As one converter has

²⁷These data on converting concerns were collected by a member of the NRP Field Survey staff who had been a silk worker in Paterson for a number of years.

²⁸Owing to the ultimate lack of control over working conditions, the unions have come to realize that commission-shop operators frequently are not able to carry out agreements made with them.

testified on the predicament of commission operators, "Some of the commission weavers come in and actually beg for work. They ask for it at any price." Particularly does this describe the situation in the last part of 1936. The seriousness of conditions in that year is reflected in the formation by commission weavers of the Silk Commission Manufacturers' Association. Its purpose was to raise and stabilize rates. A stoppage against the converters in August was partly successful.²⁹ Subsequent stoppages have been held against certain converters on certain fabric constructions. Vigilance has been required to see that members did not operate during such periods, and certain restraints, such as the smashing of warps,³⁰ have been threatened. However, the association has not been successful in maintaining its gains.

Control over giving out work or withholding it affects the incidence of production and employment. Indeed, such power can determine whether an operator shall or shall not remain in business. As seen by Mr. Herbert S. Swan, Consultant of the Paterson Industrial Commission, the converter "constitutes a sort of Frankenstein to the silk industry; . . . the converter may, if he chooses, say which mill is or is not to remain in business."³¹ Disagreements between a weaver and a converter sometimes arise over quality and yardage. Unless these are settled amicably, the weaver may have to find another converter. If he is not able to do so, he is squeezed out of business. While an order is being manufactured, the price of the fabric may drop. When this occurs the converter ordinarily asks for a reduction in rates. The contract is usually verbal and very flexible. If the operator refuses, the converter is likely to withhold further delivery of filling and the shop soon becomes idle. The converter may also exert control over the operator by holding the operator's insurance policy, mortgage, or the bill of sale on his machinery. Aside from any discrimination on the part of the converter, an uneven distribution of available orders in slack times, resulting in some shops being without work or with too little work, can drive concerns out of business.

²⁹See "Fifty Shops Settle in Silk-Loom Strike," *New York Times*, August 4, 1936, p. 10.

³⁰Cutting or otherwise severing the warp threads in the loom, making it impossible to resume weaving until the thread ends have been rejoined.

³¹Swan, *op. cit.*, p. 35.

As commission weavers are not in a position to produce for stock or order, they have no control over their production schedules. These are determined for them by the converters. The manner in which contracts are secured from this source evidently has in itself considerable influence on the movement of production. Commission operators must take work when they can get it. The low rate of return and the necessity of pushing work so as to be in position to compete for new work encourage long hours and extra shifts where the latter are not prohibitive in terms of increased overhead. If new contracts are not immediately forthcoming from the converters, commission shops cannot operate. Converters place or do not place work according to stock on hand and the prospects of the market. Likewise, they do not purchase cloth from the independents unless conditions are sufficiently promising. The inability of the converters, from a business standpoint, to maintain a continuity of work helps to set a spasmodic pattern of production for the shops. And the condition of overcapacity accentuates this pattern. Independent operators are more or less dependent on the same highly sensitive market, but having outlets other than the converter, they are in a position to regularize their production to some extent.

Origin and Extension of Commission Operation

The introduction of commission weaving into Paterson began during the World War, coincidentally³² with the unprecedented multiplication of petty shops in the industry. The larger mills that were unable to accommodate all their orders, turned part of their work over to small weaving concerns that were willing to weave on commission. Jobbers and other persons with experience in the trade also took the opportunity to place work on commission. Once this practice was established, anyone who could secure equipment and get it installed was able to bid for orders. In 1915 only 5 local establishments (2 percent of the total in Paterson) were operating on commission; but in 1920, 146 shops (29.6 percent of the total) were working under this arrangement.³³ According to one report, of the 252 plants

³²On the origin of commission weaving, see A. K. Baker, "The Growth of Commission Weaving," *American Silk Journal*, Vol. XL, No. 7 (July 1921), pp. 73-4; also, William M. Fox, "Commission Weaving," *Better Texts*, April 1920, pp. 26-9.

³³Data derived from *Davison's Rayon and Silk Trades*.

operating on commission in 1919, none had more than 32 looms and 55.2 percent had fewer than 20.³⁴

Only 16.7 percent of the industry's total loomage was reported working on commission in 1926, and this loomage accounted for 30.4 percent of all establishments. The larger concerns, with 77.5 percent of total loomage and 59.0 percent of all shops, were operating as independents. A small group of commission-independent concerns and those not specifying their type of operation accounted for 5.8 percent of total loomage and 10.6 percent of shops (see figure 3 and table 1).

Table 1.- NUMBER OF SHOPS AND LOOMS, BY TYPE OF OPERATION, 1926 AND 1936^a

| Type of operation | Shops | | | | Looms (thousands) | | | |
|---|--------|----------|--------|----------|-------------------|----------|--------|----------|
| | 1926 | | 1936 | | 1926 | | 1936 | |
| | Number | Per-cent | Number | Per-cent | Number | Per-cent | Number | Per-cent |
| Total | 687 | 100.0 | 390 | 100.0 | 22.2 | 100.0 | 11.1 | 100.0 |
| Commission Independent | 209 | 30.4 | 224 | 57.4 | 3.7 | 16.7 | 5.0 | 45.1 |
| Commission and independent plus not specified | 405 | 59.0 | 99 | 25.4 | 17.2 | 77.5 | 4.3 | 38.7 |
| | 73 | 10.6 | 67 | 17.2 | 1.3 | 5.8 | 1.8 | 16.2 |

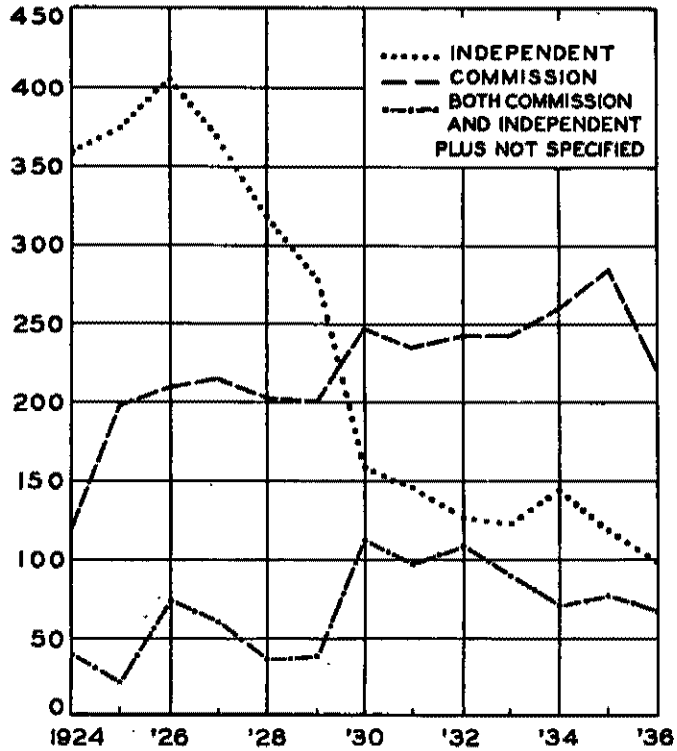
^aData from table A-2.

By 1936 most of the industry was working on commission. Commission shops represented 45.1 percent of total loomage and 57.4 percent of total establishments; independents accounted for 38.7 percent of loomage and 25.4 percent of establishments; and the mixed and unspecified groups included 16.2 percent of the looms and 17.2 percent of the shops. Actually, the relative extension of commission weaving was much greater than is here indicated. In the same year the Paterson Industrial Commission found that 69.6 percent of all shops were working on

³⁴Contract Work in the Paterson, N. J., Silk Industry, "Monthly Labor Review, Vol. 29, No. 2 (Aug. 1929), p. 8.

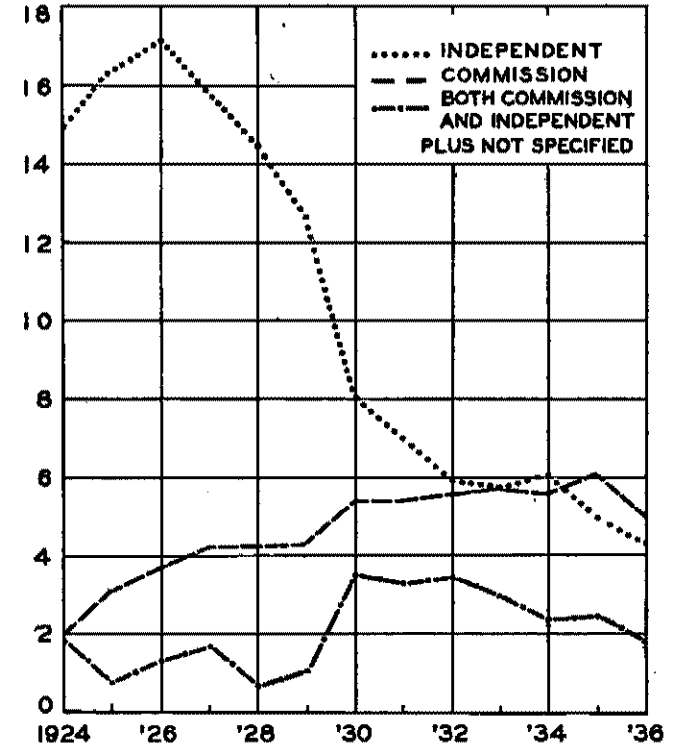
Figure 3.- NUMBER OF SHOPS AND LOOMS, BY TYPE OF OPERATION, 1924-36

NUMBER OF SHOPS



BASED ON TABLE A-2

THOUSANDS OF LOOMS



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commission, 26.7 percent on account or as independents, and the method used by 3.7 percent was unknown.³⁵

In the entire country, 14,967 looms, or 16.2 percent of the 92,355 looms reporting to the Silk Textile Code in 1934, were operating on commission. Of the 47,728 rayon looms under the Rayon Code, however, only 501 looms, or 1 percent, worked under this arrangement.³⁶ Despite this relatively small proportion of looms taking work from converters, it is estimated that in 1934 "about 40 per cent of the total broad goods production . . . [was] from this type of operation."³⁷ The proportion of all broad-silk and rayon production handled by converters in 1938 is estimated, by informed persons in the trade in New York, to be 70 percent or more. The rest is marketed by the manufacturers themselves, many of whom are factored.

The extension of the commission system in Paterson and elsewhere was due to certain of the adverse conditions affecting the industry at large. Repercussions on the small local shops were especially severe. Even before the depression independent concerns were attempting to maintain their status. In the face of competition and price instability the financial position of those remaining in business in Paterson weakened. From 1930 on, many of these shifted to commission work. It is significant that 20.7 percent of the looms and 21.5 percent of the shops were in that year classified in the mixed and unspecified group, whereas in the year previous these figures had been 6.0 and 7.3 percent respectively. It appears evident that most of this group was in doubt as to its business status in 1930. Subsequently the proportion of commission concerns increased rapidly (see table A-2 and figure 3).

The pronounced shift since 1930 was due to numerous liquidations of both the working and the fixed capital of independents,

³⁵Swan, *op. cit.*, p. 15. As it appears likely that from about 1930 on most of the concerns in the mixed and unspecified group in the Davison enumerations were operating on commission, the proportions of shops and looms represented in this group in 1936 may be added to those represented by the commission operators. The total is 73.3 percent. This figure indicates the extent to which the industry was actually working on commission in that year and approximates the figure given in the commission's survey. In 1936, 74 of the 100 shops in the sample referred to on p. 35 were working on commission, and 9 were working both on commission and as independents (see table A-6).

³⁶Copeland and Turner, *op. cit.*, pp. 10-1. Loomage of operators reporting under both codes was counted under the Silk Code.

³⁷*Ibid.*, p. 18. The estimate also includes Jacquard broad silks and rayons. The wide difference between the proportion of looms operating on commission and the proportion of broad goods produced on commission must be accounted for mainly by the fact that some of the concerns that ordinarily operate as independents also worked on commission.

largely as a result of the unusually sharp fluctuations in raw-silk prices. The price of raw silk had been undergoing a secular decline accompanied by constant fluctuations since around 1920. From 1929 through 1931 the frequency of these downward fluctuations increased. Small operators had no way of protecting themselves against rapid price changes. The value of silk on the looms would drop before it could be woven and marketed - in a market where price cutting was prevalent.³⁸ This protracted condition occasioned a large number of losses and liquidations, particularly among the independents. A few were able to absorb or avoid losses and to continue as independents. The comparatively heavy losses sustained by others made continuation as independents impossible. Their only alternative was to turn to commission work, as did one small operator with 40 looms, who tells of losing ". . . a few thousand dollars in just a short time - all I had. But I settled my debts and started all over again on commission." Lacking working capital, most of the operators entering or reentering business in recent years have necessarily had to work on commission.

In Paterson the commission system originated in a period of prosperity, but its largest growth occurred in a period of decline. Providing working capital to anyone who can secure a shop but without giving any guarantee of sufficient work, the commission system has been one of the factors largely responsible for shop openings and closings - one aspect of instability in the industry's structure.

Disappearance of Shops³⁹ and Structural Instability

In 1926 there were 687 shops operating in the broad-silk industry in Paterson with an aggregate loomage of 22,200.⁴⁰ By 1936 total loomage had decreased to 11,100⁴¹ and total

³⁸price cutting has been prevalent. . . . The fluctuation of raw silk prices was also a disturbing factor. Though their rise and fall was within a more reasonable range than during 1929-30, raw silk prices failed to reach a point of stabilization." *Statistics: Thirty-Second Mid-Year Report* (New York: The Silk Association of America, Inc., 1931), p. 4.

³⁹The concerns in the industry are usually referred to in the industry and in this study as "shops", although they are also called "mills" and "plants." The term "shops" is intended to denote a small unit and is most applicable to a majority of the concerns in the local industry.

⁴⁰data in this and subsequent sections on shops, looms, and types of operation have been compiled and tabulated from annual issues of *Davison's Rayon and Silk Trades*. This is one of the standard references in the industry.

Footnote 41 appears on following page.

shops to 390 (see table 2 and figure 4). In 1927, 21,700 or 19.3 percent of all the broad looms (exclusive of Jacquards) reported in the silk industry of the country were in Paterson; but by 1935 the proportion had fallen to 10.4 percent.⁴² The 50.0-percent decrease in installed looms between 1926 and 1936 can be taken as prima-facie evidence that employment opportunities were diminished by at least the same amount during the period. In 1936, moreover, people seeking work had almost 300 fewer shops at which they might apply. These shops were, on the average, smaller than those that had made up the industry previously and therefore offered correspondingly fewer opportunities.

The aggregate number of looms installed and shops in operation changed from year to year. It will be seen in figure 4

Table 2.- NUMBER OF SHOPS AND LOOMS, 1924-36^a

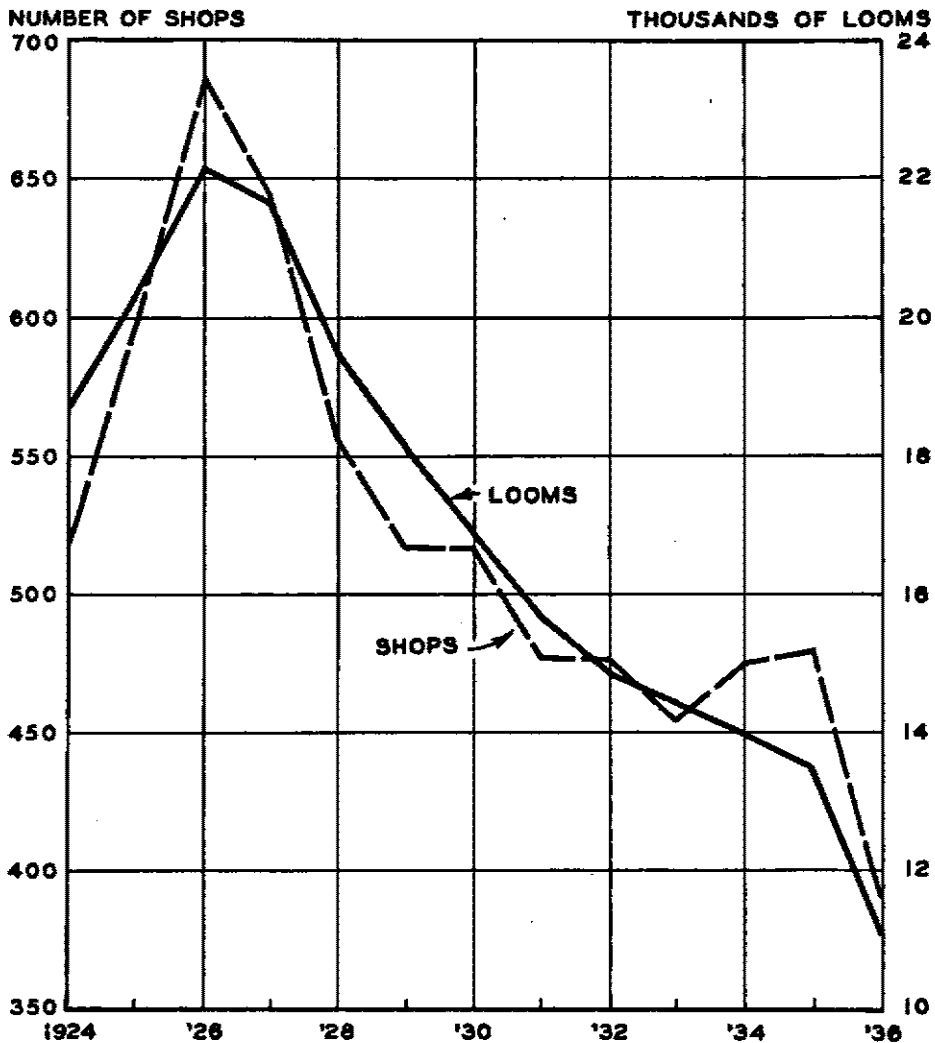
| Year | Number of - | |
|------|-------------|-------------------|
| | Shops | Looms (thousands) |
| 1924 | 518 | 18.7 |
| 1925 | 596 | 20.2 |
| 1926 | 687 | 22.2 |
| 1927 | 644 | 21.7 |
| 1928 | 557 | 19.5 |
| 1929 | 517 | 18.1 |
| 1930 | 516 | 18.9 |
| 1931 | 478 | 15.7 |
| 1932 | 477 | 14.9 |
| 1933 | 455 | 14.4 |
| 1934 | 475 | 14.0 |
| 1935 | 480 | 13.5 |
| 1936 | 390 | 11.1 |

^aData from table A-2.

⁴¹The loomage figure for 1936 corresponds closely to the enumeration made by the Paterson Industrial Commission which was taken at the end of 1936, more or less current with Davison's count. The commission found 10,926 looms in 405 shops enumerated. (Swan, *op. cit.*, p. 6.) This total of shops, which constituted approximately a 100.0-percent sample, indicates that the Davison count was low, or that fewer shops appeared to be in business when this count was made. This would be possible.

⁴²In the 1935 Census of Manufactures, data on silk and rayon manufactures were reported separately. Total silk and rayon loomage for the country was obtained by adding the number of broad, non-Jacquard looms reported under silk and rayon manufactures and the few silk and rayon looms reported in the cotton manufactures. Data for 1927 from *Biennial Census of Manufactures, 1927* (U. S. Dept. Com., Bur. Census, 1930), p. 344; data for 1935 from same for 1935 (1938), pp. 292, 361, 369. Data on Paterson silk looms from *Davison's Rayon and Silk Trades*.

Figure 4.- NUMBER OF SHOPS AND LOOMS, 1924-36



BASED ON TABLE A-2

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and table 2 that there was a decrease in loomage in each year of the period from 1926 to 1936. With the exception of 1934 and 1935, the National Recovery Administration period, the same was true of shops. The NRA was responsible for this temporary reversal of trend and for the arrest in the rate of decline of loomage. The downward trends were renewed and accelerated in 1936.⁴⁵ The largest decreases both in shops

⁴⁵The number of shops and looms in the industry have continued to decrease since 1936. According to informed persons in Paterson, the industry had only half as many shops in the spring of 1938 as in 1936. A recent report indicates, however, that there are around 280 concerns in the industry ("Strike in Paterson Shuts Silk Mills," *New York Times*, September 13, 1938, p. 6).

and looms occurred in 1928 and 1936 - before the depression and after recovery.

Although the impression is obtained from the annual figures that changes in structure were in one direction, that of progressive contraction, this was not alone the case. At least as far back as 1925 there was considerable variation in the number of shops and looms within each year which was due to the relatively large number of openings and closings. This turn-over of operatorships has been one of the outstanding characteristics of the industry. It has been said that as many as 15 or 20 such changes may occur in the local industry in a week.⁴⁴ Some appreciation of the volume of this movement can be obtained from the figures on openings and closings in each year⁴⁵ (see table 3 and figure 5). This volume is, however, understated for the reason that concerns which go into and out of business between censuses are not recorded. In rates of total turn-over, these movements were highest during the expansion years of 1925 and 1926, when 57.9 and 50.8 percent respectively of all concerns in operation changed their status in one of the two directions. From 1927 through 1933 more shops closed than opened in every year, although the volume moving in opposite directions was approximately equal in 1930 and 1932. In 1934 and 1935, part of the NRA period, the number of concerns opening exceeded somewhat the number closing. This indicates how sensitive the structure is to changes in business activity. Rates of total turn-over of shop operatorships were lower in 1933 and 1934 than in any other year between 1925 and 1936. The closing rate was higher in 1936 than in any other year of the period. Over the entire period, 1,187 concerns opened and 1,315 closed⁴⁶ (see figure 5).

Only 132 of the concerns in business in 1926, or 19.2 percent of all shops operating in that year, were still in business in 1936. It is safe to assume that a good many of these establishments were not in business continuously throughout this period. In terms of looms, most of these concerns improved their positions. The 132 shops had 4,252 looms in 1926 and

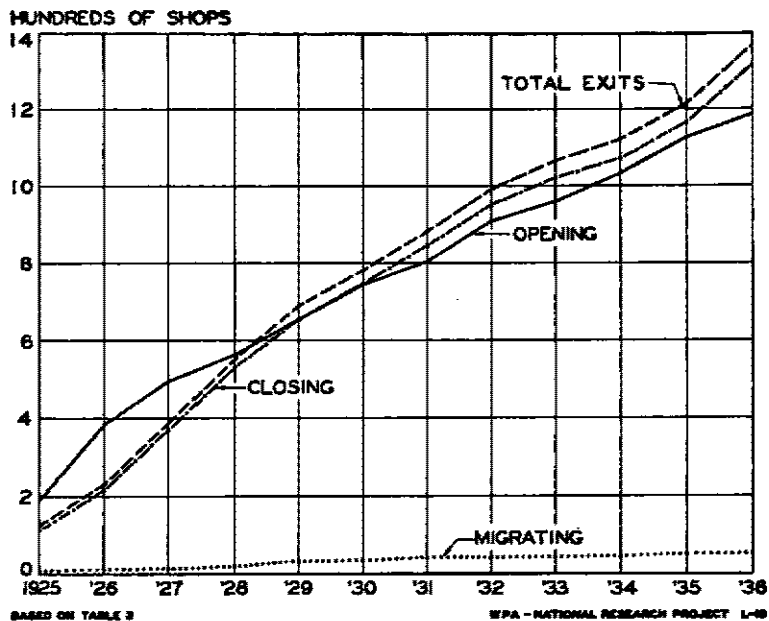
⁴⁴Copeland and Turner, *op. cit.*, p. 1.

⁴⁵Where new concerns appeared in any year, they were counted as "openings." Whenever concerns in the directory in a given year did not appear in the following year, they were counted under "closings."

⁴⁶The Textile Foundation, research agency for the National Federation of Textiles, found that in New Jersey between 1921 and 1929, 964 broad-goods (including Jacquard shops) concerns entered business and 921 went out of business. "In Pennsylvania, Rhode Island, and New York the rate of change [turn-over] also was high." *Ibid.*

PATERSON BROAD-SILK WORKERS

Figure 5.- CUMULATIVE TURN-OVER OF SHOPS, 1925-36

Table 3.- TURN-OVER OF SHOPS, 1925-36^a

| Year | Number of shops operating at end of year | Total | | Openings | | Closings | |
|------|--|--------|----------------------|----------|----------------------|----------|----------------------|
| | | Number | Percent ^b | Number | Percent ^b | Number | Percent ^b |
| 1924 | 518 | 0 | - | 0 | - | 0 | - |
| 1925 | 596 | 300 | 57.9 | 189 | 36.5 | 111 | 21.4 |
| 1926 | 687 | 309 | 50.8 | 197 | 33.1 | 108 | 17.8 |
| 1927 | 644 | 267 | 48.9 | 112 | 18.3 | 155 | 22.6 |
| 1928 | 557 | 227 | 35.2 | 70 | 10.8 | 157 | 24.4 |
| 1929 | 517 | 212 | 38.1 | 88 | 15.5 | 126 | 22.6 |
| 1930 | 516 | 181 | 35.0 | 90 | 17.4 | 91 | 17.6 |
| 1931 | 478 | 156 | 30.2 | 59 | 11.4 | 97 | 18.8 |
| 1932 | 477 | 219 | 44.8 | 106 | 22.2 | 107 | 22.4 |
| 1933 | 455 | 124 | 26.0 | 51 | 10.7 | 73 | 15.3 |
| 1934 | 475 | 122 | 26.8 | 71 | 15.8 | 51 | 11.2 |
| 1935 | 480 | 187 | 39.4 | 96 | 20.2 | 91 | 19.2 |
| 1936 | 390 | 210 | 43.8 | 60 | 12.5 | 150 | 31.3 |

^aData compiled from yearly listings in *Devison's Rayon and Silk Trades* (New York: Devison Publishing Co.).

^bBased on shops operating at end of preceding year.

5,299 in 1936. Ninety-two plants increased their loomage substantially, 17 showed no change, and 23 suffered a large decrease.

As far as could be determined, only 56 concerns migrated from Paterson between 1925 and 1936 (table A-3 and figure 5).⁴⁷ This number accounted for only 4.3 percent of the closings, but for 27.2 percent of the net decrease in shops between 1925 and 1936 and for 53.0 percent of the net decrease in looms. The average size of the independent shops migrating was 103.2 looms; of the mixed or unspecified types, 75.8 looms; and of the commission shops, 36.2 looms. As shown previously, some of the mills that were moved from Paterson were branch or main plants of concerns also operating elsewhere.⁴⁸

Increase of Small Concerns

The small-shop characteristic of the industry in Paterson represents a concentration of small and petty establishments that is not to be found anywhere else in the industry. The structure of the entire industry in the United States in 1934 (including Jacquard establishments) was described as follows:

On one side are 35 mills with at least 1,000 looms each, owning 35 per cent of the total installed looms. Then there is a middle group of 325 mills, with from 100 to 1,000 looms each, owning 48 per cent of the total looms. Finally, there are about 840 firms with less than 100 looms each, owning a total of 17 per cent of the loomage and an average of about 28 looms to a firm.⁴⁹

According to the same source, 460 of the 840 smallest firms in the industry were at that time in Paterson.⁵⁰

⁴⁷The figure cited may be low. The count was made by taking the names of concerns closing in Paterson and looking for them in the alphabetical list of all companies in subsequent directories. A different name in a new location would result in an omission. Occasionally, a small concern would be found that had moved away from Paterson and had then moved back. The number that did this was negligible, and no attempt was made to enumerate them.

The 56 concerns that migrated moved to the following States:

| | | | |
|---------------|----|----------------|---|
| Pennsylvania | 24 | Rhode Island | 3 |
| New Jersey | 10 | Connecticut | 3 |
| New York | 9* | Tennessee | 1 |
| Massachusetts | 5 | North Carolina | 1 |

*One of these also established a mill in North Carolina.

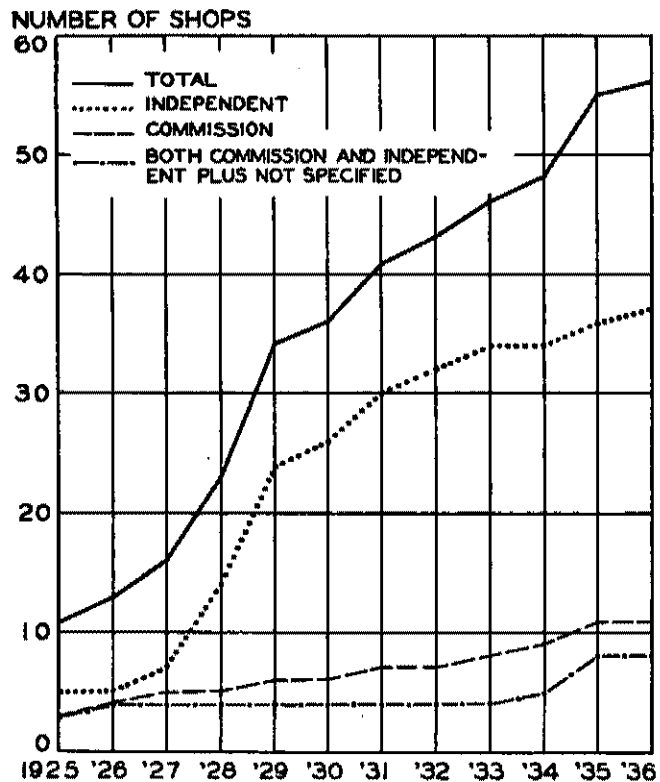
Being a labor- and market-oriented industry, broad-silk mills have for the most part remained within a short radius of New York City and have located where silk labor has been available.

⁴⁸See p. 10.

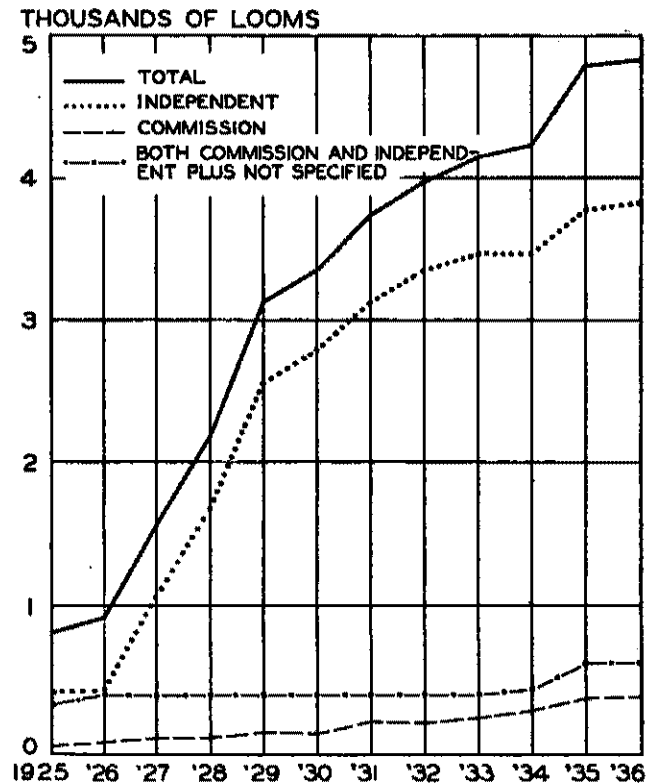
⁴⁹Copeland and Turner, *op. cit.*, p. 1. Cf. U. S. Tariff Commission, *op. cit.*, p. 6.

⁵⁰Copeland and Turner, *op. cit.*, p. 21.

Figure 6.- CUMULATIVE NUMBER OF MIGRATING SHOPS AND THEIR AGGREGATE LOOMAGE,
BY TYPE OF OPERATION, 1925-36



BASED ON TABLE A-3



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Before the World War the industry in Paterson was composed of comparatively large concerns.⁵¹ Size composition underwent a decided change between 1915 and 1920 when the number of establishments increased by over 100 percent, from 246 to 494. This increase was occasioned mainly by the multiplication of small units. At the beginning of 1920, 68.5 percent of all broad-goods concerns (including Jacquard) had 49 looms or less, and the majority of these had 24 looms and under.⁵² The relative increase of small shops continued, and in 1926, 90.2 percent of all shops had 60 looms or less, with an average size for the industry of 33.6 looms (table 4). By 1936 small and petty concerns were even more predominant, 92.0 percent of all establishments having 60 looms or less and the average size having dropped to 28.5. The proportion of very petty shops, those having 20 looms and under, made up more than 50 percent of total establishments in 1936. They also gained relatively in loomage. The largest relative decrease occurred in the loomage of concerns having more than 100 looms (see figure 7). There were 27 of these in 1926 but only 10 in 1936. (For

Table 4.— NUMBER OF SHOPS AND LOOMS, BY SIZE OF SHOP, 1926 AND 1936^a

| Size of shop (loomage) | Shops | | | | Looms (thousands) | | | |
|---------------------------|-------------|---------------------------|-------------|---------------------------|----------------------|---------------------------|-------------|---------------------------|
| | 1926 | | 1936 | | 1926 | | 1936 | |
| | Num- ber | Per- cent ^b | Num- ber | Per- cent ^b | Num- ber | Per- cent ^b | Num- ber | Per- cent ^b |
| Total | 687 | 100.0 | 390 | 100.0 | 22.2 | 100.0 | 11.1 | 100.0 |
| 1- 20 | 312 | 47.2 | 203 | 52.2 | 3.6 | 16.2 | 2.4 | 21.6 |
| 21- 60 | 284 | 43.0 | 155 | 39.8 | 10.2 | 46.0 | 5.6 | 50.5 |
| 61-100 | 38 | 5.7 | 21 | 5.4 | 3.2 | 14.4 | 1.8 | 14.4 |
| Over 100 | 27 | 4.1 | 10 | 2.6 | 5.2 | 23.4 | 1.5 | 13.5 |
| Not ascertainable | 26 | - | 1 | - | - | - | - | - |

^aData from table A-1.

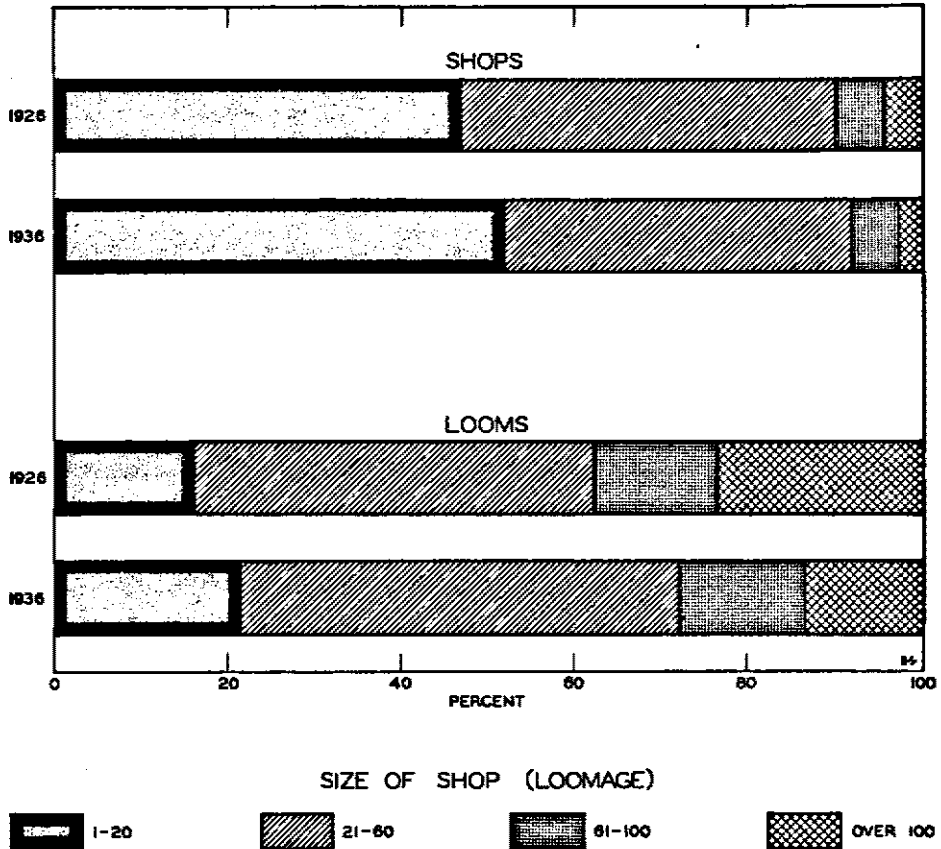
^bComputed on basis of total shops excluding those whose broad-silk loomage was not ascertainable.

⁵¹In 1900, for example, the average size of establishments was 125 looms, and only 31 percent of them had 50 or fewer looms. Computed from *Fuelitt's Census of the United States: 1900*, Vol. IX, "Manufactures" (U. S. Dept. Int., Census Office, 1902), part III, table 7, p. 206.

⁵²Tabulation based on Davison's directory presented in U. S. Tariff Commission, *op. cit.*, p. 97.

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Figure 7.- PERCENTAGE DISTRIBUTION OF SHOPS AND LOOMS, BY SIZE OF SHOP, 1926 AND 1936



BASED ON TABLE A-1

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changes in the average size of concerns in each size group, see table A-4.)

Aspects of Small Enterprise and Residual Industry

Despite the many failures and withdrawals of concerns from business each year, there was no lack of persons willing to try operatorship. This condition has not alone been due to the ease of obtaining a shop but also to the attempt on the part of silk workers to escape the uncertainties of the labor market and to find sheltered employment and increased earnings. Recently, becoming a proprietor has frequently been an alternative to unemployment for an individual and his family. In other words, "workers have had to buy their

jobs."⁵³ The high rates of closing are one indication that this type of enterprise has frequently constituted a form of disguised unemployment.

In order to study the occupational and business backgrounds of the operators of petty or "cockroach"⁵⁴ shops and the characteristics of their enterprises, a random sample was taken of 100 shops having 20 looms or less.⁵⁵ This resulted in the collection of 100 schedules through interview with one of the operators in each of these shops.⁵⁶ In addition to the 100 persons interviewed, certain information was secured on 123 operators who had been associated in business with the 100 operators when the latter first became broad-silk manufacturers.

Although the sample, which covers 237 operators, represents the smallest shops (with 20 looms or less) in the industry, shops of this size accounted for more than 50 percent of all concerns in 1936. The characteristics shown by them and by their operators represent the characteristics of a much larger majority of the operators and enterprises in the industry.

Industrial and Occupational Characteristics of the Operators. Most of the operators in the industry were formerly wage earners, and after acquiring a shop they continued to work at their occupations.⁵⁷ Of the 100 operators interviewed, 96 had previously been broad-silk workers⁵⁸ (table 5). The persons coming from broad silk were principally weavers - 80 out of the 96. The rest were skilled workers, including three foremen. None came from the semiskilled occupations, such as winding and quilling.

A large majority of the operators showed long experience in broad silk before they became operators; the median length of

⁵³As a general rule, the owners of these shops [in Paterson] were unemployed weavers, who could find no other field of employment, and preferred to open their own shop to going on relief." *Report Upon Contract Weaving in the Rayon and Silk Industry* (Washington, D. C.: Silk Textile Work Assignment Board, mimeo. 4387, Apr. 27, 1935), p. 4.

⁵⁴"Cockroach" is a widely used term which refers to petty operators and their shops, especially to those run principally by family labor. The term, which is used both contemptuously and humorously, implies the existence of substandard working conditions.

⁵⁵Alternate names of shops were taken from a list of concerns of this size drawn alphabetically from Davison, *op. cit.*, corrected proofs of 1937 issue.

⁵⁶An additional 14 operators who were partners in the 100 shops were not interviewed and are not included in the tabulations in this section.

⁵⁷The employment experience of these worker-owners is not specifically analyzed. Only a very few of them are represented in the pay-roll data presented in a subsequent chapter on the employment experience of workers in this labor market.

⁵⁸It is interesting to note the previous occupations of the remaining four. They were grocery-store proprietor, candy-store proprietor, farm hand, and textile salesman.

Table 5.- INDUSTRY AND OCCUPATION IMMEDIATELY PRECEDING FIRST ENTRY INTO BUSINESS OF BROAD-SILK OPERATORS^a

| Previous industry and occupation | Number | Previous industry and occupation | Number |
|----------------------------------|--------|----------------------------------|--------|
| Total | 100 | Loom fixer | 4 |
| Broad silk | 98 | Foreman | 3 |
| Weaver | 80 | Other industry | 4 |
| Warper | 3 | Salesman | 1 |
| Twister | 6 | Retail proprietor | 2 |
| | | Farm laborer | 1 |

^aData obtained in NRP Field Survey: schedule for shops having 20 looms or less.

time previously spent in the industry was 16.2 years. Only 12.5 percent had been in the industry 5 years or less, and over 20 percent had had experience of over 20 years (table 6). This long habituation in broad silk has been typical of the labor force in the industry (see page 56 *et seq.*).

Table 6.- NUMBER OF YEARS AS BROAD-SILK WORKERS PRECEDING FIRST ENTRY INTO BUSINESS AS BROAD-SILK OPERATORS^a

| Number of years as broad-silk workers | Number | Percent |
|---------------------------------------|--------|---------|
| Total ^b | 98 | 100.0 |
| 1-5 | 12 | 12.5 |
| 6-10 | 19 | 19.8 |
| 11-15 | 30 | 31.2 |
| 16-20 | 14 | 14.6 |
| 21-25 | 11 | 11.5 |
| 25 or over | 10 | 10.4 |
| Median number of years | 16.2 | |

^aData obtained in NRP Field Survey: schedule for shops having 20 looms or less.

^bExcludes four persons whose industry preceding entry into business was not broad silk.

Of the 100 shops in business in 1936, 2 had originally entered before 1911, 53 had entered from 1911 through 1925, 16 from 1926 through 1932, and 29 between 1933 and 1936.⁵⁹

⁵⁹The extent of recent first-time entries into business for the entire industry is indicated by a sample taken by the Silk Textile Work Assignment Board in 1934. *Of 150 shops canvassed . . . 43 had been in business for less than a year, and in practically all of these cases this had been their first business venture.*
Loc. cit.

The comparatively large number of first entries into business that were undertaken during the NRA period again indicates the tendency to expand with an improved outlook in business conditions.

Machinery Purchased, Amount of Investment, and Source of Capital on First Entry Into Business.— Purchases of only 8 looms or less were made in 50 percent of the first entries into business, and in an additional 20 percent of the entries not more than 12 looms were bought. About half of all first entries showed purchase of a quiller. A good portion of the rest undoubtedly secured this machinery later. Used machinery was purchased in 67 of the original instances of setting up shop; and of the remaining 33, 18 started with new and used equipment and 15 with all new equipment. None of this last group began operation after 1925.

A report of the purchase price of machinery was obtained in 95 cases. In 20 of 54 entries into business made prior to 1926, the total investment was over \$5,000 (see table 7), the machinery for one shop having cost as much as \$25,950. In only eight entries was the cost \$2,000 or less. Previous to 1926,

Table 7.— COST OF ORIGINAL MACHINERY BY DATE OF SHOP OPENING, 1904-36^a

| Cost of machinery ^b (dollars) | 1904-36 | 1904-25 | 1926-36 | 1934-36 | 1936 |
|---|---------|---------|---------|---------|------|
| Total ^c | 95 | 54 | 41 | 21 | 4 |
| 500 or under | 7 | 1 | 6 | 4 | 2 |
| 501- 1,000 | 7 | 1 | 6 | 3 | 1 |
| 1,001- 1,500 | 11 | 1 | 10 | 7 | 1 |
| 1,501- 2,000 | 10 | 5 | 5 | 4 | 0 |
| 2,001- 3,000 | 10 | 6 | 4 | 1 | 0 |
| 3,001- 4,000 | 17 | 11 | 6 | 0 | 0 |
| 4,001- 5,000 | 13 | 9 | 4 | 2 | 0 |
| 5,001-10,000 | 12 | 12 | 0 | 0 | 0 |
| 10,001-15,000 | 4 | 4 | 0 | 0 | 0 |
| 15,001-20,000 | 3 | 3 | 0 | 0 | 0 |
| 20,001 or over | 1 | 1 | 0 | 0 | 0 |

^aData obtained in NRP field survey: schedule for shops having 20 looms or less.

^bIncludes both new and used equipment at cost at time of shop opening.

^cExcludes five shops (one opening in 1904-25 and four in 1926-36) for which cost of machinery was not reported.

machinery was more expensive than subsequently, more new machinery was purchased, and partnerships and corporations were more frequent. Of the entries in or following 1926 the purchase price in no entry exceeded \$5,000, and it was \$2,000 or less in 27 of 41 cases of entry. Still less was paid for the necessary equipment in more recent years: two-thirds of the 21 shops opening between 1934 and 1936 did not spend over \$1,500, and 2 of the 4 entries in 1936 did not require more than \$500.

The amount of money put up by individual operators in all of the 100 shops was much less than would be indicated by the total costs of machinery. The 55 concerns opening before 1926 represented 170 full or part proprietors, and information was obtained on the initial outlays of 165 of these. The median amount invested per individual in this period was \$808 (see table 8). Only 53 full or part proprietors were represented by the 45 openings from 1926 on. Initial outlays for five of the operators were not ascertainable, owing in two cases to the machinery being a gift. The remaining 48 persons expended a median of \$611 as initial investment.

Table 8.- INDIVIDUAL INVESTMENT OF OPERATORS IN YEAR OF FIRST ENTRY INTO BUSINESS, 1904-36^a

| Individual investment (dollars) | 1904-36 | | | 1904-25 | | | 1926-36 | | |
|---------------------------------|---------|---------------|------------------------|---------|---------------|------------------------|---------|---------------|------------------------|
| | Total | Sole operator | Partner or shareholder | Total | Sole operator | Partner or shareholder | Total | Sole operator | Partner or shareholder |
| Total ^b | 213 | 51 | 162 | 165 | 16 | 149 | 48 | 35 | 13 |
| 500 or under | 57 | 18 | 39 | 35 | 2 | 33 | 22 | 16 | 6 |
| 501-1,000 | 86 | 11 | 75 | 77 | 3 | 74 | 9 | 8 | 1 |
| 1,001-1,500 | 14 | 9 | 5 | 6 | 2 | 4 | 9 | 7 | 1 |
| 1,501-2,000 | 32 | 5 | 27 | 27 | 4 | 23 | 5 | 1 | 4 |
| 2,001-3,000 | 12 | 2 | 10 | 12 | 2 | 10 | 0 | 0 | 0 |
| 3,001-4,000 | 5 | 3 | 2 | 4 | 2 | 2 | 1 | 1 | 0 |
| 4,001-5,000 | 6 | 3 | 3 | 4 | 1 | 3 | 2 | 2 | 0 |
| 5,001-6,000 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| Median investment (dollars) | 788 | 641 | 780 | 808 | - | - | 611 | - | - |

^aData obtained in NRP Field Survey: schedule for shops having 20 looms or less.

^bIncludes operators interviewed in 1936 and others who were associated with them in business when they first became broad-silk operators. Excludes 10 operators not reporting initial investment. Represents 64 shops for 1904-25 and 41 for 1926-36.

As conditions in the industry became worse, the number of operators to a shop decreased. The few looms and a quiller formerly bought by two or more partners, for example, could now be purchased at a much lower figure. And in order to "get along" with a small unit, only one proprietor, with his family and the outside workers required, was necessary to operate the few looms and auxiliary equipment. Of the 55 shops that opened before 1926, 39 (71 percent) were partnerships or corporations, and only 16 were operated by single proprietors. Seventeen of the 39 concerns had 2 partners each, and the remaining 22 each had from 3 to 12 owners. Only 8 (18 percent) of the 45 concerns entering business during and following 1926 were involved in partnerships, and no entry involved more than 2 partners. In 1936, 84 of the 100 concerns were operated by single owners, 13 by partnerships (1 of which had 3 partners), and 3 by corporations.⁶⁰

Machinery was purchased on time in 68 of the 100 original entries into business, and cash was paid in the remaining 32 cases. The usual down payment was 50 percent of the purchase price. Only 9 of the original 100 concerns failed to cancel their indebtedness for machinery. Two of these, started before 1926, were foreclosed shortly after beginning operation. The remaining seven opened shops between 1934 and 1936, and in the latter year they still had payments to meet.

Savings from wages was the most common source of funds for initial investment by the operators who opened the 100 shops. Of the 140 operators for whom this information was secured, 121 (86 percent) obtained investment capital in this way. Savings from wages were in nine cases supplemented by loans, in one case by a sale of real estate, and one operator had been given machinery. The fact that savings were usually the only source of capital for investment does not mean that all operators saved enough out of their personal earnings to establish themselves in business. It is true that wage rates had been relatively high in the past. But so also had been the intermittency of employment for the large majority of the people in this labor market. Accumulation of the small capital required for investment was probably the result of pooling the savings of all the gainfully employed in the family or household. In

⁶⁰Only one operator was reported for each corporation. The other owners were probably members of the operator's family.

former years, moreover, operators doubtless came from the minority of workers who had more or less regular tenure with particular establishments.

Investment funds not originating from wages came from several sources. Six persons had money from previous enterprises (four of which were in broad silk), two realized money on insurance, two borrowed the total amount, one had saved money through a building and loan corporation, perhaps from wages, three had windfalls of cash through dowries, and one received a soldier's bonus. The remaining four received gifts.

Of the operators mentioned above, only five had machinery to set up shop. In two instances machinery was brought in from previous ventures, and in the three others it was obtained through gifts or dowry.

Difficulties of Remaining in Business.— Exactly half of all the 100 shops went through a dissolution of proprietorship at some time. These 50 accounted for 76 closings or reorganizations and the same number of reopenings. The frequency of these actions was as follows:

| Number of closings | Number of shops | Total number of closings |
|--------------------|-----------------|--------------------------|
| Total | 100 | 76 |
| 0 | 50 | 0 |
| 1 | 32 | 32 |
| 2 | 12 | 24 |
| 3 | 5 | 15 |
| 5 | 1 | 5 |

Of the 50 concerns that did not undergo such vicissitudes, 31 had been opened within the past 5 years.

Poor business was the cause of practically all the 50 first closings or dissolutions of partnership, although the reasons for these actions are stated in various ways. Disagreement among partners and insufficiency of earnings were given as reasons in 22 cases; in 24 cases the cause reported was poor business, unstable market, etc.; 2 operators went out of business to open new shops; 1 closed because of labor trouble,

and another did so in order to go to Europe. Where the earnings of partnership concerns were not sufficiently high because of business conditions, dissolutions were frequently brought about in order that each operator could obtain his own shop. The proprietor abandoning the location took his share of the equipment or the proceeds of a sale and secured a shop for himself. In foreclosure cases operators have frequently been able to salvage something from the business with which to proceed to another venture. With the need for tenants and machinery buyers, space and equipment are often turned over to an operator on the most lenient terms.

In the remaining 26 of the 76 closings, 8 indicated partnership disagreement and 18 a lack of work. Some of the closings were due to the sharp fluctuations in the price of raw silk between 1929 and 1931. Independent operators forced to shut down as a result of this situation were virtually out of business for a time until they could secure another supply of materials. This frequently meant a shift to commission work (see table A-2).

The difficulty of remaining solvent was, of course, not confined to the smallest concerns. A sample of 49 of the establishments that were listed as having gone out of business in 1936 included concerns of the following sizes:

| Size of shop (loomage) | Number of shops |
|------------------------|-----------------|
| Total ^a | 49 |
| 1- 20 | 29 |
| 21- 40 | 16 |
| 41- 60 | 5 |
| 61-100 | 3 |

^aData obtained in NRP Field Survey: special investigation.

Seven of these shops actually had closed in 1935. The reason for 32 of the concerns going out of business was bankruptcy or foreclosure, and, what is virtually the same thing, 14 were liquidated to satisfy creditors. One concern was liquidated as a result of the operator's death. In two cases information was not available.⁶¹

⁶¹One instance was peculiar in that the operator had forfeited his shop in 1929 and had continued to work for the new owner.

The high mortality of firms has mainly been the immediate result of failure to cover the costs of rent and power and to meet primary payments or to clear encumbrances on machinery. When rent and power bills are not paid over a period, the landlord becomes a legal claimant to the tenant's equipment. An insufficiency or a complete lack of orders for a shorter or longer time gives rise to these liens, although they frequently are taken even when a concern is comparatively active, because of the low weaving rates and, consequently, low earnings. This condition is widespread; as a result a large part of the industry is virtually insolvent, being greatly in arrears on rent and power and with equipment that is fully mortgaged.⁶² Concerns so mortgaged are sometimes permitted to continue operation by the grace of the creditor who may calculate that some payment is better than nothing or that the operator will be able to pay if business improves. Foreclosures, however, are frequent. A concern in operation one day may be padlocked with a sheriff's notice the next.

At the same time, new and old operators continue to start shops. This haphazard expansion of capacity is a means of obtaining self-employment for the large majority of operators in the industry and employment for members of their families, relatives, and friends. Landlords, converters, and machinery dealers, the principal legatees of this residual industry, have an abundance of space, power facilities, and machinery which they want utilized in order to realize payments. Anyone with a little capital can obtain a shop. Indeed, there have been cases in recent years in which operators have given their workers the alternative of buying the machines on which they work or quitting them. In agreeing to provide former workers with orders, the operator has sometimes established himself as a converter.

Anyone going through the old mill buildings in 1936 would have seen dust-coated machinery stored in mill buildings and in shops that had been vacated and in shops that were operating but had no use for it because of shifts in the incidence of processes, obsolescence, or lack of orders. At certain times the junkman could be seen breaking up some of the more obsolete

⁶²See Swan, *op. cit.*, p. 30; and report of the Silk Textile Work Assignment Board, *op. cit.*, p. 8.

machinery for scrap (see figure 8).⁶⁵ In the city were many idle mill buildings, and large amounts of space were available in occupied buildings. In the occupied space there was a high concentration of shops, and in these the machines were frequently so crowded together as not to permit ready passage between them. A survey was made of mill space in 1936, the results of which were to be used by the Paterson Industrial Commission, a rehabilitation agency, to attract industries to the city. There also was available a relatively large reserve of labor. In short, there was available an ample supply of the agents of production, totally idle or in some



WPA - National Research Project (1936)

FIGURE 8.- BREAKING UP OLD LOOMS FOR SCRAP IRON

degree of use - everything except a volume of orders sufficient to bring about full employment.

CHANGES IN TECHNOLOGY

The decrease in employment opportunities which resulted from the decline and change in structure of the industry in this locality was paralleled by a reduction of labor requirements due to changes in technology. These changes occurred despite

⁶⁵ during the period under survey, much of the equipment in the industry was sold to out-of-town buyers, some of it being sent abroad. Migrating shops in some instances took their equipment with them.



WPA - National Research Project (Eine)



WPA - National Research Project (Eine)

**FIGURE 9.- EARLY STAGES IN BROAD-SILK PRODUCTION IN SHOPS
THAT MAKE THEIR OWN WARPS**

In the upper picture the silk skeins, after being soaked in soap and water to degum the fiber, are being partially dried by whizzing in a centrifuge.

The lower picture shows the skeins of silk being taken from the drying rack and placed around the "swifts" to be wound onto bobbins. The bobbins are then placed on the creel in the process of making a "warp."

the fact that very little capital was invested by the industry in improved new and second-hand machinery or in the improvement of existing equipment after 1926. The lack of capital for these purposes is demonstrated by the virtual disappearance of the market for new principal machines, such as looms and warping, winding, and quilling machines, after that year.⁶⁴

In the broad-silk-weaving shops, no new types of machines were introduced until 1935, when a few second-hand automatic looms were introduced for the weaving of rayon (see figure 2). Some efficiency-raising devices for machinery, especially for looms, were introduced or brought into wider use; otherwise, the manufacturers bought the equipment available on the second-hand market.

For the most part, the improved productivity was not the result of expenditures by the industry. It was due chiefly to the increased importance of certain processes, to the increasing standardization of fabric constructions, and to the more effective utilization of equipment. The purpose here is to summarize the principal changes in operations during the period in relation to their effect on labor requirements.

To the extent that rayon has been woven in Paterson, the need for winders (predominantly females) has been reduced. Rayon yarn for the making of the warp is wound on spools or bobbins in the rayon-manufacturing plants. They are therefore ready to be placed on the creel of the warping machine as they are received at the weaving shops. Not only does this obviate winding but also the operations connected with preparing silk to be wound, such as weighing, unpacking, soaking, and drying - work which is ordinarily done by the winders. Although the preponderance of broad-goods yardage woven in Paterson is silk, 14.5 percent of the looms in the local industry were weaving all-rayon fabrics in December 1936 and 11.5 percent mixed goods, some of which must have had rayon warps.⁶⁵ As rayon is

⁶⁴Of the 3,945 looms sold by the Crompton and Knowles Loom Works for delivery in New Jersey between 1923 and 1936, 87.8 percent had been purchased by the end of 1926. Only 80 looms were delivered in the State by this company from 1934 through 1936, and no sales were made in 1932 and 1933. A negligible proportion, 4.3 percent, of the looms sold between 1923 and 1936 were automatic (information contained in a letter, dated August 2, 1937, from the Crompton and Knowles Loom Works), and none of these, as far as is known, were sent to Paterson. In 1936, 63 percent (9,083) of the looms in the local industry had been manufactured by Crompton and Knowles (Swan, *op. cit.*, p. 16).

⁶⁵See pp. 11-2. Data on the spindle assignments of winders in Paterson are not available. In 1936 the spindle assignments of quillers in Paterson ranged from 50 to 100, the most common being 80 (Swan, *op. cit.*, p. 13). It is not known to what extent spindle assignments on this operation increased after 1926.



WPA - National Research Project (Silk)

FIGURE 10.- OLD-TYPE CREEL

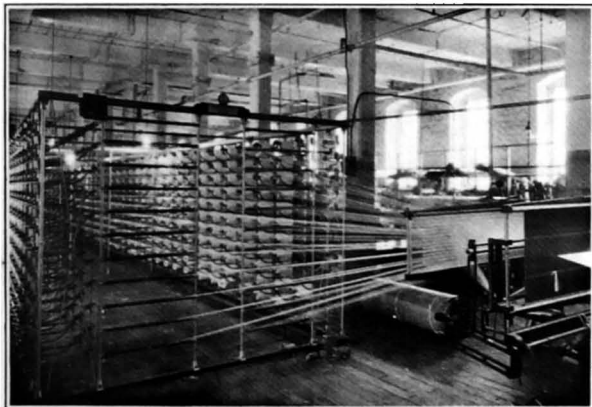
The creel of the warping machine, holding about 700 bobbins, is rebanked as the yarn on the bobbins in use runs low.

woven in rotation with silk as well as concurrently, according to the orders at hand, the demand for winders in weaving shops that make their own warps has come to fluctuate accordingly.

In the last few years about 10 of the warping and winding establishments in Paterson have introduced new high-speed creels and frames which cost several thousand dollars and are not to be found in the weaving shops (see figure 11). The former equipment will wind about $2\frac{1}{2}$ as many threads at one time as the older machines and operates at much higher speeds. It also has a number of automatic features that facilitate

repairs of thread breaks and help to keep an even tension on the yarn. The large creel requires little attention from a helper once it has been banked. Job specifications and the number of workers required to operate the new frame and creel are approximately the same as on the older equipment, but productivity is substantially increased.⁶⁶

The new warping equipment is in competition with the warping machines in the weaving shops, being especially attractive to the converter who has warps made on commission. As far as is known, only rayon warps are made on the high-speed creel and frame machine in Paterson, but the company manufacturing this equipment claims that they are being used elsewhere for the making of silk warps.⁶⁷



WPA - National Research Project (Sine)

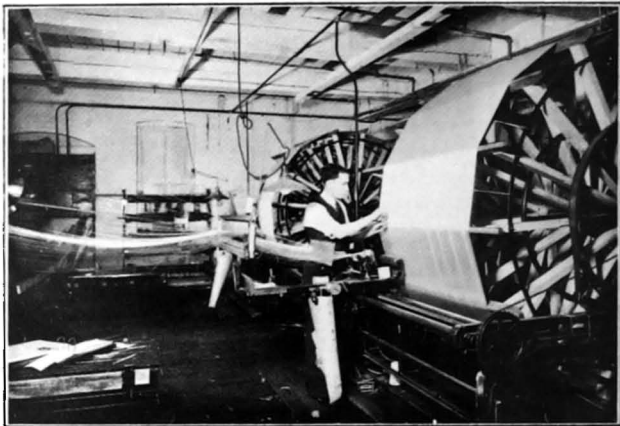
FIGURE 11.- HIGH-SPEED AUTOMATIC CREEL

This machine, used in Paterson to make rayon warps, holds about 3,200 large cones or bobbins, half of which are reserves which come into use automatically.

⁶⁶A new creel-to-beam type of warping machine for making rayon warps is in operation in one winding and warping shop. Rayon warps must be sized, that is, run through a solution to strengthen the threads. The creel-to-beam warper eliminates beaming from the frame before placing the warp in the sizing machine. This warper will run 1,200 yards an hour - which is a conventional length of a warp - about twice as fast as the machine consisting of the high-speed creel and frame.

Sizing of standard-length warps can be done faster on the newer machines; from 1½ to 1¼ hours are required on the two- and three-can machines, whereas an hour is required on the five-can machine and 45 minutes on the seven-can type. Regardless of the number of cans, each machine requires two operators.

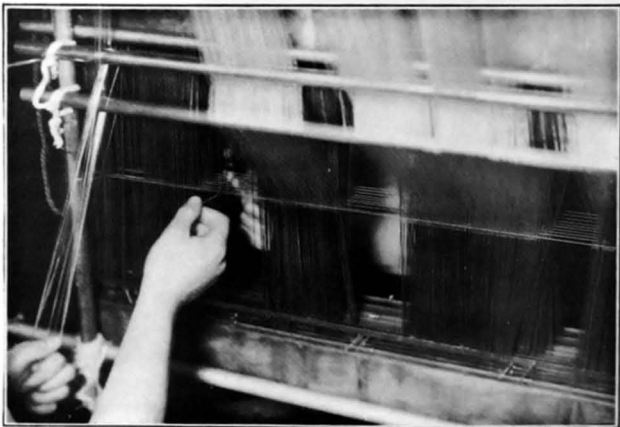
⁶⁷See *Are You in Step?* advertising folder issued by the Sipp-Eastwood Corporation, Paterson, New Jersey.



WPA - National Research Project (Zine)

FIGURE 12.- WARPING FRAME

In making the warp, threads wound off the bobbin onto the creel are wound around the frame in sections. The warper is here tying up a section. When all the sections have been wound on the frame, they are then unwound or "beamed" off the frames, on the side opposite the creel, and the warp is finished.



WPA - National Research Project (Zine)

FIGURE 13.- ENTERING THE ENDS OF A NEW WARP

The enterer, a skilled worker, passes the needle through the eyes of the heddles to a helper, the hander-in. Entering is necessary only if the warp construction, determined by the distribution of ends or threads in the heddles, is changed. Otherwise, the ends of the new warp are twisted onto those of the old warp, which remain in the heddles.

The amount of twisting, entering, handing-in, and loom-fixing labor which was required decreased as warps were lengthened from an average of around 500 yards in the early 1920's to between 900 and 1,200 yards in more recent years. These operations involve entering the warp in the loom and adjusting it for operation. The trend toward the successive weaving of identical constructions shifted some of the work of preparing the warp for the loom to the twisters. Twisting requires less time than entering.⁶⁸ Although not economically usable in small shops, a twisting machine is used in some of the larger establishments in Paterson. A warp can be twisted in by machine in from half to two-thirds of the time required by hand, depending on the type of job and the skill of the operator, thus raising the productivity of the twister (see figures 14 and 15).

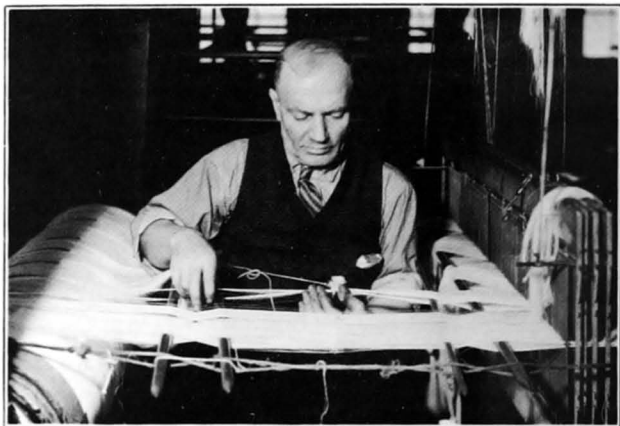
By far the most significant change affecting labor requirements in the local industry was the raising of the loom assignment.⁶⁹ Between 1926 and 1936 an increasing proportion of the loomage in the local industry was operated on a ratio of three and four looms per weaver. In December 1936 more than 70 percent of the looms were being operated on a 4-loom system, and as a result of the introduction of automatic looms in 1935 and 1936, at least one shop was operating a 20-loom system.⁷⁰ After 1936 loom assignments were generally increased further in Paterson, and according to informed persons in the industry the six-loom system had become the most common system by the spring of 1938.

The general increase in loom assignments in Paterson was facilitated in part by the installation of automatic stops and tension regulators for the warp. Large quills holding more yarn and therefore reducing the frequency of refilling the shuttle were also introduced here and there. However, these incidental changes, helping to automatize looms and to improve

⁶⁸ Entering and handing-in are not required unless the fabric construction is changed - that is, unless the threads of the new warp must be redistributed or rethreaded in the heddles, which are held in place by a harness. Otherwise the threads of the new warp are twisted into the threads of the old warp, previously used up, that remain in the harness (see figure 13).

⁶⁹ Historically, the widening of looms also has been an important factor in decreasing labor requirements. With the destruction and sale of most of the narrower looms in the local industry, its looms were relatively wider in 1936 than in 1926. For the reasons already given, very few of the wider, more modern looms were introduced into Paterson during the period.

⁷⁰ See Swan, *op. cit.*, p. 13. There were 426 automatic looms in the local industry at the end of 1936.



WPA - National Research Project (Zine)

FIGURE 14.- TWISTING BY HAND

The ends of the old and new warps are pressed together with a little chalk in the thumb and index fingers - a type of skilled work requiring deft fingers.



WPA - National Research Project (Zine)

FIGURE 15.- TWISTING BY MACHINE

The twisting machine is operated either by hand or by electric power. Speed of operation depends mainly on the quality of yarn.

the quality of cloth, were made on only a small portion of the looms in the industry. The rise in loom assignments probably resulted, by and large, from an increase in the work load - from giving the weaver more looms to tend without the aid of automatic devices or other improvements which would reduce the amount of attention and other work required of him. Where prime quality of yarn is used and the loom is kept in good condition, breakages occur less frequently and the work of the weaver is not so great. But in Paterson there has been a long-standing complaint among the workers about the poor condition of machinery and the use of inferior yarns.

The changes in technology that occurred during the period were made, then, mainly without additional investment by the industry. The effects of changes outside the industry carried over into the industry, and the raising of loom assignments occurred without any notable outlays being made for the improvement of looms. The reduction in labor requirements that took place aggravated the increasingly serious situation in the already overcrowded labor market.

EMPLOYMENT TRENDS

No series is available on employment in the broad-silk industry. Biennial census enumerations on the average number of employees in silk and rayon manufacturing in Paterson cover all branches of the industry. These can be used, however, as indicating the changes in demand for labor in the broad-silk industry, since it has accounted for the larger portion of the employment in silk textiles and for most of the change.

At the end of the war, silk textiles, and probably broad silk, in Paterson employed on the average more workers than at any other time in their history. From 1921 through 1925 (doubtless through 1926) the average number of employees remained about constant. During this period the loomage in broad silk was expanding, but the loom assignment was at the same time increasing. The influence of the decline of broad silk on total average employment is very striking after 1927, the decreases here paralleling the contraction that occurred in the industry's structure.

The average number of workers employed in local silk manufacturing decreased by more than 50 percent between 1925 and

PATERSON BROAD-SILK WORKERS

Table 9.- AVERAGE NUMBER OF WAGE EARNERS,
PATERSON, NEW JERSEY, 1899-1935^a

| Year | Average number of wage earners in - | | |
|-------------------|-------------------------------------|--|---------------------------------|
| | All industries ^b | Silk and rayon manu- facturing ^c | Percent of all industries |
| 1899 | 30,190 | 15,943 | 52.8 |
| 1904 | 28,509 | 14,624 | 51.3 |
| 1909 | 32,004 | 18,828 | 58.8 |
| 1914 | 30,925 | 16,992 | 54.9 |
| 1919 | 37,217 | 21,636 | 58.7 |
| 1921 | 31,345 | 16,666 | 53.2 |
| 1923 | 33,247 | 16,830 | 50.6 |
| 1925 | 33,779 | 16,368 | 48.5 |
| 1927 | 32,354 | 14,628 | 45.2 |
| 1929 | 32,666 | 12,940 | 39.6 |
| 1931 ^d | 23,427 | 7,680 | 33.6 |
| 1933 ^d | 20,160 | 6,088 | 30.2 |
| 1935 ^d | 22,436 | 7,788 | 34.6 |

^aU. S. Census of Manufactures data.

^bAverage of 12 monthly figures of persons on pay rolls.

^cFigures for silk manufacturing only, up to 1929.

^dFrom a special unpublished tabulation made by the Bureau of the Census for the National Research Project.

1935 (table 9). It appears safe to say that the extent of this change reflects closely that occurring in broad silk. In view of the resumption of decline after the props furnished by the National Industrial Recovery Act had been removed, the figure for 1936 would doubtless be lower than in the preceding year.

The decrease in employment in silk manufacturing had a serious effect on the economic life of Paterson. This is indicated by the fact that the average number of wage earners in all industries decreased by 34 percent between 1925 and 1935. The largest part of this decrease was accounted for by the reduction of employment in the silk-manufacturing industry, and the downward trend was not mitigated by any appreciable expansion in other industries.

The proportion of all employment in local industries represented by silk manufacturing was more than 48 percent in 1925, and in 1935 the proportion was still high, exceeding 34 percent. Silk manufacturing, together with dyeing and

finishing textiles in which employment declined after 1929, accounted for 68.5 percent of industrial employment in the city in 1925 and for 63.1 percent in 1933.⁷¹

SUMMARY

The broad-silk industry in Paterson has been declining relative to other areas of production, at least since the latter part of the last century. During most of this period the local industry was losing its larger mills as they migrated to other areas. With the increasing displacement of silk by rayon, the local industry continued to produce silk in a contracting, highly competitive market. Despite this unfavorable position, the industry in Paterson continued to grow until 1926, largely in the form of a multiplication of small shops during and after the war, representing the influx of skilled workers who were becoming shop operators.

As the local industry became increasingly one of petty shops, the commission system was extended over most of the industry. This change gave the converter a large measure of control over the incidence and flow of production and, thereby, over the incidence and flow of employment. The system encouraged the haphazard expansion and contraction of capacity and, in addition, acted as a depressant on labor standards. Independent operators were able to retain some measure of autonomy over their operations, but they too came under control of commercial-financial institutions which performed selling and financing services.

Between 1926 and 1936, total loomage in the local industry decreased by 50 percent and the number of shops by 43 percent. In addition to declining, the industry was unstable as a large portion of its shops were constantly opening or closing. This high turn-over of concerns occurred in the years before 1926 as well as subsequently.

The instability of employment opportunities prompted many of the workers to invest their savings in the establishment of a shop in the hope of regularizing employment for themselves, their relatives, and friends and thus of increasing their incomes. Some of the petty enterprisers were able to add to

⁷¹Census of Manufactures data. The proportions would be raised slightly by the inclusion of employment in the auxiliary lines of "Textile Machinery and Parts" and "Card Cutting and Designing" (for Jacquard weaving).

their capital. Others sacrificed portions of their assets but remained in operation. The large number of failures testifies to the misdirection of most of their investment. In recent years the purchase of a little second-hand equipment on time represented for many of those in position to do so a poor alternative to seeking employment in a contracting, highly uncertain labor market. In other words, these people had "to buy their jobs."

Despite the lack of capital for any widespread installations of improved machinery, the amount of labor required to produce a unit of product declined. Where rayon was woven, winders were not needed. High-speed warping machines in warping and winding shops increased the productivity of warping labor and drew some of this work away from the weaving shops that had the older machines. As warps were lengthened, the amount of loom-fixing, twisting, and entering labor was reduced. Where the twisting machine was used, the productivity of the twister was considerably increased. Loom assignments continued to be raised during the period, assignments as high as 20 looms being found in 1936 as a result of the introduction of automatic looms. These changes also resulted in a reduction of employment opportunities.

Principally as a result of the decline in the broad-silk industry, the average number of wage earners employed in silk manufacturing in Paterson decreased by more than 50 percent between 1925 and 1935. This decrease was accompanied by a 34-percent decrease in the average number of wage earners in Paterson industries, more than 63 percent of whom were dependent on some branch of textiles for employment in 1933.

In 1936 the broad-silk industry in Paterson was in a demoralized condition, the counterpart of which was a demoralized situation in its labor market. And the effects of the industry's condition were clearly marked on the life of the city.

CHAPTER III

CHARACTERISTICS OF THE BROAD-SILK WORKERS

Two principal questions arise concerning the workers in the labor market of the broad-silk industry in Paterson: (1) What were the personal and occupational characteristics of the workers who were affected by these industrial changes? And (2) what was their employment and unemployment experience during the period of decline, 1926-36? In this chapter and the one immediately following data relating to these questions are presented.

Data on the source of the labor supply and its personal characteristics were obtained from a sample of silk workers taken from the 1936 city directory of Paterson,¹ which covers the year 1935. Every fourth silk worker's name was abstracted for interview. A few of these could not be located; some had died and others had moved away. Information was obtained from those workers who reported broad-silk employment any time in 1935 or whose usual industry was broad silk.² This resulted in the collection of 616 schedules.

NATIVITY

The textile industry in Paterson has always drawn heavily on immigrant labor.³ In the sample studied, the foreign-born workers constituted 66.1 percent of the 616 cases. They represented a diversity of national origins, having come from 20 different countries. Earlier in the history of the local textile industry, the principal sources of its immigrant labor had been the countries of northern and western Europe. Corresponding to the shift in national immigration, however,

¹Paterson Directory, 1936 (Newark, N. J.: The Price & Lee Co.).

²A total of 491 showed some broad-silk employment during 1935, but the usual industry of 38 of these was not broad silk. The usual occupation and industry were defined, respectively, as the occupation and industry in which the person was normally employed. In doubtful cases the occupation at which the person had worked longest was considered his usual one. Similarly, if he had been employed at his usual occupation in two industries or more, the industry in which he had worked longest was considered the usual one.

³In 1900, 54.9 percent of the silk-textile operatives in Paterson were foreign-born. This percentage is exclusive of apprentices, laborers, and loom fixers, small groups not classified in the census by the specific branch of textiles in which they were engaged. Both in 1900 and 1930 the percentage of foreign-born was 50.6 (see table A-8).

labor came increasingly from eastern and southern Europe, sources of the new immigration.⁴ In the sample, 81.3 percent of the foreign-born were from eastern and southern Europe and the Near East; 59.2 percent came from the two countries, Italy and Poland.

The foreign-born have had long residence in the United States. A large majority, 76.9 percent, entered the country between 1900 and 1920; 15.2 percent came before 1900 and 7.9 percent after 1920.

The native-born workers in the broad-silk industry and in the rest of the silk-textile industry in Paterson have been the children of immigrants. In 1920 either one or both parents of more than 70 percent of the native-born silk operatives in Paterson were foreign-born (see table A-8). In keeping with the tradition in "textile" families, the young people have followed their elders into the mills.

AGE

Approximately half of the broad-silk workers in the sample were 45 years of age or over⁵ in November 1936 (see table A-9). The age of these workers ranged from 18 to 75 years. Among the foreign-born, 61.4 percent were 45 years of age or over; their median age was 48.4 years, while that of the native-born was 35.1 years.

The age composition of all silk-textile operatives in Paterson has been shifting to the higher brackets since the last century. In 1890 only 9.6 percent were 45 years of age or older, but by 1930 the proportion had increased to 28.3 percent (see table A-10).

SEX

On the basis of the sample, men outnumbered women 3.5 to 1 (see table A-9). This ratio is much higher than that found among all silk-textile operatives in the city, which was 1.1 to 1 in the decennial census years from 1890 to 1920 and 1.4 to 1

⁴See *U. S. Census of Population*. In 1890, 73.3 percent of the foreign-born population of Paterson, which constituted approximately 40 percent of the total population, had originated in northern and western Europe. By 1930, however, 56.7 percent of the foreign-born population, which was about 51 percent of the total, had originated in southern and eastern Europe and the Near East.

⁵The person's age on his last birthday prior to the date of the interview was recorded on the schedules.

in 1930. How long the high proportion of men has existed among broad-silk workers is not known. It may be that women, especially the older ones, withdrew from this labor market faster than men as employment in the industry and in Paterson became more scarce. Foreign-born men outnumbered native-born men by 3.2 to 1. However, native-born women outnumbered foreign-born women by 2.3 to 1. Among the native-born the sexes were almost evenly divided, but the ratio of men to women in the foreign-born group was 8.7 to 1.

AGE OF BEGINNING WORK

A small proportion of broad-silk workers had their first jobs⁶ (lasting 1 month or longer) when they were 10 years old or younger. An equally small proportion started working at 20 years of age or over (see table A-11). Most commonly, first jobs were obtained at the age of 14, and 71.9 percent of all the workers had begun working by the time they were 16 years of age. The older workers entered the labor market at earlier ages than the younger workers.

EDUCATION AND MARITAL STATUS

Over 21 percent of all persons in the sample completed no school grade, and 1 percent did college work (see table A-12). The foreign-born accounted for all of the first group and for practically all of the latter. The median number of grades completed for all workers was 6.6. A larger proportion of the women received some formal schooling than did the men.

A majority, 64.5 percent, of the broad-silk workers were married (see table A-13). Most of the men were married, but only 19.6 percent of the women had this status.

ENTRY INTO THE LABOR MARKET AND RESIDENCE IN PATERSON

Although only about a third of all workers in the sample were native-born, 48.2 percent had their first jobs in Paterson, and 19.0 percent entered the labor market somewhere else in the United States (see table A-15). The rest, 32.8 percent, first began work outside this country. Most of the foreign-born who had their first jobs in this country entered the labor market

⁶Unpaid employment was not considered a job.

in Paterson. A preponderance of the native-born, 71.8 percent, were born in Paterson, and practically all these persons entered the labor market there. Of all the native-born, 84.2 percent had their first jobs in Paterson.

All but 5 of the 150 persons born in Paterson started their working lives in the city and apparently remained completely immobile geographically. Those born elsewhere showed some mobility early in their lives, and as a result of this early mobility they located in Paterson and subsequently lived there continuously. Most of the time spent in the labor market by the group who did not have their first jobs in Paterson (51.8 percent of all persons) was spent in Paterson. For these persons the median length of time in the labor market outside the city was 12.2 years and inside the city 21.2 years.⁷ The other group, who had their first jobs in Paterson and continued to reside there subsequently, had spent a median of 22.0 years in the labor market.

INDUSTRY OF FIRST CONNECTION AND ATTACHMENT TO BROAD SILK

That the workers who entered the labor market outside of Paterson should have been attracted to the city is evidently explained by their background in textiles. A majority of these persons, 64.9 percent, had their first jobs in textiles, and 18.5 percent were in broad silk (see table A-15). A larger proportion of those having initial connections abroad had them in textile work than of those who entered the labor market in this country outside of Paterson. More than 38 percent of the Poles, the most numerous foreign nationality, were either born in or came directly from Lodz, the "Manchester of Poland." Of the persons who entered the labor market in Paterson, 81.5 percent had their first jobs in textiles, and 46.8 percent were in broad silk.

The fact that all the persons who had their first jobs in textiles were found in one or more branches of the industry between 1926 and 1936 is evidence of their long attachment to this industry. This applies also to those who did not have initial connections in textiles. In 1936, 99.0 percent of all

⁷Time in the labor market was measured from the time the person entered the labor market through the first 11 months of 1936. This is the length of time the person was apparently or nominally in the labor market. Persons who withdrew from the labor market between 1926 and 1936 were left out of the computation. Years in the city were calculated from the beginning of the most recent period of continuous residence; absences of 6 months or less were not counted as terminating residence.

Table 10.- TYPE OF INDUSTRY ATTACHMENT TO THE BROAD-SILK INDUSTRY FOR PATERSON BROAD-SILK WORKERS, 1926-36

| Group number | Industry | Number of workers | Percent |
|--------------|---|-------------------|---------|
| Total | | 616 | 100.0 |
| 1 | Broad silk only, 1926-36 ^a | 350 | 56.8 |
| 2 | Broad silk only, 1926-35; in other industry in 1936 ^b | 35 | 5.7 |
| 3 | Broad silk, but left the industry prior to 1935 | 26 | 4.2 |
| 4 | Broad silk, 1926-36, with supplementary employment in other industries ^c | 116 | 18.8 |
| 5 | Entered broad silk from other industries, 1926-35 | 44 | 7.2 |
| 6 | In industry other than broad silk, but with supplementary employment in broad silk, 1926-36 | 30 | 4.9 |
| 7 | Numerous shifts between broad-silk and other industries | 15 | 2.4 |

^aIncludes 36 persons who first entered the labor market during 1926-35.

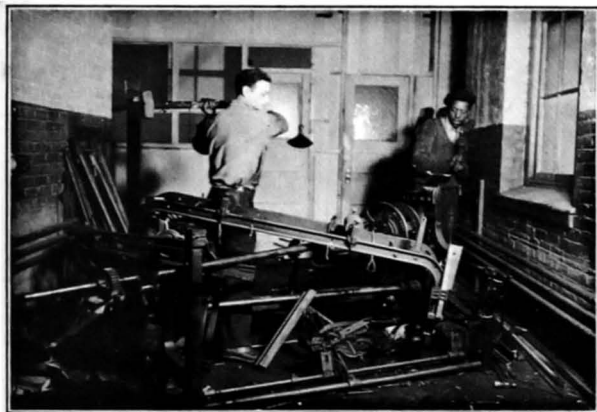
^bIncludes nine persons who first entered the labor market during 1926-35.

^cIncludes eight persons who first entered the labor market during 1926-35 and whose first jobs were in broad silk.

workers in the sample gave some branch of textiles as their usual industry (see table A-28); and 93.8 percent gave broad silk as their usual industry.

A majority, 62.5 percent, of all persons (groups 1 and 2) had no employment in any industry other than broad silk during at least the 10 years of the period 1926-35. A small portion (group 2), however, found work in some other industry in 1936. These shifts represent either shifts for supplementary employment or permanent shifts from the industry. A smaller number (group 3) who had become attached to the broad-silk industry shifted out of the industry before 1935. Although these persons still considered broad silk their usual industry in 1936, they, perhaps, can be considered shifts out of broad silk. While some workers were leaving the industry, others were entering it. Some of these (group 5) came from other industries, and others entered to take their first jobs; most of them had no employment in any other industry during the period.

machinery for scrap (see figure 8).⁶³ In the city were many idle mill buildings, and large amounts of space were available in occupied buildings. In the occupied space there was a high concentration of shops, and in these the machines were frequently so crowded together as not to permit ready passage between them. A survey was made of mill space in 1936, the results of which were to be used by the Paterson Industrial Commission, a rehabilitation agency, to attract industries to the city. There also was available a relatively large reserve of labor. In short, there was available an ample supply of the agents of production, totally idle or in some



WPA - National Research Project (Mine)

FIGURE 8.- BREAKING UP OLD LOOMS FOR SCRAP IRON

degree of use - everything except a volume of orders sufficient to bring about full employment.

CHANGES IN TECHNOLOGY

The decrease in employment opportunities which resulted from the decline and change in structure of the industry in this locality was paralleled by a reduction of labor requirements due to changes in technology. These changes occurred despite

⁶³ During the period under survey, much of the equipment in the industry was sold to out-of-town buyers, some of it being sent abroad. Migrating shops in some instances took their equipment with them.

In all, 100 workers (16.2 percent of the total) were accessions to broad silk between 1926 and 1936. Although remaining attached to broad silk, a large group (group 4) of workers supplemented its employment outside the industry with one or more intervals of employment. At the same time, persons from other industries, mainly from related textiles, entered broad silk to obtain one period or more of employment (group 6). A very small portion of all workers (group 7) moved from broad silk to other industries and back with considerable frequency.

Thus, during a period in which the industry's labor requirements were declining and the opportunities for work had become more erratic, accessions to and exits from the labor market were taking place. There was a decided tendency among the workers whose records were studied to remain attached to their usual industry. Of the workers who shifted out of broad silk, more went directly to related textiles, particularly to Jacquards, than to any other industry (see table A-14). Twenty of the 35 workers who had no employment other than broad silk for 10 years of the period shifted into related textiles in 1936, and 15 into miscellaneous trades and industries. Of the 116 broad-silk workers who had at least one job outside their industry during the period, 68 obtained employment mainly in related textiles, and 48 found work in miscellaneous trades and industries.⁸ Twenty-two of the 26 workers who left broad silk before 1935 went to related textiles.

SUMMARY

Historically, the labor supply for broad silk and for other silk textiles in Paterson was drawn from the two general European sources of immigration. The younger immigrants and the second generation followed their elders into the mills. Those who had spent part of their working lives outside of Paterson located in the city and remained there continuously thereafter. Persons born in the city continued to reside there. A large majority indicated a long background in textiles. Workers in the sample, a preponderance of whom considered their usual industry to be broad silk, were relatively old. Their age and their long occupational experience

⁸Ten of the 116 broad-silk workers who had at least one period of supplementary employment outside of broad silk also obtained at least one period of employment on emergency relief or Works Program projects.

in silk textiles decreased or obviated their chances of shifting to other occupations in private industry. When they shifted out, most of them went to related textiles, the rest to miscellaneous occupations and industries. For several years past, opportunities within the area for the younger, more adaptable workers have been greatly curtailed. It is likely that the workers who could do so left Paterson. Those who remained may be regarded as residual in the sense in which the remaining broad-silk industry is residual.

CHAPTER IV

EMPLOYMENT EXPERIENCE OF THE BROAD-SILK WORKERS, 1926-36

The information concerning the employment experience of workers in this labor market is derived principally from a sample of 22 pay rolls. Although these pay rolls cover the employment experience of workers with only one employer, they nevertheless provide a record of the interruptions of work and the insecurity which hangs over the Paterson broad-silk workers. The 22 pay rolls are distributed so as to reflect the size of units and the type of operation as shown by the enumeration for 1935 in Davison's directory. Considerable difficulty was entailed in obtaining usable records owing to the recent origin of many concerns and to the unsatisfactory condition of records.¹ The length of each pay-roll record, the number of looms, and the type of shop operation in any year are shown in table A-16. Five pay rolls cover the entire 11 years from 1926 to 1936; two cover as few as 2 years.

The percentages that these sample shops and looms are of their respective totals in the industry in each year appear in table 11. The sample accounts for less than 1.0 percent of total shops and of total looms in the first 2 years of the period and grows to 5.6 percent of the shops and 9.1 percent of the looms in 1936. The number of different workers represented is under 150 in the first 2 years, but it increases to over 1,000 in 1930 and to over 1,100 in the last 2 years. What proportion workers in this sample represent of total broad-silk workers in the labor market cannot be ascertained.

Despite the smallness of the sample in earlier years and the disproportionate loomage accounted for by the sample shops, the employment experience of the workers employed in these shops is believed to be representative of the experience of Paterson broad-silk workers in general. This contention is based on

¹ Paybooks are frequently destroyed after being checked for State compensation insurance. The records of concerns that have only recently entered business were too brief. Even where pay rolls of satisfactory length were available, their use was frequently precluded by the use of numbers in place of names or by a total lack of bookkeeping system. The memory and patience of operators and old employees were, in fact, required to straighten out some of the pay rolls transcribed.

Table 11.- PERCENTAGE THAT SAMPLE OF BROAD-SILK SHOPS AND LOOMS IS OF TOTAL IN PATERSON, 1926-36^a

| Year | Shops in - | | | Looms in - | | |
|------|------------|--------|---------|------------|--------|---------|
| | Paterson | Sample | | Paterson | Sample | |
| | | Number | Percent | | Number | Percent |
| 1926 | 687 | 5 | 0.7 | 22,200 | 130 | 0.6 |
| 1927 | 644 | 6 | 0.9 | 21,700 | 184 | 0.8 |
| 1928 | 557 | 11 | 2.0 | 19,500 | 552 | 2.8 |
| 1929 | 517 | 12 | 2.3 | 18,100 | 697 | 3.9 |
| 1930 | 516 | 12 | 2.3 | 16,900 | 727 | 4.3 |
| 1931 | 478 | 16 | 3.3 | 15,700 | 897 | 5.7 |
| 1932 | 477 | 17 | 3.6 | 14,900 | 905 | 6.1 |
| 1933 | 455 | 18 | 4.0 | 14,400 | 943 | 6.5 |
| 1934 | 475 | 20 | 4.2 | 14,000 | 993 | 7.1 |
| 1935 | 480 | 22 | 4.6 | 13,500 | 1,007 | 7.5 |
| 1936 | 390 | 22 | 5.6 | 11,100 | 1,011 | 9.1 |

^aBased on tables A-2 and A-16.

the similarity of principal characteristics shown by all pay rolls and on a knowledge of the labor market. Certain of the pay roll-by-pay roll tabulations disclose differences in the employment experience of plant labor forces. These differences do not, however, reflect any substantial deviation from the common characteristics shown by the data. The similarity of behavior among the pay rolls is striking when the individual variations over the years of record are compared. These generalizations will be developed in detail as the material is presented.

CHARACTER OF YEARLY DEMAND AND ITS CONSEQUENCES FOR PATTERNS OF EMPLOYMENT

Production and, consequently, the demand for labor are subject to pronounced seasonal variations. A market for underwear fabrics, which constitute the bulk of the output of the industry in Paterson, and for novelty and dress goods exists throughout the entire year. During certain seasons there are, however, large increases in demand occasioned partly by induced buying and partly by conventional consumer habits. To supply this demand, the cycle of production beginning at the weaving shops must begin several weeks ahead of the seasonal

rise in consumer purchases. At the same time there is always an accumulation of stocks on hand, which, in conjunction with the market outlook, may act as a drag on or a spur to production depending on the size and kind of stocks. Despite the trend toward hand-to-mouth buying, serious overproduction has obtained for a number of years, with infrequent interludes of increased demand that have occasioned a feverish increase of output.

The seasonal variation of broad-loom activity, as shown for the country's broad-silk industry for the years 1922-31 by Simon Kuznets,² is characterized as follows: Activity rises to a primary peak for the year in February and March, after which production declines to the low point of the year in June. A gradual upswing then sets in which mounts to a secondary peak in November and December. Activity thus increases through January to the peak in the spring. The average deviation for this seasonal was 3.6 percent, and the range of fluctuation was 11.

The main outlines of this pattern were found in Paterson during the period 1926-36. There are certain differences: February has been the month of the primary peak, but a sharp tapering off occurs until June; a gradual upswing results in a secondary peak in October, but subsequently there is a decline in activity until the pick-up after the first of the year; and the amplitude of seasonal fluctuations is much greater. In the broad-silk industry as a whole the pattern of seasonal variations became greatly accentuated after 1929. This change is shown in a survey made by the National Federation of Textiles. It was found that from 1926 through 1929 monthly variations in employment from the yearly average did not exceed 5 percent, plus or minus. Monthly variations in machine hours were likewise small, exceeding 5 percent in either direction in only 9 of the 48 months. From 1930 through 1933, however, wide variations in activity occurred, corresponding to the seasonal pattern outlined above. Negative variations in employment were above 5 percent in most months and ranged downward to more than 20 percent; in available machine hours they most frequently exceeded 10 percent and in one month were over 27 percent. Similar large deviations from the yearly averages occurred on

²*Seasonal Variations in Industry and Trade* (New York: National Bureau of Economic Research, 1933), p. 392.

the positive side, although the range of the variations here was not so high as on the negative side.³ The movement of production in the industry at large became more irregular, as it did also in Paterson.

Although an upswing to a fall peak materializes in Paterson under ordinary conditions, it has in certain years been affected by strikes. All the five major industry strikes from 1928 through 1935 have occurred in this season.⁴ The unions have aimed to take advantage of this peak, which in some years has not fully materialized. What is usually the busiest season, late winter and early spring, has not been interrupted by a major industry strike since shortly after the war.

Some work is available for part of the industry over the entire year. However, in Paterson most establishments are, for longer or shorter periods, completely shut down or producing on greatly reduced schedules. Of the shops in the pay-roll sample, all but one operated at least some portion of every year during the period for which their records were taken (see table A-17). The average number of months operated⁵ per year ranged from 4.47 to 11.29. Twelve establishments out of the 20 for which the data covered more than 2 years averaged more than 10 months' operation per year.

Average number of months of operation for all shops in any year varied from 8.22 months in 1933 to 11.50 months in 1928 (see figure 16). In 3 years of the 1926-30 period, the average was over 11, but between 1931 and 1935 it did not exceed 10.44 months.

Fifteen concerns ran night shifts at some time during the years for which their pay rolls were studied (see table A-18). The average number of months of extra-shift operation per year for any shop was between 1.33 and 8.88. For all shops the average length of extra-shift operation varied from 2.75 months in 1931 to 6.67 months in 1934.

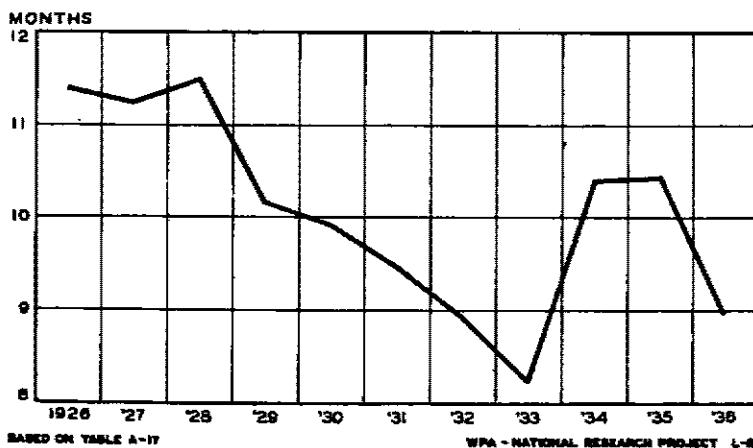
³ See Melvin T. Copeland and W. Homer Turner, *Production and Distribution of Silk and Rayon Broad Goods* (New York: The National Federation of Textiles, Inc., 1935), chart AA, pp. 88-9.

⁴ The dates of the major strikes occurring in the broad-silk industry in Paterson between 1928 and 1936 are October 10, 1928 to June 1, 1929; July 22 to September 12, 1931; August 31 to December 4, 1933; September 5 to September 24, 1934; and October 31 to November 9, 1936.

⁵ Number of months of operation was determined from the biweekly pay rolls. Whenever two or more names appeared on a pay roll, the shop was considered to be in operation for that pay period.

Within the limits of the general volume of work flowing to the industry, the production levels of individual shops fluctuate widely and frequently. A commission operator is wholly dependent on a converter for work. At the same time he must compete with other operators for this work, except during the infrequent periods when there are enough orders to occupy the shops up to a high level of capacity with more work in sight. Whether or not the converter will give out work and in what amount depend on the prospects of the market and on his success in beating down weaving rates. During slack seasons competition is particularly keen. Independent weavers are in somewhat the same position, in that they may at times take commission orders, and their operation is also highly sensitive to the market.

Figure 16.- AVERAGE NUMBER OF MONTHS IN OPERATION FOR ALL SHOPS IN PAY-ROLL SAMPLE, 1926-36



In order to keep a plant running at capacity, it is necessary to have new warps ready to place in the looms as soon as the old ones are exhausted and to have filling made up for the shuttles. Orders must be dovetailed. With high capacity relative to the amount of work available during most or all the year, capacity operation on even one shift is seldom maintained for very long. The level of production varies in short periods because of the variation in the volume of work a shop can secure or undertake and of the short period of production required for turning out most orders. Excluding the relatively little time required for preliminary work, the length of the production period for a warp depends on length of the

warp, pickage,⁶ speed of the loom, contingencies that stop or slow down work, and the amount of loomage operation. With a production of 25 yards per 8-hour day per loom on standard constructions, the production period for a 1,200-yard warp is about 9 weeks. Working days longer than standard shorten the period, and an extra shift cuts it approximately in half.

The resultant flow of work is therefore not even but lumpy. Once an order is in the looms, it is necessary to get it finished as soon as possible. The operator wants production speeded up in order to be in a position to take any additional work and to increase his earnings. The exigencies of the market and the desire of converters and factors to secure more rapid turn-over of their capital also stimulate speed of output. This leads to an extension of capacity by lengthening the time of operation within the day and week.

Being unable to keep their looms active throughout the year, operators must, or do, bunch their work by means of the extra shift. This trend has been stimulated by the demands of the industry and also by the drive to increase earnings. Extra-shift operation has acted to increase the lumpiness in the flow of work.⁷ None of the five shops in the sample for 1926 ran a night shift in that year. Most of the concerns had little or no night-shift operation before 1931, although after that year it was decidedly increased (see table A-18). Seven concerns had no night shift during the length of their records. Most of these had 20 looms or less.⁸ The largest shop in the sample, having approximately 200 looms, did not run a night shift. But this was evidently due to its more strategic position relative to the market. Generally, the larger shops carry on much more extra-shift work than the smaller ones.⁹ Where more than one shift is operated, the variations in activity are likely to be greater.

⁶A "pick" is one crossing of the shuttle. The number of picks to the inch depends on the construction of the fabric.

⁷Extra- or multiple-shift operation began during the war. At that time more than enough work was available for the day shift. Multiple shifts at that time rose out of the pressure of orders and the possibility of increased profits.

⁸The very small shops frequently cannot afford to run an extra shift. This is due to the fact that a petty operator ordinarily cannot pay the added overhead that results from substituting for himself, or for an employee on the day shift, a skilled worker who can fix looms and keep the shop running.

⁹In the last months of 1936, 78.5 percent of the shops and 65.6 percent of the looms were running single shifts; 21.5 percent of the shops and 34.4 percent of the looms were operating two shifts. Computed from Herbert S. Swan, *The Plain Goods Silk Industry* (Paterson, N. J.: The Industrial Commission of the City of Paterson, 1937), pp. 13-4.

Once a spurt in production is over, extra workers on one or both shifts are laid off. The fluctuation of demand for labor in brief intervals creates a situation in which workers are constantly being taken on and let go by the individual establishments in the industry. This spasmodic course of production occurring within the pattern of the seasonal variations creates a spasmodic demand for labor.¹⁰ As there are several hundred shops in the industry and as each has its own production schedule, which ordinarily changes at short intervals, demand for labor is in addition sporadic. The demand of the typical establishment for labor is so inconstant and uncertain that it can keep only a small force permanently attached. When production drops off or when the specific jobs for which workers are hired are finished, those laid off go elsewhere in search of work; and their employment is, by and large, dependent on a sporadic demand among the many shops in the industry within the limits of the seasonal variations.

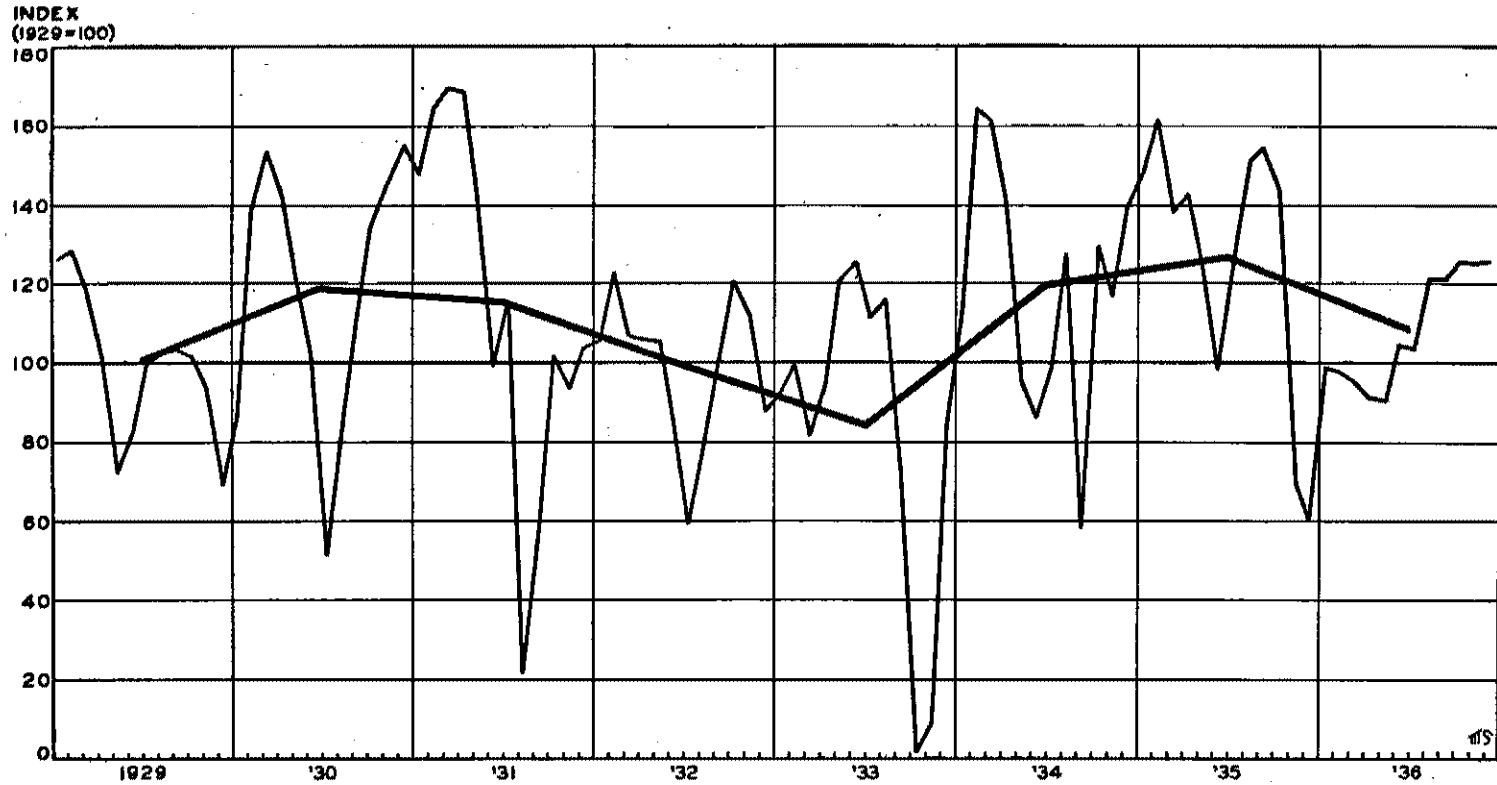
UTILIZATION OF THE LABOR FORCE

The amount of employment provided by shops in the sample fluctuated greatly in short intervals. Monthly variation in total "man-weeks with employment"¹¹ received by workers on pay rolls in 12 of the shops between 1929 and 1936 is shown in figure 17 and table A-19. About the same pattern of seasonality obtained in most years, although in some years the range of fluctuation varied greatly. The two lowest points of activity were due to strikes (see footnote 4, page 63), but others were the result of lulls in business. Interestingly enough, 1929 was not the high point of activity for these shops. The volume of man-weeks with employment was greatest during 1930 and 1931, in the beginning of the depression, and

¹⁰This condition has been observed elsewhere. On the basis of a survey of the larger mills in eastern Pennsylvania in 1928, the State Department of Labor and Industry observed that "extreme fluctuations in employment from month to month and year to year have long been recognized as a handicap to the silk industry. That similar fluctuations should occur in a single week of extreme activity in the industry may not have been so generally appreciated." *Hours and Earnings of Men and Women in the Silk Industry* (Commonwealth of Pennsylvania, Dept. Labor and Industry, Spec. Bull. No. 29, 1929), p. 30.

¹¹Except for a short period during the NRA, the shops did not keep records of time worked by employees. "Man-weeks" or "weeks with employment" were found in the following manner: For each worker in every pay period in which he was employed, it was determined whether he worked 1 week or less or over 1 week to 2 weeks - the length of the pay period. In each case, such determinations were made on the basis of the worker's earnings during the period in conjunction with the prevailing level of full-time weekly earnings for his respective occupational group. In determining "man-weeks with employment" for each month, pay rolls ending in any month were counted in that month.

Figure 17.- MONTHLY AND YEARLY INDEXES OF MAN-WEEKS WITH WORK IN 12 IDENTICAL SHOPS, 1929-26



BASED ON TABLE A-19

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in 1934 and 1935, during the NRA. The trough occurred in 1933 mainly because of strikes which lasted several weeks, although the coming of the recovery program spurred activity during part of that year. In 1936 the primary peak did not materialize.

Short-time increases in production result in a majority of the labor force receiving brief, single periods of employment with individual establishments in any year. The hiring of new workers whenever an upswing in activity occurs thus spreads an establishment's available work quite thinly over most of its total force.

The degree of utilization of workers may be expressed in terms of the ratio of the total number of different persons who appear on the pay rolls during a year to the average number of workers used per week.¹² In 8 years of the period, all shops hired three or more times the average number of workers used per week; and in the remaining 3 years the ratio was between 2 and 3 to 1 (see table A-20). As between the smaller and larger shops, there was no appreciable difference in this aspect of pay-roll behavior during the period. One of the highest ratios, 8.3 to 1, was found in the pay roll of an establishment having more than 100 looms and in another having 20 looms.¹³

Not only are more workers hired during the year than would be needed to do the aggregate amount of work available, but more workers are hired during individual pay periods than can be utilized for full pay periods. From pay period to pay period, the standard length of which is a weeks, a portion of the force employed by the industry receives something less than a full pay period of employment. Another portion obtains full employment and also overtime, if this is provided by shop operation. This situation arises out of the preferential

¹²This ratio is obtained in the following manner: The number of weeks of shop operation during a year is divided into the total number of weeks with work received by the labor force. This quotient represents the number of workers that would constantly be required if employment were spread evenly over the period. Then the number of different workers appearing on pay rolls during the operating period is divided by this average. To obtain the ratio for all shops in each year, the number of workers required in each shop was added; and the total number of workers on all pay rolls was divided by this total. To obtain the ratio for each shop in all years, the same method was used.

¹³Despite the variations in the ratios shown by the different pay rolls in each year and over the entire period, all pay rolls demonstrate the characteristic discussed above. An enlargement of the sample would only have provided additional examples of this type of pay-roll behavior.

In all tabulations each shop's pay rolls have been used as a unit; no intershop comparisons have been attempted.

position of part of the workers and out of the constant fluctuations in the demand for labor.

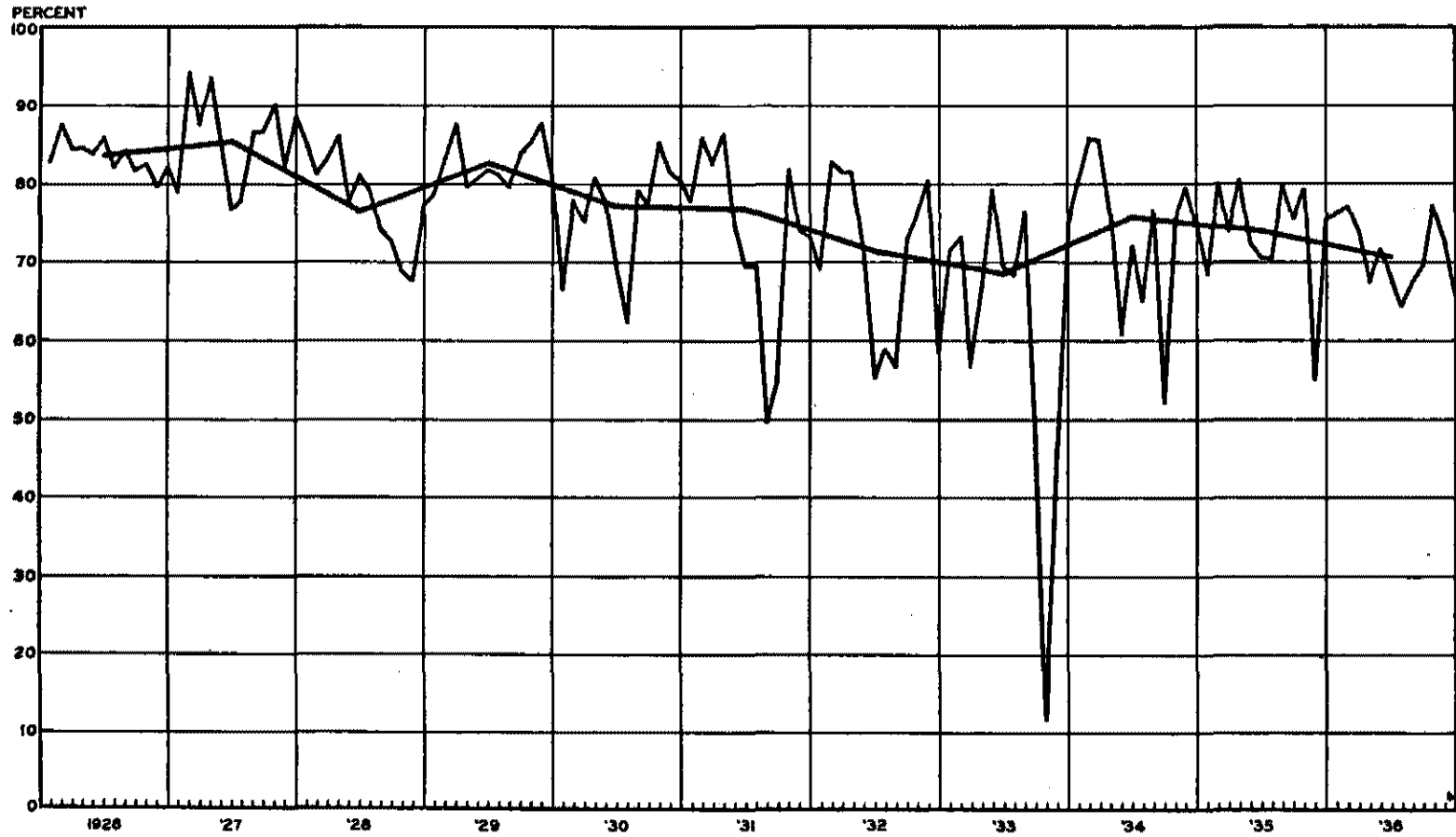
A division of the industry force along these lines can be made, although only approximately, by showing the percentage of workers having 1 week or less of employment and the percentage having over 1 week to 2 weeks of employment in every pay period. The percentage of workers on pay rolls in the pay periods ending in each month who obtained over 1 week to 2 weeks of employment in each pay period is represented in figure 18 and table A-21. The difference between the percentage shown by the graph and 100 percent is the proportion of workers who received 1 week or less of employment in each pay period ending in any month. Hirings, quits, and discharges within a pay period account, of course, for a portion of the workers receiving 1 week or less of employment during each pay period. For the most part, however, the varying proportions of the two groups tend to follow a seasonal pattern. This shows that demand factors are responsible for a large portion of the industry's force obtaining less than full pay periods of employment.¹⁴

Generally, the proportion of workers receiving 1 week or less of employment in the pay periods of each month falls in busy periods and rises in slack periods (see figure 18). Even throughout the peak months a considerable proportion of the workers receive 1 week or less of employment during pay periods. The proportion of workers obtaining over 1 week to 2 weeks of employment within pay periods decreased over the years down to 1933. An increase followed during the next 2 years when relatively more employment was available, but the downward trend was resumed in 1936.

From the data already presented it would be inferred that high turn-over rates have prevailed in the industry. Such is indeed the case, and this condition may be presumed to have

¹⁴This general condition was found in the silk mills in eastern Pennsylvania as far back as 1928. A summary of the under- and overemployment found there in a busy week in a peak month is sufficiently pertinent to quote at length: "In the weekly pay period studied, while the great majority of the plants were working double shifts, in some cases three shifts, the industry was not providing a full week's work for one-third of its employes, although it was requiring excessive hours of overtime from one-third of its employes. These extremes in overtime and under time are not explained on the grounds of sex, for while men unquestionably worked the greater proportion of overtime, one-fourth of the men worked under time and more than one-fifth of the women worked overtime. Nor were these extremes wholly the result of pressure of work in certain departments and slack work in others for every occupational group showed an appreciable amount both of under time and overtime employment. . . . in no district were the majority of the workers employed their regular full time hours." Commonwealth of Pennsylvania, Dept. Labor and Industry, loc. cit.

Figure 18.- PERCENTAGE OF PERSONS WORKING AT INDIVIDUAL SHOPS WHO RECEIVED OVER 1 WEEK OF EMPLOYMENT PER 2-WEEK PAY PERIOD, MONTHLY, 1926-36



BASED ON TABLE A-21

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existed previous to 1926. Mr. James Wilson, while president of the Paterson Chamber of Commerce, referred to the prevalent "excessive turnover" before a conference on the industry in 1928. Speaking of the unsatisfactory employment conditions, he said:

"Every effort should be made to reduce the industrial waste of excessive turnover, a very grievous ill in the industry here. . . . Something should be done to obviate the present unhappy condition of affairs when a man wanders from one place to another seeking employment without any sense of loyalty to his employer, sometimes to find every door closed in his face. Unemployment should be reduced. Employment should be stabilized."¹⁵

In 1936, a representative of local industry and business interests was not certain as to "the advisability of the attempt to make an investigation of silk employees . . . as the turnover in that industry is quite a difficult one."¹⁶

Turn-over rates¹⁷ fluctuated considerably during each year of the period. (See monthly rates in table A-22.) Between 1926 and 1928, these rates rose sharply and remained on this high level the balance of the period¹⁸ (see figure 19). This rise reflects an increasing intermittency and casualness of employment.¹⁹ The constant fluctuations in the demand

¹⁵ *American Federationist*, Vol. 35, No. 8 (Aug. 1928), p. 933.

¹⁶ In a letter from the secretary of the Chamber of Commerce of Paterson, New Jersey, October 6, 1936.

¹⁷ Turn-over rates are here expressed in terms of the number of transactions (accessions, separations, etc.) per 100 workers on all pay rolls. Rates were found for each month. Annual rates are additions of the monthly rates. The number of workers on all pay rolls in any month was found by averaging the individual biweekly pay rolls of each concern and then adding these averages to get the average number of employees on all pay rolls during the month. The rate per 100 employees was then computed for each type of labor mobility, thus:

$$\frac{\text{Total accessions (occurring on pay rolls ending in any month)} \times 100}{\text{Total employees (average number on all pay rolls ending in any month)}} = \text{Accession rate}$$

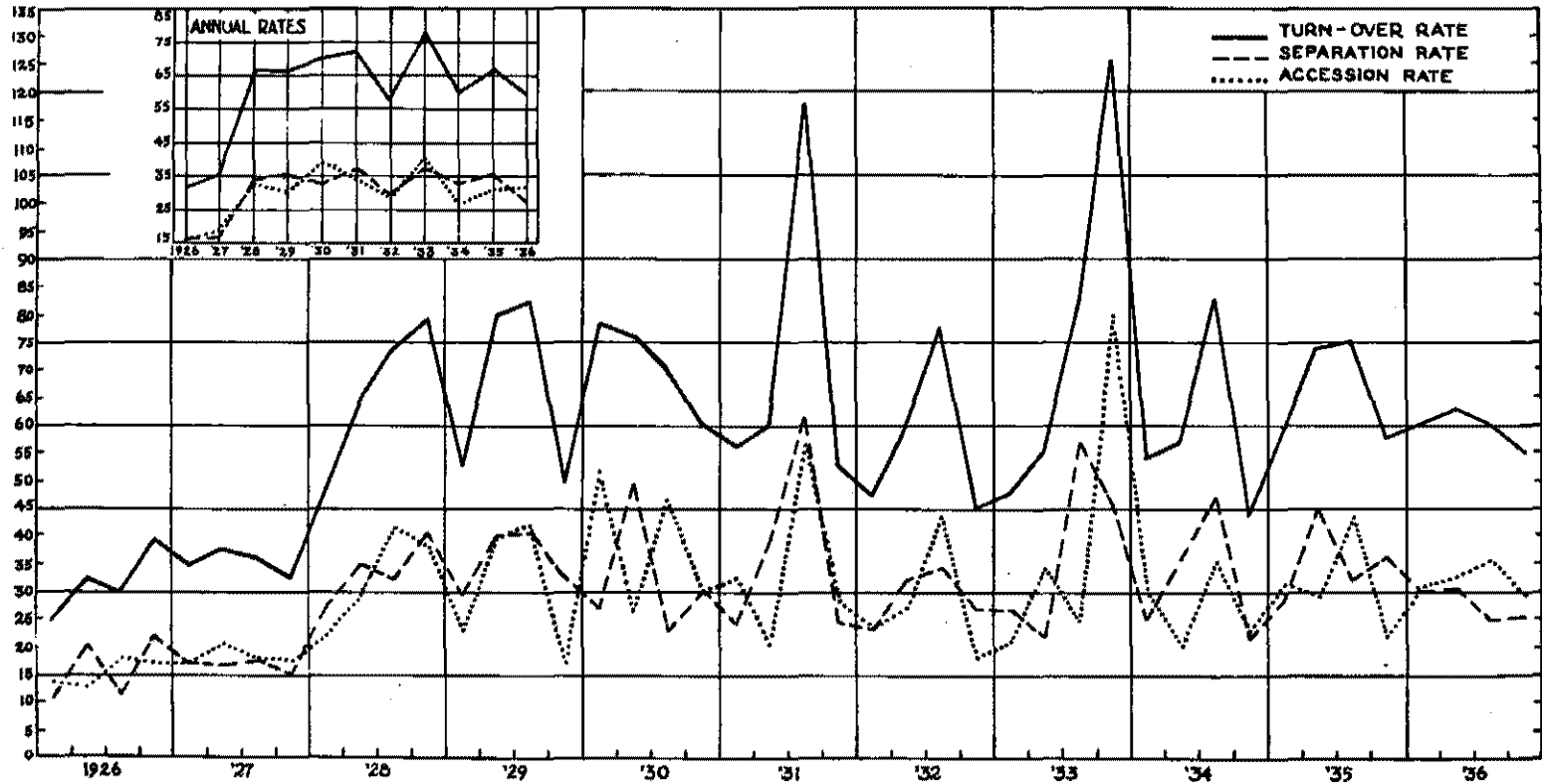
¹⁸ The turn-over rates for this sample of local broad-silk industry are far above the highest rates found in the series published for selected industries by the U. S. Department of Labor, Bureau of Labor Statistics (see *Handbook of Labor Statistics: 1936 Edition* [Bull. No. 616, 1936], pp. 803-11). Of course, it must be kept in mind that all interruptions in employment, including those resulting from strikes and other random disturbances, were counted as lay-offs (separations). Where short-time absences from work with the name of the worker remaining on a pay roll are not defined as lay-offs, as in the procedure used by the Bureau of Labor Statistics, the rates are necessarily lower. In Paterson a name does not ordinarily appear on a pay roll unless the person worked during the period.

¹⁹ The pay rolls added to the sample in 1927 and 1928 had somewhat higher rates of turn-over than the five pay rolls in the sample in 1926. However, the latter increased rapidly after 1926, and up to 1930, at least, as demonstrated by their annual turn-over rates.

| | |
|--------------|--------------|
| 1926 - 377.0 | 1929 - 543.4 |
| 1927 - 416.7 | 1930 - 550.9 |
| 1928 - 463.8 | |

Figure 19.- MONTHLY AVERAGE LABOR TURN-OVER RATES FOR ALL WORKERS AT INDIVIDUAL SHOPS,
BY QUARTER AND YEAR, 1926-36

RATE PER 100 WORKERS



BASED ON TABLE A-22

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for labor and the characteristic of short periods of employment are shown by the close relationship between accessions and separations.²⁰

Accession rates were classified by first accession (insofar as the pay-roll record of the individual shop was concerned) and rehiring rates. These show the extent to which workers previously connected with an establishment were hired back while other workers were being hired for the first time (insofar as this was shown by available pay rolls).

As the Paterson shops keep no personnel records which would permit a classification of separations by reasons for leaving a pay roll, separations were classified as "lay-offs" and "final separations." Lay-offs were divided into "short-time" and "long-time" lay-offs.²¹ A short-time lay-off occurred if an employee's name was not absent from the pay roll from which he had been separated more than two pay periods (28 days). A lay-off lasting three or more pay periods was classified as a long-time lay-off.²² Final separations were those separations which resulted in an employee's not being rehired in any subsequent pay roll up to the end of 1936.

During the greater part of the period, the rate of final separations was higher than either of the two types of lay-offs. Except for those who leave this labor market, workers who do not return to a particular shop, if it is still operating, simply confine their efforts to find employment to the several hundred other concerns in the industry. Long-time lay-offs have been more common than short-time lay-offs. The latter type is experienced by the regular workers and some of the contingent force, who return to a shop after a brief interval with the promise of employment or who find their way back in the course of seeking work. As will be seen presently, most of the workers do not become reattached to a pay roll after one or two brief periods of employment.

²⁰ Whether pay rolls are expanding or contracting during any period is determined by which rate, accession or separation, is the higher. The lower of the two at any time is, of course, the replacement rate.

²¹ The term "lay-off" is here used in an accepted sense. Technically, it means a termination of employment without prejudice. This, of course, would probably apply to the large majority of lay-offs that resulted in the employee's never reappearing on the pay roll. Here it is also used to cover all other cases of separation, including those where the worker laid off later becomes a reaccession. All final separations were, of course, lay-offs at the time of their occurrence.

²² Time actually separated from a pay roll cannot be accurately measured by the number of pay periods of separation. This is due to the fact that a person may not work full pay periods during the periods when his name is on a pay roll and that, consequently, the length of time actually separated could be longer than appears.

WORK DISTRIBUTION AND EMPLOYMENT PATTERNS

A majority of the workers in this labor market obtain only a small amount of employment in any one place. Their employment is contingent on an increase in production, and as activity tapers off they again go in search of work. This group therefore constitutes a "floating" force. A minority of the workers, on the other hand, receive all or the greater part of their employment in one place. They constitute a "fixed" or regular force.²³ However, in frequent periods throughout the year they do not work full time, and part of the year they are unemployed.

The high degree of uncertainty in the labor requirements of an establishment has made it impossible for most workers to look to particular shops for steady employment. Instead, they have had to obtain work in a multiplicity of places. An employer does not need to encourage workers outside of his regular force to be "on call." A reserve is readily available to satisfy the demands for contingent workers whenever production picks up. Workers respond to advertisements hung on factory buildings. The word is passed around that work is available at certain places, or else they make casual application. When the spurt in production is over, the "extra" workers are laid off. The next pick-up may bring back some of the contingent help employed previously. Ordinarily, new faces appear.

Part of the contingent force is hired for as long as the work lasts, and is referred to as the intermittent workers. This intermittent status depends on the amount of work available and the occupation in question. Another small portion of the contingent force is hired to do specific jobs. These casual workers are engaged, typically, in twisting, entering, handing-in, and reeding - doing all jobs that a twister is supposed to be capable of doing. Loom fixing, warping, and certain other operations also are done on a casual or job basis in some of the shops. A worker who constantly makes the rounds of the shops to obtain casual work is colloquially called a "gypsy." In view of the short intervals of employment

²³In addition to using the terms "fixed" and "floating" to distinguish between the principal types of employment experience in this labor market, the terms "regular" and "contingent" are also used for the same two types.

given to a large proportion of the intermittent workers, however, this apt term could very well be applied to them also.

The preponderance of brief employment durations experienced with one employer is demonstrated in figure 20 (see also table A-29) where a heavy clustering of cases occurs in the lowest frequencies in each year. With the exception of 1926, approximately 50 percent or more of all workers were employed only 9 weeks or less with one employer. It will also be seen that those who worked 2 weeks or less accounted for about one-quarter to one-third of all workers in each year of the period except the first. In 8 years, approximately 70 or 80 percent of all workers obtained not more than 26 weeks with employment.

The corollary of the small amounts of employment obtained by a majority of the workers is the almost equal preponderance of single periods of employment²⁴ (see figure 21). In 6 years of the period more than 70 percent of all persons worked only once for one employer in any one year.

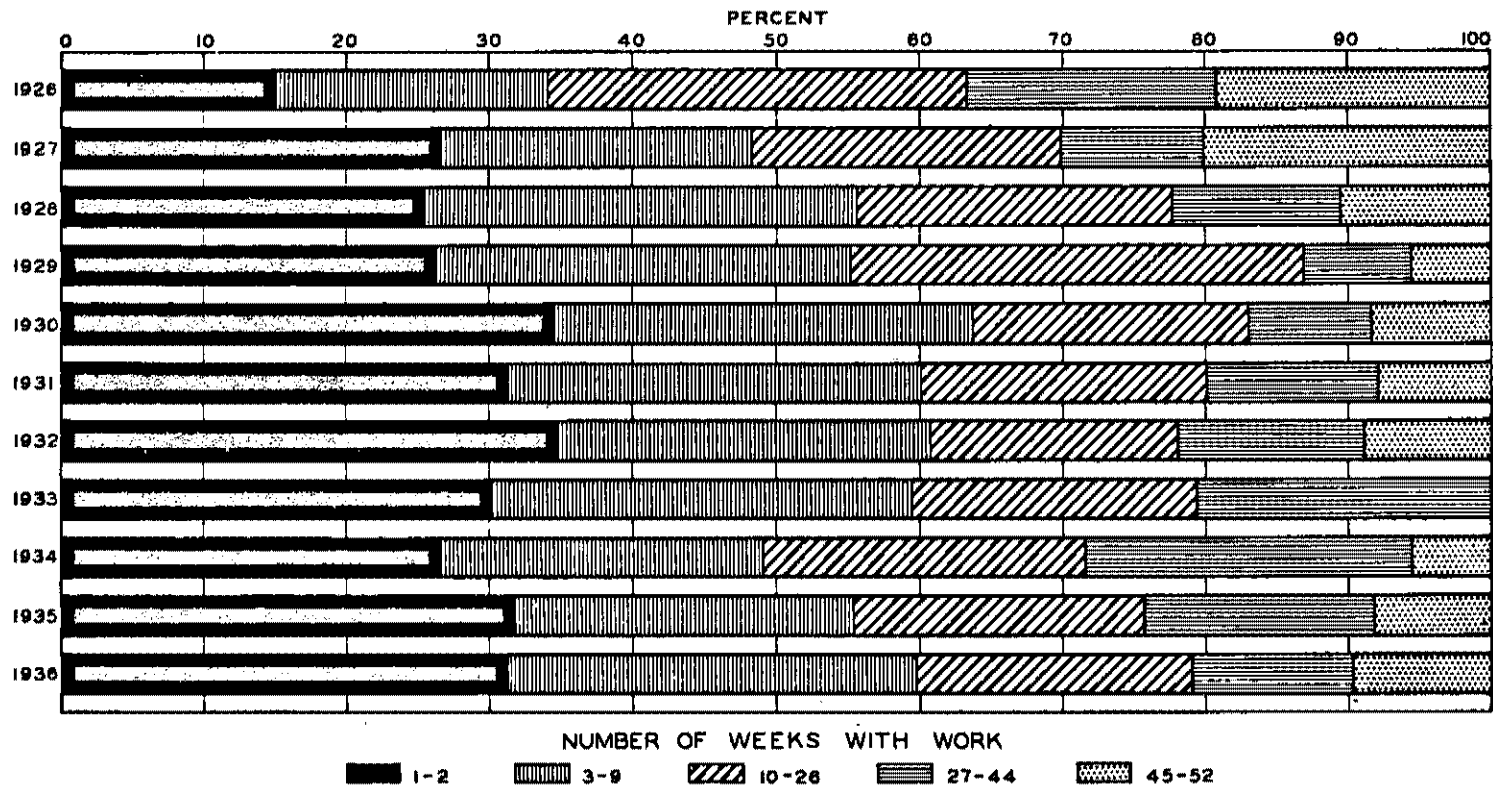
The workers receiving more than a half-year with work with an establishment are predominantly those who look to it for their principal or sole employment. In most years, according to the pay-roll sample, only between 20 and 30 percent of all workers had more than 26 weeks with employment on one pay roll (see table A-29, where the distributions are given for each year). About 35 percent of the 616 workers in the occupational-history sample could be characterized as members of the fixed force of individual plants since they met each of the following criteria, the first two of which correspond to the criteria used for the fixed force in the pay-roll sample:

- (1) More than 1 year of connection (first accession to final separation, as shown by the work history) with one shop during part or all of 1935 and preceding years;
- (2) More than half of the employed time during 1935 spent in this shop;
- (3) And also with 50 percent or more of the entire connection spent in regular employment as defined in the Introduction.

Of particular plant forces, at least half of this fixed group had employment in only one shop for from 2 to 3 years. In each

²⁴A period of employment is a period during which an individual's name appears continuously on a pay roll.

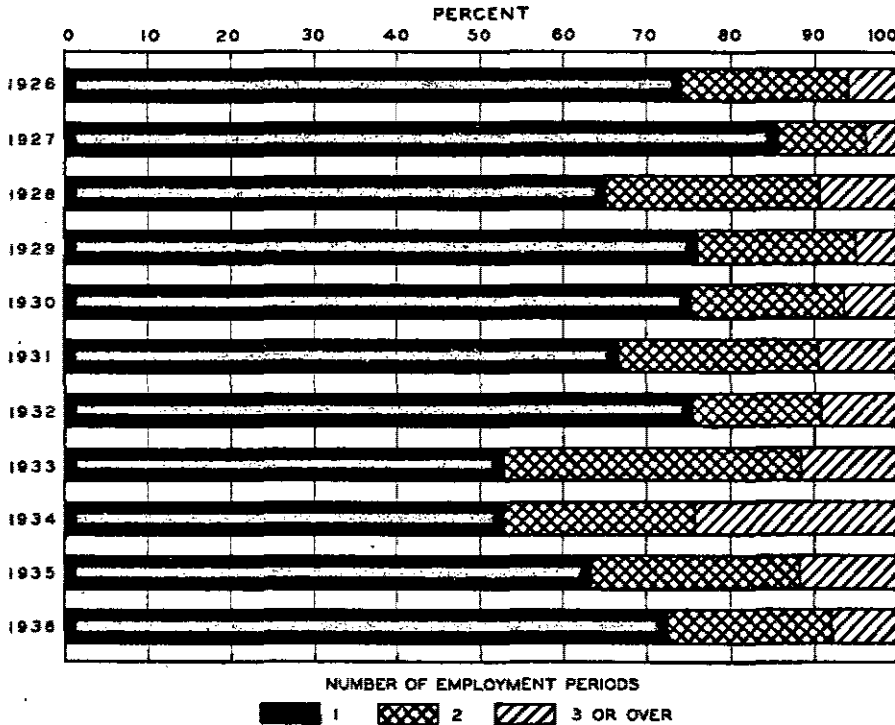
**Figure 20.- PERCENTAGE DISTRIBUTION OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY NUMBER OF WEEKS WITH WORK, 1926-36.**



BASED ON TABLE A-25

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Figure 21.- DISTRIBUTION OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS, BY NUMBER OF EMPLOYMENT PERIODS, 1926-36



BASED ON TABLE A-23

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of 8 years, 1.7 percent or less of all workers had 52 weeks with work. "Full-year" employees comprised relatively high proportions in the first 2 years, when more work was available (see table A-29). Through preferment or vested interest, a decreasing minority of workers in the market has been able to establish relatively permanent connections in particular shops. This fixed force has consisted of operators,²⁵ members of their families, relatives, friends, and old employees.

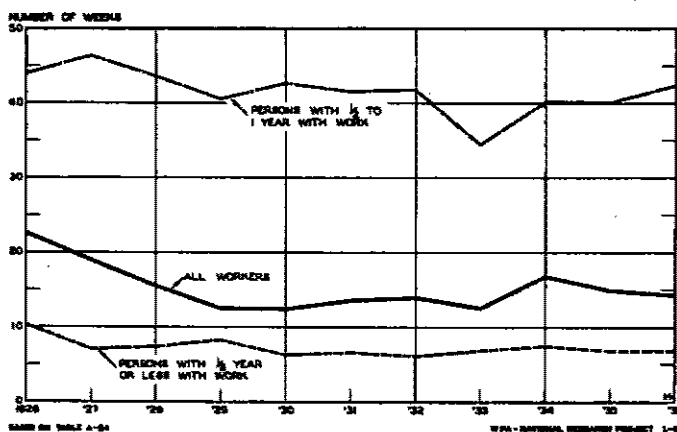
The employment experience of the fixed group is the most favorable in the market, yet its status has a contingent aspect and in recent years it has had to accept increasingly poor conditions of employment. Its fortunes are closely related to the fortunes of the concerns to which it is attached. When a concern shuts down or goes out of business, as has

²⁵ Operators were not included in tabulations of pay-roll data unless they were posted on pay rolls as regular workers.

so frequently happened, the tenure of the preferred group is permanently or temporarily destroyed, and it again becomes mobile in the labor market. The destitution entailed by shut-downs, too little work, or work at low pay was in evidence among them in 1936. Most of the workers regularly attached to petty shops have worked under sweatshop conditions, and their resources have been so poor as to narrow or obliterate the differences in well-being between them and members of the floating group.

In order to characterize further the employment of these two general groups, they may be defined in the terms previously indicated: those receiving 26 weeks of employment or less in

Figure 22. - AVERAGE NUMBER OF WEEKS WITH EMPLOYMENT FOR ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS, 1926-36



1 year and those receiving more than 26 weeks. The short-tenure group, the majority of the labor force in any year, obtained an average of between 6 and 7 weeks' employment (the median was between 3 and 4 weeks) in most years of the period (see figure 22 and tables A-29 and A-30). Workers in the long-tenure class, on the other hand, had averages of between 40 and 44 weeks in all but 2 years.

While the short-tenure people received more employment the more periods of work they obtained, the reverse was true of the other workers. Of the former, those who returned to the same employer two or more times probably did so because at the time of lay-off they were promised some additional work in the near future; or else they became reattached simply in

the course of looking for work. In the long-tenure class, those whose names were on a pay roll continuously had most employment; persons with two and three periods of employment or more came next in this order respectively. This situation is explainable principally on the basis of the amount of work available for persons attached to an establishment and the degree of preference that is accorded to each. A portion of the workers who depend entirely or in major part on particular shops for employment work intermittently; their employment is usually split up into three periods or more. The maximum in any year was nine periods. Employment periods averaged about 10 or 11 weeks for long-tenure persons having three periods or more of employment, while there were about 20 and 21 weeks for those with two periods and usually between 41 and 46 weeks for those with one period.

The average length of the intervals during which workers were separated from any one pay roll during a year was found for all persons having more than one period of employment²⁶ (see table 12). In most years of the survey the length of this period averaged between 5 and 7 weeks. However, the length of separations was based only on the number of pay periods intervening between one period of employment and another when the name of a worker was not on the pay roll. In view of the fact that a large portion of the workers are not employed full

Table 12.- AVERAGE LENGTH OF PERIODS OF SEPARATION FROM INDIVIDUAL PAY ROLLS, 1926-36^a

| Year | Average length of periods of separation (weeks) | Year | Average length of periods of separation (weeks) |
|---------|---|------|---|
| Average | 6.2 | 1931 | 6.3 |
| 1926 | 6.3 | 1932 | 5.7 |
| 1927 | 4.7 | 1933 | 9.5 |
| 1928 | 3.8 | 1934 | 5.4 |
| 1929 | 5.1 | 1935 | 4.8 |
| 1930 | 6.9 | 1936 | 6.9 |

^a Based on all workers who returned to given pay roll during each year after separation of at least one 2-week period. Data obtained in NRP Field Survey: pay-roll sample for 22 shops.

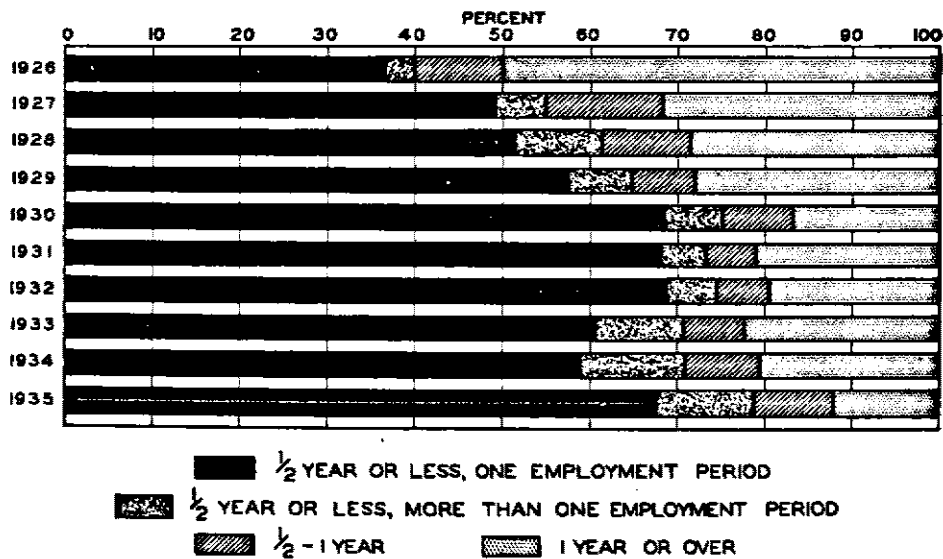
²⁶ For the proportion of workers having more than one period of employment, i. e., separation from a pay roll of at least one pay period, see figure 21.

pay periods with any one employer, it would be possible for an employee to be laid off and rehired without his name being dropped from the pay roll.²⁷ In other words, workers with more than one period of employment with any given concern during the year have, on the average, spent more time separated from the pay roll of a concern than is indicated in the table.

Length of Connection With Establishments

The relatively short time that most workers are attached to any establishment may be shown in over-all perspective when the new accessions of each year are distributed by their lengths of connection. By a "new" accession is meant the first appearance of the name of an employee on the pay roll of a given shop. "Length of connection" is the time elapsing between the first accession and final separation.

Figure 23.- PERCENTAGE DISTRIBUTION OF ALL FIRST ACCESSIONS, BY LENGTH OF CONNECTION WITH INDIVIDUAL ESTABLISHMENT, 1926-35



BASED ON TABLE A-29

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Of all first accessions in 1926, 40 percent had connections lasting not longer than 6 months (see figure 23 and table A-29). In the next year this figure was approximately 55 percent, and in 7 years of the period it exceeded 70 percent.

²⁷See fn. 22, p. 73.

Except for a small percentage in any year, employees with this length of connection had only one period of employment.

Except in 1927, 10 percent or less of all new accessions had connections lasting from over 6 months to 1 year. In any year, this group assumes, on the whole, the characteristic of the regular force. But from a longer point of view it takes on the aspect of that portion of the contingent group which obtained relatively more employment. Fifty percent of all first accessions in 1926 had connections longer than a year. The proportion was less than 30 percent in 1928, and in 1935 it was only 12 percent. It will be observed that the proportion of cases in the 1 to 2 years' connection accounts for more cases in almost every year than do any of the higher frequencies (see table A-29).

Only part of the workers with connections of over a year had regular status. A comparatively small portion returned to their respective pay rolls a number of times over long periods to obtain relatively small amounts of employment. Their characteristics will be further taken up below.

The factors creating the situation in which most workers are not rehired - at least in a period of several years - after having secured a small amount of employment on a pay roll in one employment period or more have already been indicated. Typically, a worker cannot expect a particular establishment to provide him with employment sufficient either in frequency or duration. Once separated, he becomes mobile in the labor market. In the course of seeking a job, working for a time, and again being thrown back on the market, he does not renew attachments in many places where he previously was employed. Reattachment is of course frequently precluded by the mortality of the concern. Establishments, on the other hand, have not needed to conserve a supply of contingent labor. An abundance of requisite skills has long been available.

Employment Experience During Connection

The actual average length of connection for all accessions with connections of 6 months or less was consistently below the midpoint of the interval. It ranged, over the 11 years, between 1.2 and 2.4 months (see table 13). In most years this

Table 13.- EMPLOYMENT EXPERIENCE AT INDIVIDUAL SHOPS OF ALL FIRST ACCESSIONS CONNECTED ONE-HALF YEAR OR LESS, 1926-36^a

| Year of first accession | Average length of connection (months) | Percent of time - | | Employment periods | |
|-------------------------|---------------------------------------|-----------------------------|--------------|--------------------|-------------------------|
| | | With work during connection | Without work | Average number | Average length (months) |
| 1926 | 2.4 | 83.3 | 16.7 | 1.1 | 1.8 |
| 1927 | 1.5 | 73.3 | 26.7 | 1.1 | 1.0 |
| 1928 | 1.5 | 66.7 | 33.3 | 1.2 | 0.8 |
| 1929 | 1.5 | 73.3 | 26.7 | 1.1 | 0.9 |
| 1930 | 1.5 | 66.7 | 33.3 | 1.1 | 0.9 |
| 1931 | 1.2 | 75.0 | 25.0 | 1.1 | 0.8 |
| 1932 | 1.2 | 66.7 | 33.3 | 1.1 | 0.8 |
| 1933 | 1.6 | 62.5 | 37.5 | 1.2 | 0.8 |
| 1934 | 1.6 | 66.7 | 31.3 | 1.2 | 0.9 |
| 1935 | 1.4 | 64.3 | 35.7 | 1.2 | 0.8 |
| 1936 | 1.4 | 71.4 | 28.6 | 1.1 | 0.9 |

^aData obtained in MRP Field Survey: pay-roll sample for 22 shops.

group failed to obtain work²⁸ in the given shops, on the average, about a third of the time it was connected; it usually averaged slightly more than one accession or period of employment; and in 9 of the 11 years it averaged less than 1 month of employment per employment period.

In most years, accessions of workers in the frequency of 6 months to a year approximated an average of 9 months' connection with individual shops (see table 14). But between 37 and 50 percent of the time the workers were usually without work at these shops. The average length of their periods with work was usually between 2 and 3 months.

To obtain the long-time employment experience of the regular or fixed force - all persons who had employment at least half the time they were connected - the records of those persons who had connections of over a year were used. The group that had connections of over a year but who were employed less than half of the time are the contingent or floating workers who, typically, became reattached one time or more during comparatively long periods of connection. The proportions of time with and

²⁸Time without work includes not only those weeks during his connection in which an employee's name was not on the pay roll, but also those half-pay periods or more in which he ostensibly had no work.

Table 14.- EMPLOYMENT EXPERIENCE AT INDIVIDUAL SHOPS OF ALL FIRST ACCESSIONS CONNECTED ONE-HALF TO ONE YEAR, 1926-36^a

| Year of first accession | Average length of connection (months) | Percent of time - | | Employment periods | |
|-------------------------|---------------------------------------|-----------------------------|--------------|--------------------|-------------------------|
| | | With work during connection | Without work | Average number | Average length (months) |
| 1926 | 8.1 | 81.3 | 18.5 | 1.7 | 3.9 |
| 1927 | 9.1 | 70.3 | 29.7 | 1.6 | 3.7 |
| 1928 | 8.8 | 62.5 | 37.5 | 2.5 | 2.2 |
| 1929 | 9.5 | 71.6 | 28.4 | 2.2 | 3.1 |
| 1930 | 8.4 | 60.7 | 39.3 | 1.9 | 2.7 |
| 1931 | 8.1 | 55.8 | 43.2 | 2.3 | 2.0 |
| 1932 | 8.7 | 51.7 | 48.3 | 2.2 | 2.0 |
| 1933 | 9.4 | 52.1 | 47.9 | 2.3 | 2.2 |
| 1934 | 9.8 | 52.1 | 47.9 | 2.5 | 2.0 |
| 1935 | 8.9 | 48.3 | 51.7 | 2.4 | 1.8 |
| 1936 | 8.9 | 61.8 | 38.2 | 2.0 | 2.8 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops.

Table 15.- EMPLOYMENT EXPERIENCE AT INDIVIDUAL SHOPS OF ALL REGULAR AND CONTINGENT FIRST ACCESSIONS CONNECTED OVER 1 YEAR, 1926-35^a

| Year of first accession | Regular | | | | Contingent | | | |
|-------------------------|-------------------------------------|--------------|--------------------|-------------------------|-------------------------------------|--------------|--------------------|-------------------------|
| | Percent of time during connection - | | Employment periods | | Percent of time during connection - | | Employment periods | |
| | With work | Without work | Average number | Average length (months) | With work | Without work | Average number | Average length (months) |
| 1926 | 79.2 | 20.8 | 9.0 | 5.9 | 21.8 | 78.2 | 7.2 | 2.2 |
| 1927 | 69.1 | 30.9 | 5.3 | 4.8 | 23.5 | 76.5 | 5.8 | 2.6 |
| 1928 | 60.6 | 39.4 | 4.7 | 7.5 | 19.8 | 80.2 | 4.9 | 1.9 |
| 1929 | 80.1 | 19.9 | 6.7 | 6.2 | 19.2 | 80.8 | 5.0 | 1.4 |
| 1930 | 77.7 | 22.3 | 5.6 | 5.9 | 22.6 | 77.4 | 5.4 | 1.9 |
| 1931 | 73.2 | 26.8 | 6.5 | 5.5 | 22.4 | 77.6 | 4.2 | 2.0 |
| 1932 | 72.2 | 27.8 | 5.9 | 4.8 | 20.0 | 80.0 | 5.1 | 1.4 |
| 1933 | 57.2 | 32.8 | 5.5 | 3.5 | 26.2 | 73.8 | 4.7 | 1.5 |
| 1934 | 71.6 | 28.4 | 4.7 | 3.6 | 28.2 | 73.8 | 4.8 | 1.2 |
| 1935 | 72.7 | 27.5 | 3.4 | 3.9 | 28.2 | 71.8 | 3.6 | 1.4 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops.

without work of all over-a-year connections in both the regular and contingent groups are represented in table 15. Each year's accessions to the regular force had employment provided by their respective establishments on the average between about 70 and 80 percent of the time. The experience of the contingent or floating workers was just the reverse of that of the regular force. In the course of their mobility among the many shops

they renewed previous attachments, securing a relatively small amount of employment on each occasion.

Despite the fact that the regular group was employed a greater portion of the time, contingent accessions in most years averaged about the same number of employment periods (see table 15). The average length of employment periods for the latter groups was, of course, much shorter.

Employment Experience of Occupational Groups

As it was not possible on many pay rolls to distinguish every employee's specific occupation, they were classified only into three principal occupational groups: (1) loom fixers, twisters, warpers, etc.; (2) weavers; and (3) quillers, winders, pickers, etc. The first is the most skilled group, the weavers coming next, and the third is semiskilled. By far the largest group is the weavers; the semiskilled and the other skilled follow in order.

It was also not possible to determine the sex of workers in a large portion of the cases. The given names were frequently not spelled out but only initialed. Sometimes only the surname appeared.²⁹ The predominance of men in the labor market has previously been discussed. Women predominate in the quilling and winding (or semiskilled) branches. They are also found to a small extent in the other occupations, except loom fixing.

An elaborate division of labor exists in mills of several hundred looms, where all preparatory, auxiliary, and, in addition, certain special operations are carried on. In Paterson, factory organization of this type is found only rarely. There is a good deal of multiple-job performance in small shops. This grows out of a situation in which production is carried on under conditions of rapidly fluctuating levels and where the organization of production is on a low plane. Weavers usually have to adjust their own looms, take off cloth, and be their

²⁹ Despite the entry of incomplete names in some periods on certain pay rolls, little difficulty was encountered with identical entries in given pay periods or with the recurrence of entries which were almost, but not quite, identical. Two entries were not ordinarily made for the same person in a particular period on any pay roll. And the posting of individual names from pay roll to pay roll was consistent on most records. Where questions arose, the employer, bookkeeper, or old employees were usually able to answer them to their own satisfaction and to that of the supervisor or person doing the transcribing. It is therefore thought that little bias exists in the pay-roll data arising from duplication of entries. No attempt was made to trace the employment experience of a worker from one sample pay roll to another. Had this been done, the chance of error would have been greater than in tracing a worker's employment experience in a single pay roll.



WPA - National Research Project (Hine)

FIGURE 24.- QUILLING

Bobbins brought from the throwing plant are wound onto quills (the spindle-type bobbins on the machine in front of the operator). The quills, which are inserted in the shuttle, carry the filling or weft thread.



WPA - National Research Project (Hine)

FIGURE 25.- NONAUTOMATIC LOOM

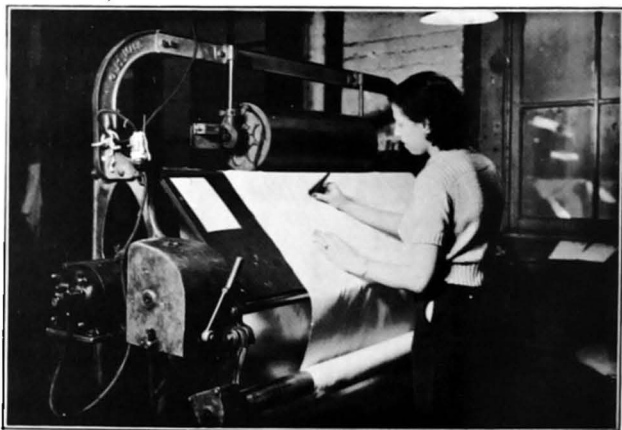
Weaver preparing to reload the shuttle with a full quill.

own bobbin boys. Quillers pick and in some shops also act as bookkeepers. Winders do the same, in addition to unpacking, soaking, and whizzing the silk skeins. When the twister who is employed regularly in a shop is not needed at his usual operation, he does something else. In the larger shops in Paterson a worker tends more to remain at one occupation, although even here multiple-job performance is found.

In terms of the average number of weeks with work, occupational groups fared about the same over the period (see table A-25). Only in a few years were there any wide disparities in the average amount of employment received by these groups. By varying amounts, however, weavers almost always had somewhat more employment than the average for all workers.

Union Position on the Distribution of Work

The situation in which a small proportion of the working force obtains a disproportionate amount of work has long been a point of contention between the workers and the employers. The recent agreements drawn between the union and the employers



WPA - National Research Project (Kine)

FIGURE 26.- "PICKING" THE COMPLETED CLOTH

After the cloth has been taken from the loom, it is run over the board of a "picking" machine to be measured (note gage at left end of roller), have loose threads picked out, and incidental soiled spots removed.

include clauses purporting to settle this problem. Section 7 of the 1933 agreement states:

"All weavers must be given their turn when their warps are finished the work available shall be divided among the workers in the employ of the employer as equally as possible. No employee shall, therefore, in dull seasons be laid off to the advantage of the other employees."³⁰

In the agreement resulting from the 1934 strike, members of the employer's family were exempted and certain minimum conditions were specified under which work should be distributed. According to section 12 of the 1934 agreement,

"Work shall be shared among the employees as long as the mill is operated for at least two shifts of six hours each. Husbands, wives, sons, and daughters, of employers, however, shall not be expected or required to share work with other workers. The relatives of the employer shall be entitled to be employed at all times, whether they were previously employed or not."³¹

It was evidently intended that the sharing of work was not required if only one shift was being operated. The militant faction in the plain-goods local opposed the exemption from work sharing by the employer's family. Mr. Eli Keller, manager of the American Federation of Silk Workers at the time, explained that the important thing was to specify what relatives would be exempted.³² It was expected that a grievance board, created by the agreement, would work out the necessary rules and their applications under these sections. As both agreements broke down, no uniform procedure for work sharing was established.

The 1937 contract between the Textile Workers Organizing Committee, an affiliate of the Congress of Industrial Organizations, and the Silk and Rayon Manufacturers' Association, which comprises the larger concerns in Paterson, provides that "manufacturers, their officers or partners in manufacturers' firms shall be permitted to do any work that they desire within the mill, and in doing productive work, they will comply with

³⁰Quoted in "Supplement to Paterson Silk Strike and Settlement, 1933", by Lincoln Fairley (unpublished manuscript prepared in June 1935 for the Harvard Business School, Cambridge, Massachusetts).

³¹Ibid.

³²Ibid.

the terms of this agreement [except those relating to union membership and hiring and firing]."³³

The 1937 contract between the TWOC and the Silk Commission Manufacturers' Association states that "in family shops and in all cases of partnerships or corporations, job preference shall be given to members of the family and partners and share holders, but in the case of family shops [the size of which is not defined in the agreement] no more than two people engaged in productive labor shall be regarded as Employers. . . ."³⁴

It is the policy of the union to exclude the employers and workers thus described from questions of job preference or work sharing.³⁵ However, the union stands for the reassignment of work, if it is available, in the order in which an employee completes the block of work on which he has been engaged. For example, the union contends that as a weaver finishes his warps he should be given the new ones, up to the normal loom load. The attitude of the union toward persons not in the immediate family of the employer and having no financial interest in an establishment is that they shall belong to the union and take their chances along with the rest. Under the terms of the 1937 agreements, an employer may hire whomever he pleases, although these agreements provide for preferential hirings; but within a weeks following the 6 weeks' trial ("learning" period) a nonmember must join the union. (The 1938 agreements provide for a closed shop, with trial periods of 2 and 4 weeks, and for the check-off system.)

EARNINGS

Complete earnings data were obtained from 19 of the 22 pay rolls; in addition, partial data on 1 of the larger shops were secured. No data were taken from the pay rolls of two of the

³³ *Agreement Between the Silk and Rayon Manufacturers' Association and the Textile Workers Organizing Committee* (Paterson, N. J.: mimeo., Aug. 13, 1937), Section 10. Section 12 of an agreement signed by these two groups on September 19, 1938 contains the same provision, but it is further provided (Section 9) that "work in all departments shall be divided as equally as possible. In all cases in which workers are laid off because their normal work assignment is not available, the available work shall be equally divided among all workers. This requirement may be satisfied by employing the workers in equal rotation."

³⁴ *Agreement Between the Silk Commission Manufacturers' Association and the Textile Workers Organizing Committee* (Paterson, N. J.: mimeo., Aug. 1937), Section 9. Section 9 of the contract signed by these groups on September 14, 1938 simply states that "work in all departments shall be divided as equally as possible amongst all workers in the mill, unless otherwise arranged with the Employer and the Union."

³⁵ Each agreement provides for an impartial arbitrator, to whom all grievances not settled between the union and the employer are supposed to be submitted.

smaller concerns. Piece and time rates were posted here and there in some of the pay rolls but not with enough frequency to yield an adequate sample.

A necessary corollary of the constant fluctuations in the number of workers on pay rolls and of the extent to which workers are utilized is the fluctuation of average earnings from pay period to pay period. This continuous variation in earnings is brought out in figure 27, where the average weekly earnings³⁶ of all workers are plotted on the basis of pay-roll periods ending nearest the 15th of each month. The annual line represents average weekly earnings during the year. The varying levels of average weekly earnings from month to month follow in general the seasonal variations in employment. Some of the lowest figures occurred when strikes were in progress, but most of them coincided with periods of decreased activity.

Weekly Earnings

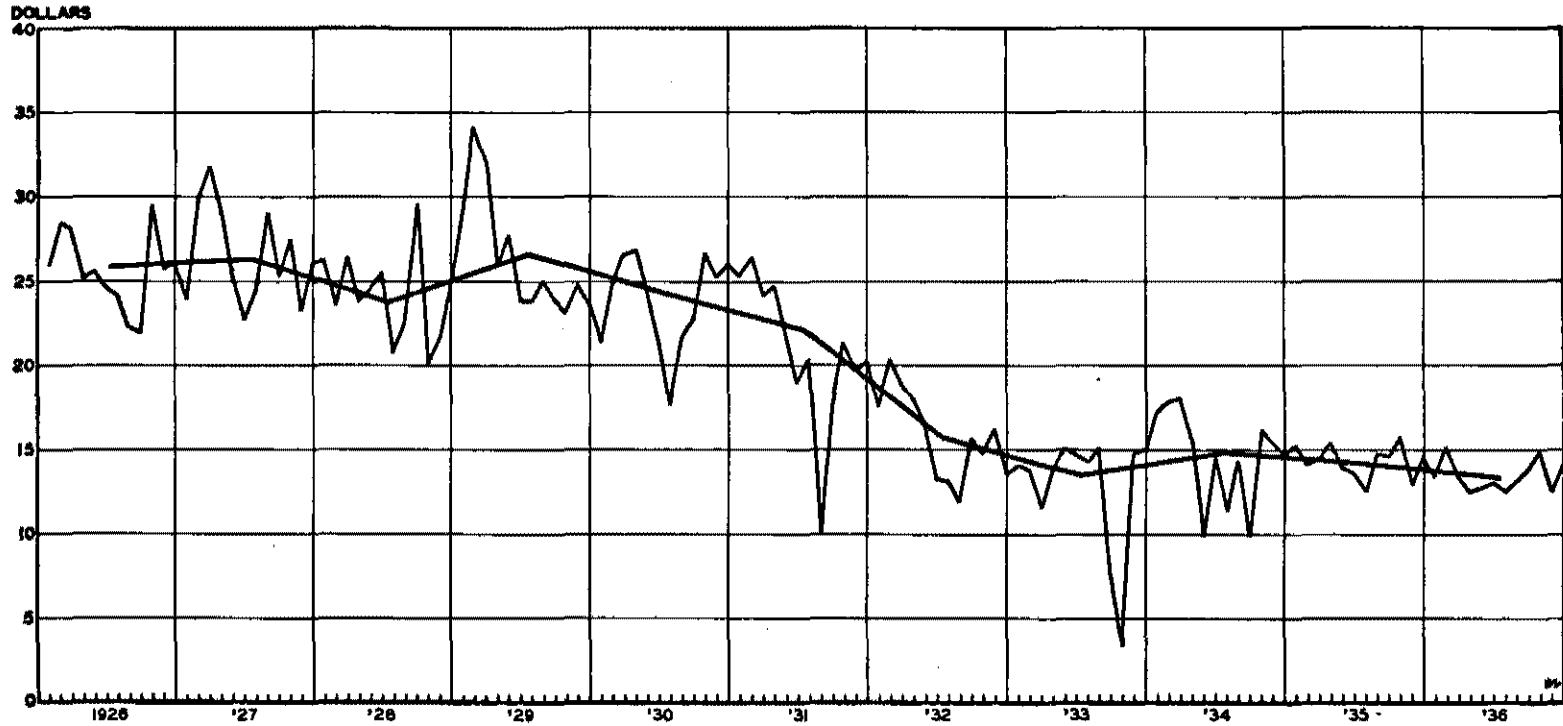
From 1926 through 1929, average weekly earnings of all workers ranged from \$20 to \$34 but were usually between \$23 and \$29 (see table A-31). From the middle of 1929 on, fluctuations occurred on a lower level than previously, and after the early part of 1931³⁷ a sharp downward trend set in. From the last half of 1932 to 1936 these earnings were usually around \$15 or lower.

Average weekly earnings of each occupational group show the same characteristics over the period as those of all workers. Earnings of weavers and other skilled workers changed more erratically than those of the semiskilled. This is probably due chiefly to the fact that the latter are paid time rates, whereas the weavers are paid piece rates and the other skilled workers are paid piece, job, and time rates according to the occupation and conditions of employment. Although the earnings of all groups declined together, those of the weavers and other skilled workers underwent relatively larger declines than

³⁶ Average weekly earnings here represent the quotient of the biweekly wage bills divided by the number of workers on pay rolls and again divided by 2 to reduce the average to a weekly basis. To the extent that workers earn elsewhere during these periods, the averages shown do not represent total earnings. However, in view of the decreasing availability of work, a growing labor reserve, and the consequent ever-present difficulty of moving quickly from one job to another, average weekly earnings shown here most of the time probably reflect actual, or close to actual, earnings.

³⁷ Average hourly earnings of selected occupations in the silk industry in New Jersey in 1931 were, according to the U. S. Bureau of Labor Statistics, \$0.53.

Figure 27.- AVERAGE WEEKLY EARNINGS OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY MONTH AND YEAR, 1926-36



BASED ON TABLE A-31

WPA - NATIONAL RESEARCH PROJECT L-28

Table 16.- AVERAGE WEEKLY EARNINGS OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS, BY OCCUPATIONAL GROUPS, 1926-36^a

(Dollars)

| Year | All workers | Weavers | Other skilled | Semiskilled |
|------|-------------|---------|---------------|-------------|
| 1926 | 25.88 | 27.16 | 28.90 | 14.76 |
| 1927 | 26.22 | 26.82 | 35.54 | 14.46 |
| 1928 | 23.98 | 25.08 | 35.35 | 13.21 |
| 1929 | 26.75 | 27.44 | 38.90 | 15.18 |
| 1930 | 24.30 | 24.82 | 36.53 | 14.70 |
| 1931 | 22.14 | 22.16 | 32.13 | 14.69 |
| 1932 | 15.91 | 15.39 | 23.92 | 11.10 |
| 1933 | 13.55 | 12.59 | 22.05 | 10.02 |
| 1934 | 14.76 | 14.41 | 21.61 | 10.54 |
| 1935 | 14.35 | 13.69 | 23.01 | 10.85 |
| 1936 | 13.38 | 12.37 | 22.17 | 10.69 |

^aData obtained in MRP Field Survey: pay-roll sample for 22 shops.

those of the lowest-paid group. But the earnings of weavers decreased relatively more than those of the other skilled workers and, in fact, tended to approach closely the levels realized by the semiskilled (see table 16).

Median wage rates were affected very slightly by changes accompanying the NRA. A survey made by the United States Bureau of Labor Statistics shows that median hourly rates in silk and rayon manufacturing in Paterson were \$0.40 in August 1933 and had increased to only \$0.45 in August 1934.³⁸ At this time 9.6 percent of all workers were receiving less than the code minimum of \$0.33 per hour. Most of the broad-silk shops did not come under code regulation,³⁹ and the settlement of the 1933 strike did not bring substantial revisions upward. The wage minima which were asked for most of the principal occupations by the American Federation of Silk Workers at the time the code was being considered are shown below in comparison with the full-time weekly earnings reported as then existing.⁴⁰ These minimum earnings, it was thought, would provide a basis for getting back to predepression levels.

³⁸A. F. Hinrichs, "Wages and Earnings in the Silk and Rayon Industry, 1933 and 1934," *Monthly Labor Review*, Vol. 40, No. 6 (June 1935), p. 1441.

³⁹Report Upon Contract Weaving in the Rayon and Silk Industry (Washington, D. C.: Silk Textile Work Assignment Board, mimeo. 4387, Apr. 27, 1935), p. 1.

⁴⁰See "Paterson Silk Strike and Settlement, 1933", by Lincoln Fairley (unpublished manuscript prepared in the spring of 1934 for the Harvard Business School, Cambridge, Massachusetts).

PATERSON BROAD-SILK WORKERS

| Occupation | Wage minima asked | Wages claimed to exist |
|-------------|-------------------|-------------------------|
| Weavers | \$36 | \$10-12 @ 2½¢ per yard |
| Loom fixers | 44 | 30 |
| Twisters | 40-44 | 30 @ 50¢ per 1,000 ends |
| Winders | 18 | 10 |
| Quillers | 18 | 8 |

Before the depression full-time and overtime earnings for the skilled were as high as \$50 a week and more; weavers obtained \$35 to \$45, and the semiskilled \$15 to \$20. As late as 1929 there were cases of higher earnings in each occupational group than are indicated by these figures. The low earnings obtained by those receiving little employment pulled the averages down. The base rates set for the different occupations after the 1933 strike were the following: weavers, \$2 per 100,000 picks for silk and \$2.25 for rayon (on which basis it was claimed they could earn between \$19 and \$22 for full-time work); warpers, twisters, and loom fixers, \$32 per week; winders, \$15; and pickers and quillers, \$14.⁴¹ The average earnings actually received by these groups indicate that for a substantial portion in each, full employment was not available.

Before the end of 1935 the slight increases in wages and earnings brought about by the NRA had disappeared. Judging from average weekly earnings computed on an annual basis, the levels existing in 1936 were about the same as those in 1933 (see table 16).

The contracts between the TWOC and the employers, drawn in 1937, called for a minimum of \$15 (excepting learners) per 40-hour week. In addition, a minimum for weavers working on a "normal" loom assignment was fixed at \$18 and for loom fixers (in one standard contract at least) at \$25. For weavers and other skilled workers there was provided a sliding scale of percentage increases based on an average of the worker's last two pays for which the equivalent of full-time earnings (40 hours) was to be calculated.⁴² In 1938, by decision of an impartial arbitrator selected by the union and the employers, minimum weekly wages were reduced to \$13 a week; the minimum

⁴¹Ibid.

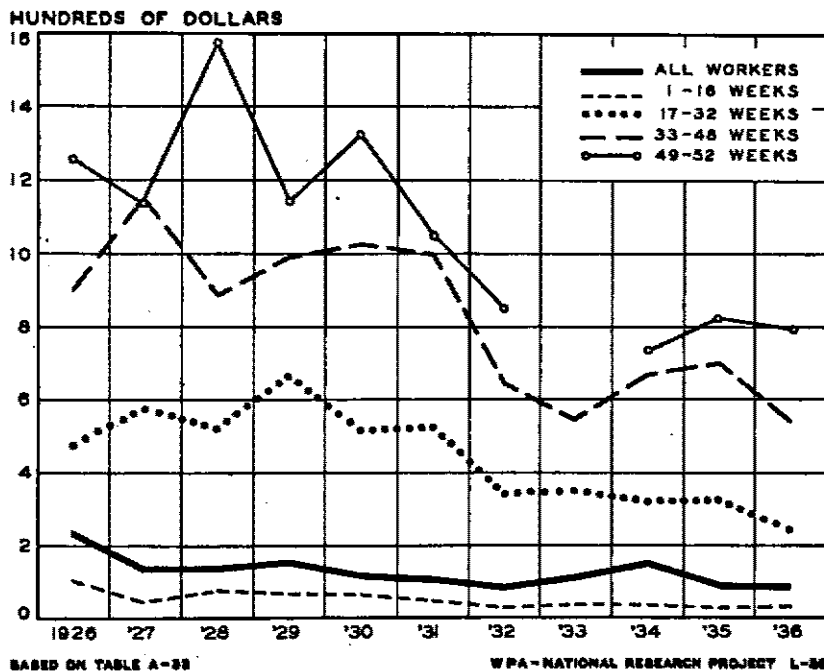
⁴²The contracts contain a number of provisions for figuring rates of payment and weekly earnings.

for weavers operating four looms was reduced to \$15 but remained at \$18 for weavers on six-loom assignments. No data are available to determine what effect these provisions have had.

Annual Earnings

A tabulation was made of total amounts earned by workers on particular pay rolls in every year of the period by the number of weeks they were on these pay rolls⁴⁵ (see table A-33).

Figure 28.- MEDIAN EARNINGS RECEIVED DURING YEAR FOR ALL WORKERS, BY NUMBER OF WEEKS ON INDIVIDUAL SHOP PAY ROLLS, 1926-36



Median earnings accruing to all workers on given pay rolls exceeded \$200 in 1926, but in most years they were around \$100 (see figure 28). The great majority of all workers in any year, who were usually on particular pay rolls 16 weeks or less for a median of between 3 and 4 weeks, had median earnings of less than \$50 in the last 6 years of the period and in 1 previous year. Indeed, in most years \$10 or less represented

⁴⁵The number of weeks on a pay roll is the actual number of weeks an individual's name appeared on a pay roll. It should not be compared with "weeks with employment."

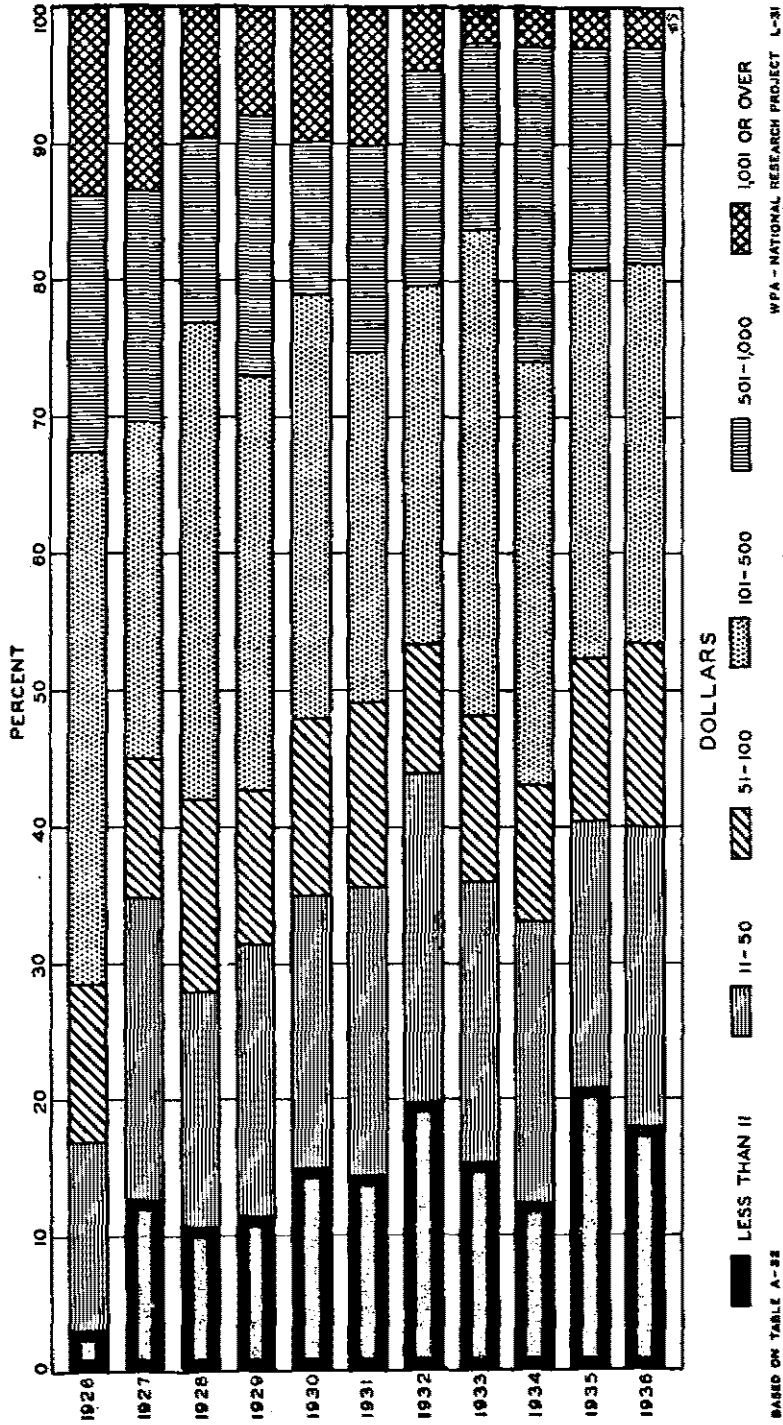
the total earnings received by 10 to more than 20 percent of all persons during their connections with particular pay rolls (see table A-32 and figure 29). More than 40 to over 50 percent received not more than \$100 from one employer in each of 11 years of the period.

Workers who were on any pay roll between 17 and 32 weeks may, for the most part, be considered to have had superior status among the short-tenure group, those whose weeks with work did not exceed 26. Their median earnings ranged between \$245 and \$665 during the years under consideration. Persons who were on the pay roll of any concern from 33 to 48 weeks were almost entirely long-tenure workers. They had median earnings of from \$548 to \$1,150. Whether these people realized any additional earnings during the year depended on whether they were able to shift to other jobs during periods of separation from establishments in which they were more or less regularly employed. During dull seasons, finding work in the industry was probably very difficult. Regular supplementing of employment outside the industry has evidently not taken place to any appreciable extent. In several years, as a result of stoppage in the industry, workers with the most preferred status were not on pay rolls more than 48 weeks. Median earnings of this group approximated in a few years those of persons who were on pay rolls more than 48 weeks.

Persons on pay rolls for 49 to 52 weeks had median earnings of over \$1,100 to almost \$1,600 in the first 5 years (see table A-33). In the last 3 years they were around \$800. Few of the workers in this relatively small group had full years of employment. They were, however, on a particular pay roll at least 11 months out of each year. With the necessity of being available for work whenever needed in shops to which they were attached, it is very unlikely that they sought work elsewhere. Moreover, some of these persons had a direct or indirect financial interest in the establishments where they obtained so much employment.

The large majority of workers in this labor market earned small amounts for a few days' or a few weeks' work and then, if possible, shifted to another job of short duration in the industry where additional small amounts of earnings would be realized. With the continuing contraction of employment opportunities after 1936 and the increase of the labor reserve which

Figure 29.- PERCENTAGE DISTRIBUTION OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY AMOUNTS RECEIVED DURING YEAR, 1926-36



the industry could not absorb, the earnings of the majority in the labor market were doubtless reduced still further.

EMPLOYMENT STATUS IN NOVEMBER 1936

The extent of employment and unemployment among the 616 persons in the work-history sample was found as of November 1, 1936 (see table 17). It was at this time that the field survey was begun. In this month, 69.6 percent of all workers in the sample were employed (see table 17). More than a quarter, 26.0 percent, were unemployed and looking for work, and 4.4 percent were out of the labor market. These withdrawals were due chiefly to old age. Of the 160 workers who were in the labor market but were unemployed, 20 (12.5 percent) had emergency Works Program jobs.

Table 17.- EMPLOYMENT STATUS OF WORKERS, NOVEMBER 1, 1936^a

| Status | Number | Percent | Percent of those in labor market |
|-------------------------|------------------|---------|----------------------------------|
| Total | 616 ^b | 100.0 | - |
| Not seeking work | 27 | 4.4 | - |
| In labor market | 589 | 95.6 | 100.0 |
| Employed | 429 | 69.6 | 72.8 |
| Broad silk | 322 | 52.9 | 54.7 |
| Other textile | 81 | 13.1 | 13.7 |
| Other industry or trade | 26 | 4.2 | 4.4 |
| Unemployed | 160 | 26.0 | 27.2 |
| Not working | 140 | 22.7 | 23.8 |
| Emergency work | 20 | 3.3 | 3.4 |

^aData obtained in NRP Field Survey; occupational-history schedule.

^bIncludes 38 persons whose usual industry was not broad silk according to the definitions applied in the survey.

Over 20 percent of all employed broad-silk workers had jobs outside their usual industry, the majority being in other textiles. At the same time, some of the 38 persons whose usual industry was one other than broad silk were employed

in broad silk. Of the 322 workers employed in broad silk in November 1936, 22 (6.8 percent) were self-employed, operating their own shops.

The high point in activity during 1936 occurred in the last 3 months of the year. The primary peak in the spring had not materialized, and the rise to the secondary peak was slow. Consequently, any other month would have shown a much higher percentage of unemployed, and the figure shown for November may be taken as indicative of the minimum of unemployment existing at any time during that year. The minimum amount of unabsorbed reserve during 1936 is indicated by the fact that 15.3 percent of all persons who were in the labor market in that year had had no employment in private industry for a period of at least 10 months. In addition to these workers, a portion received only small amounts of employment, which was characteristically available in the brief intervals already described.

SUMMARY

The factors which have determined the demand for labor during the period covered by the survey are a secular decrease in employment opportunities accompanied by fluctuations due to the instability of the structure of the industry; pronounced seasonal variations; and short-time fluctuations within the seasonal pattern, in conjunction with a shifting incidence of demand as a result of the individual production schedules of several hundred shops. These conditions have been created by the historical developments within the local industry, the markets it serves, the requirements of its production, and by the business practices that prevail in the silk and rayon broad-goods trade.

The labor market thus created is one in which demand is highly unstable and unsustained. A large majority of the workers move rapidly between short periods of employment and intervals of unemployment. This group, defined broadly as those persons obtaining not more than 26 weeks of employment on any one pay roll in any year, receive an average of between 6 and 7 weeks with employment on a pay roll in 1 year. Some of the employment of this group is interrupted one time or more, and some of those working only one period of employment for an employer in any year do not work full pay periods.

The minority, receiving more than 26 weeks with employment, had in most years an average of between 40 and 44 weeks with employment. A negligible proportion had work in every week of a year. Within this "sheltered" group, some workers had preference over others. Even though this minority was better placed than the floating group, its employment was precarious and it worked under sweatshop conditions in more recent years.

A preponderance of the "new" force hired in any year did not remain connected with an establishment more than 6 months. Although in most years 20 to 30 percent of the new force had connections lasting over a year, a portion consisted of contingent workers who received little employment. The long-time regular force worked between 70 and 80 percent of the time it was connected.

Among the occupational groups, weavers comprised the large majority of workers required. Generally speaking, the different occupational groups fared about the same in terms of average employment received over the period.

The unions, as demonstrated in their recent agreements with the employers, have demanded that available work be given to each worker in the order in which he finishes the job on which he has been employed. Members of the operator's family, however, have been expressly exempted from this provision.

Average weekly earnings during the year fell from \$26 in 1926 to \$13 in 1936. They fluctuated considerably from month to month, following, more or less, the seasonal production patterns. The decline in the average earnings of the weavers and other skilled workers was relatively greater than that of the semiskilled; among the skilled, the largest relative reduction was incurred by the weavers. Wage rates were evidently raised somewhat as a result of the NRA, but this had no appreciable effect on average earnings.

In practically all years, between 30 and 40 percent of the workers earned \$50 or less with any one employer, and between 10 and 20 percent earned \$10 or less. Median earnings of workers on pay rolls for 33 to 48 weeks fell from around \$1,100 in 1927 to below \$600 in 1936. Those of persons on pay rolls between 49 and 52 weeks dropped from a high point of about \$1,600 in 1928 to \$800 in 1936.

EMPLOYMENT EXPERIENCE

99

The inability of the industry to absorb the reserve force is demonstrated by the fact that at the peak of activity in 1936, 27 percent of all workers in the work-history sample who were in the labor market were unemployed, and 15.3 percent had not been employed in private industry at least for the first 10 months of 1936. In addition, a large group in the labor market obtained little employment from week to week during the year.

CHAPTER V

SUMMARY AND CONCLUSIONS

The broad-silk industry began to be localized in Paterson shortly after the Civil War when the industry was in its infancy. By around 1870 Paterson had become the chief center of broad-silk and silk-goods production in the United States. From the last part of the century down to the present, however, the local silk industry has undergone a relative decline. While New Jersey - principally Paterson - produced 46 percent of all broad silks in 1899, the proportion had fallen to 15.7 percent of the broad-silk and rayon industry's production in 1931. Despite this trend, the broad-silk industry in Paterson grew up to 1927. After that year a rapid absolute decline set in which has continued to the present. The larger concerns began to move away from Paterson even before the World War, and concerns entering the broad-silk industry most frequently selected other locations for their mills.

In Paterson men have constituted the larger part of the labor supply, whereas women have predominated in the principal competing areas. There has long been an active labor movement in the local silk-textile industry, but in other areas silk labor had not organized or had been relatively quiescent until recent years. The unions in Paterson have opposed among other things the raising of loom assignments, although unsuccessfully. Elsewhere the assignment has been raised with less, if any, opposition.

Paterson had probably become a marginal area of production before the war. That is, other areas could compete more successfully for orders, and seasonal activity in Paterson was of shorter duration than elsewhere. Biennial census data for the post-war period show that when the country's broad-goods production increased that of New Jersey increased relatively less, and when national production decreased New Jersey suffered a relatively larger decline.

With the increasing use of rayons in the dress-goods field after 1926, Paterson was placed at an even greater disadvantage than before. In the broad-silk and rayon industry only 11 percent of production consisted of all-rayon fabrics in 1929.

but by 1933 the proportion had risen to approximately 50 percent. At the same time, all-silk yardage declined by more than 50 percent between 1929 and 1933. Contrary to these developments, Paterson continued to produce principally all-silk goods, the proportion being probably 70 percent as late as 1936. The local industry therefore came into increasingly severe competition in a shrinking market. The failure of the local manufacturers to shift to rayon weaving was due mainly to a lack of capital to make necessary changes in looms and other equipment and to the inability of the industry to attract the necessary capital.

Paterson has doubtless been able to continue in production, although production has steadily been decreasing in volume, because it can readily accommodate rush orders and specialty work requiring considerable skill. Also, it is strategically located with relation to the finishing industry and the markets. If rayon should become more widely used in the underwear trade and if Paterson manufacturers continue to be financially unable to change their equipment for the efficient weaving of rayon, Paterson is likely to be left mainly with specialty work - for which the demand is highly irregular.

The structure of the local broad-silk industry was affected not only by the migration of mills before 1926 but also by the rapid increase in small shops during the World War as commission operation became established. Commission operation, a system by which a converter supplies working capital to the operator of a shop and has fabrics woven at a contracted rate per yard, provides a business opportunity for anyone who can secure a few looms and some space in which to operate them. But this system, extending no guarantee of sufficient orders to keep a shop in operation, has led to a great deal of mis-directed investment. Lack of work for the operator and his family has meant that having a shop frequently constitutes a form of disguised unemployment. Competition for orders among shop operators is keen. The converters, themselves in stiff competition for markets, have been in a position to depress weaving rates, and this has encouraged sweatshop conditions. In being able to allocate work as they see fit and in providing one outlet for the fabrics of the independent manufacturers, the converters have a large measure of control over the level and incidence of production and, consequently, of employment.

In 1926 at least 30 percent of the shops and almost 17 percent of the looms in Paterson were working on commission. By 1936, however, probably more than 70 percent of the local industry was operating under this system. This large shift resulted mainly from a loss of working capital by independent manufacturers in the period of sharp downward fluctuations in raw-silk prices between 1929 and 1931.

The decline and instability in the structure of the local industry brought about a contraction of employment opportunities and a constant uncertainty in the incidence of employment. From an all-time peak of 22,100 looms and 687 shops in 1926, looms had decreased to 11,100 in 1936 and shops to 390; and by 1938 the decline had proceeded much further. During this period and previously, a portion of the industry went into or out of business each year. In 1936, openings and closings together represented almost 44 percent of the shops in the industry in 1935, closings exceeding openings by more than 2 to 1.

The average shop also became smaller as the larger concerns moved away or went out of business. The average size in 1926 was 32.3 looms and in 1936, 28.5 looms. In the latter year more than 50 percent of all concerns in the industry had 20 looms or less, and over 90 percent had 60 looms or less. The concentration of small concerns in Paterson has been unique in the industry.

These small shops, the residue of the decline, were operated chiefly by persons who formerly had been wage earners in the industry. With savings from their wages they had secured shops in the attempt, in recent years particularly, to regularize their employment and increase their earnings. Having a shop became a necessary expedient for many workers, members of their families, and relatives, and it could be said that workers had to "buy their jobs." Approximately 30 percent of the operators interviewed had gone into business for the first time during and after 1933. Although several hundred dollars were required as down payment for a few looms and other equipment in earlier years, in 1936 fifty dollars cash would provide a down payment for four or more looms.

In 1936 many operators were in arrears on rent and power bills, and failures were numerous. In spite of all the difficulties of making a living in broad silk, however, petty

enterprisiers, some of whom had been operators previously, continued to open shops.

Employment opportunities and labor requirements per unit of product were further reduced by technological changes. These changes, brought about by shifts in the incidence of certain processes, more effective utilization of equipment, and an increasing standardization of underwear fabrics, involved little capital outlay by the industry. The new-machinery market virtually disappeared after 1926, and second-hand machines eventually became a drug on the market.

The principal changes effecting a reduction in unit labor requirements were the omission of winding operations where rayon warps were woven and the increase of the loom assignment. While the four-loom system was in use in only a small part of the industry in 1925, by 1936 around 70 percent of the looms were operated on this basis. Assignments as high as 10 and 20 looms per weaver were to be found on a few of the 426¹ automatic looms introduced into the local industry during 1935 and 1936. By the spring of 1938 it was reported that most of the local industry had shifted to six looms per weaver.

Silk and rayon manufacturers accounted for about 49 percent of employment in Paterson industries in 1925, but in 1935 they provided only 35 percent of industrial employment. During this period employment in all local industry decreased by 34 percent.

Two-thirds of the workers subject to these rapidly changing conditions in the industry were immigrants, according to a random sample of 616 broad-silk workers. Approximately 50 percent of the entire group was 45 years of age or older in 1936. Men outnumbered women 3.5 to 1, a ratio that may have been due to a more rapid withdrawal of women from the labor market as opportunities contracted. The median school grade completed by the group was the sixth; more than a fifth had completed no school grade and a few had done college work. Almost 75 percent of the men but only 20 percent of the women were married.

Although mobile early in their lives, the foreign-born workers and those born outside of Paterson resided in the city continuously after locating there; most of their working lives

¹Herbert S. Swan, *The Plain Goods Silk Industry* (Paterson, N. J.: The Industrial Commission of the City of Paterson, 1937), p. 13.

had been spent in Paterson. The persons born in Paterson had lived there continuously.

Long background in textiles was a characteristic of most of the workers' histories. Of the persons entering the labor market outside of Paterson, 65 percent had their first jobs in textiles, and about 82 percent of those who entered the labor market in Paterson had the same experience. Broad silk was the usual industry of about 94 percent of the sample at the time of enumeration.

Continuous attachment to the broad-silk industry during the period 1926-36 was a characteristic of the workers' employment experience. Almost 60 percent reported no job (of 1 month or more in duration) outside of broad silk between 1926 and 1935. Only 4.2 percent had left the industry before 1935. While broad-silk workers supplemented their employment in outside industries, persons from other industries obtained supplementary employment in broad silk, and some made permanent shifts into the industry. In shifting to employment outside their usual industry, broad-silk workers most frequently went to related textiles.

After 1926 employment opportunities contracted rapidly and seasonal variations in production underwent great fluctuations. It became increasingly characteristic for shops to secure enough work for short periods of feverish activity and then to be forced to shut down or continue production at a lower level. These conditions provided a highly irregular demand for labor. Concerns hired on an average of between two and more than three times as many different workers in each year as would have been needed had a stable force been retained throughout the year. A portion of the force in any plant received employment during only fractions of pay periods (2 weeks), and the size of this group increased or decreased with changes in the amount of activity. Labor turn-over rates, consequently, were exceptionally high, especially after 1929.

As a consequence of this type of labor demand, most of the workers in this market constitute a floating group. They obtain only a small amount of employment with any one employer and are constantly mobile. From a quarter to a third of the workers in the pay-roll sample received 2 weeks or less of employment with one employer during any year except 1926, and 50 percent received 9 weeks or less. A minority of the workers

comprise a fixed or regular group, being more or less firmly attached to individual concerns. They are members of the operator's family, relatives, and old employees. As there is not sufficient work in most shops to employ the fixed force during all the time a shop is in operation during the year, preference in employment is given some of the workers in this group. The fixed force has sheltered employment as compared with the floating force, although failure of the concern in which the former are employed may wipe out this slender advantage.

Not only did a majority of the workers receive small amounts of employment with one concern in any year, but also, as a rule, the majority did not return to these concerns for more work. In most years of the period, between 70 and 80 percent of the workers who were first accessions to given pay rolls had over-all connections (first accession to final separation on any one pay roll) of 1 year or less. A portion of those with longer connections were really contingent workers, returning to a pay roll one or more additional times for a small amount of employment. The small regular force obtained employment from 70 to 80 percent of the time during their long connections.

The position of the unions on the distribution of available employment has been to give work to each worker in his turn. For example, they maintain that new warps should be given to the weaver whose warps have first become exhausted. Preference to the relatives and friends of the employer, although not to the members of his immediate family, has been opposed. The union policy in this respect probably coincides with traditional attitude. After the summer of 1937, when the Textile Workers Organizing Committee began reorganizing the existing locals and extending organization among the workers, the union greatly improved its bargaining position and was able to apply a policy on the distribution of work.

The decline in employment opportunities and the increasing intermittency and casualness of employment were accompanied by a decline in wage rates and earnings. Average weekly earnings of workers on individual pay rolls were approximately \$27 in 1929, but they declined to \$13 in 1936. During the last few years of the period average earnings of the weavers approached closely those of the less skilled workers.

The sums received by the majority of the workers from any one employer during a year were very small since they obtained only little employment from him. In most years of the period, between 42 and 54 percent of all workers earned \$100 or less with one employer. The annual earnings of even the very small group of workers who were on the pay roll of one concern for 49 weeks or more during a year decreased from \$1,600 in 1928 to only \$800 in 1936.

In November 1936, when activity in the industry was at the peak for the year, 27 percent of the workers in the labor market were unemployed. And 15.3 percent of the workers in the labor market had had no employment in private industry at least during 1936. The broad-silk workers in Paterson in 1936 were a relatively old group and probably not readily adaptable to nontextile occupations. As employment opportunities in this industry became more casual and intermittent and more scarce both in the industry and in Paterson, most of these workers remained attached to their usual industry. In 1936, when the industry and labor market were seriously demoralized, the Paterson broad-silk workers constituted a stranded group within a metropolitan area.

The low level of earnings frequently means that they have to be supplemented by relief payments. For example, among the 1,344 cases added to the Paterson relief rolls in the first 3 months of 1935, there were 237 persons employed at time of opening. Of these, 97 (41 percent) were textile workers.² Although this period was the busiest of the year, the jobs held by these persons were not sufficiently remunerative to bar them or their families from relief.

It seems unlikely that the situation of the broad-silk workers in Paterson will be mitigated substantially by the operation of the New Jersey Unemployment Compensation Act.³ Benefits are payable only for total unemployment, that is, only so long as a worker does not earn more than \$3.00 in any week. The maximum weekly benefit receivable is \$15.00 and the minimum \$5.00. The weekly benefit amount is 50 percent

² *Current Changes in the Urban Relief Population, March 1935* (Federal Emergency Relief Administration, Division of Research, Statistics, and Finance, Res. Bull., Ser. I, No. 8, mimeo., Aug. 22, 1935), p. 16.

³ See the State of New Jersey Unemployment Compensation Law, Chapter 270, P. L. 1936, now Chapter 21 of Title 45 of the Revised Statistics (As Amended and Supplemented), reprint of September 10, 1938.

of the worker's full-time weekly wage, which is defined as one-thirteenth of his total wages in that calendar quarter in which the total wages were highest during his base year.⁴ To be eligible for unemployment compensation, a worker must have earned 16 times his weekly benefit amount during his base year. Not more than one-sixth of the total amount earned during a base year or 16 times the weekly benefit amount, whichever is the lesser, can be paid to the insured during the entire benefit year.

In 1936, annual earnings of \$800 represented better than the average for weavers. Upon becoming unemployed, such a weaver would be entitled to a maximum benefit of roughly \$135 (one-sixth of \$800) during his benefit year. If he earned \$260 in his quarter of highest earnings during his base year, his "full-time" weekly wage would be \$20 ($\$260 \div 13$), and his weekly benefit amount would be \$10. On this basis, the worker would receive payments for 13 and a fraction weeks. On the whole, the benefits payable to other skilled workers would be relatively higher under similar circumstances than those payable to weavers, and those payable to unskilled workers would be relatively lower.

Because of the seasonal variations in the industry, the level of earnings received during those quarters when the industry is most active cannot be sustained. Moreover, a large percentage of the workers were unemployed even in the busiest season in 1936. The periods of unemployment experienced by most workers during the year would reduce annual earnings and, thereby, the length of the compensable period. Where unemployment continues beyond the compensable period, relief is likely to be the only recourse for many workers. In some cases it may, indeed, be necessary to supplement benefit payments.

In the general sample of 616 workers, 5.4 percent of all persons were 65 years of age or over. Most of these were still in the labor market at the time of enumeration or had only recently withdrawn. In New Jersey the eligibility age for old-age assistance has been reduced from 70 to 65 years in order to meet the requirements of the Federal Social Security Act. Inability to meet the citizenship requirement has and will continue to bar some of the workers who would otherwise be

⁴A "base year" is defined in the act as the first four of the last five calendar quarters preceding the benefit year. The "benefit year" is the 52 weeks immediately following and including the first compensable week.

eligible for this type of aid. The maximum monthly allowance under this system is \$30.00. This assistance may be given also to eligibles who have other income, provided the monthly total from this and other sources does not exceed \$30.00.

After January 1, 1942, all persons reaching the age of 65 will be eligible for old-age retirement provided that they have earned not less than \$2,000 in included employment⁵ since January 1, 1937, and have worked at least part of a day in each of the 5 years preceding application. Payments will consist of one-half of 1 percent per month for total wages up to \$3,000; plus one-twelfth of 1 percent for the next \$42,000; plus one twenty-fourth of 1 percent for all wages over \$45,000. The maximum monthly payment is \$85.00. Workers whose total wages were less than \$2,000 will receive a lump sum of 3.5 percent of their wages in included employment after December 31, 1936 and before the age of 65, up to a maximum of \$70.00.

At the time the act becomes operative and for many years subsequent to that time, unless the provisions of the act are amended, monthly benefit payments for old workers will necessarily be very small. Anyone who has earned between \$2,000 and \$3,000 will receive only \$10.00 to \$15.00 a month. Old-age retirement payments made on the basis of the earnings of workers in this market for many years to come will not in themselves be sufficient to provide a livelihood in the absence of other resources. The State may supplement these payments for those who are citizens so that such persons may obtain up to \$30.00. Noncitizens, however, will not qualify for State old-age assistance to supplement the amounts received under the Federal Social Security Act.

The present welfare system thus appears definitely inadequate to mitigate much of the effect of unemployment and old age in this labor market. If the trend in the industry is continued and the absorption of broad-silk workers into other industries occurs to no greater extent than previously, the situation will become steadily worse. The age of these workers and their long habituation to one industry imply that absorption into suitable jobs outside of textiles is improbable. If old-age benefit amounts and those under the unemployment-compensation law remain the same, the need for other forms of relief will continue to exist.

⁵As defined in the Social Security Act and for which a tax is collectible.

APPENDIX

PATERSON BROAD-SILK WORKERS

Table A-1.- NUMBER OF SHOPS AND LOOMS, BY SIZE OF SHOP, 1924-36^a

| Item | Total | Total reporting | | Size of shop (loomage) | | | | | | | | Not ascertainable ^b |
|--------------------------------------|-------|-----------------|----------|------------------------|----------|--------|----------|--------|----------|----------|----------|--------------------------------|
| | | | | 1-20 | | 21-50 | | 51-100 | | Over 100 | | |
| | | Number | Per-cent | Number | Per-cent | Number | Per-cent | Number | Per-cent | Number | Per-cent | |
| Shops | | | | | | | | | | | | |
| 1924 | 518 | 515 | 100.0 | 244 | 47.3 | 210 | 40.8 | 39 | 7.6 | 22 | 4.3 | 3 |
| 1925 | 596 | 593 | 100.0 | 299 | 50.4 | 237 | 40.0 | 34 | 5.7 | 23 | 3.9 | 3 |
| 1926 | 687 | 661 | 100.0 | 312 | 47.2 | 284 | 43.0 | 36 | 5.7 | 27 | 4.1 | 26 |
| 1927 | 644 | 640 | 100.0 | 284 | 44.4 | 287 | 44.8 | 45 | 7.0 | 24 | 3.8 | 4 |
| 1928 | 557 | 551 | 100.0 | 222 | 40.3 | 267 | 48.5 | 37 | 6.7 | 25 | 4.5 | 6 |
| 1929 | 517 | 514 | 100.0 | 205 | 39.9 | 253 | 49.2 | 35 | 6.8 | 21 | 4.1 | 3 |
| 1930 | 516 | 512 | 100.0 | 220 | 43.0 | 236 | 46.1 | 34 | 6.6 | 22 | 4.3 | 4 |
| 1931 | 478 | 475 | 100.0 | 201 | 42.3 | 229 | 48.2 | 28 | 5.9 | 17 | 3.6 | 3 |
| 1932 | 477 | 476 | 100.0 | 212 | 44.5 | 218 | 45.8 | 31 | 6.5 | 15 | 3.2 | 1 |
| 1933 | 455 | 455 | 100.0 | 197 | 43.3 | 216 | 47.5 | 30 | 6.6 | 12 | 2.6 | 0 |
| 1934 | 475 | 474 | 100.0 | 236 | 49.8 | 194 | 40.9 | 30 | 6.3 | 14 | 3.0 | 1 |
| 1935 | 480 | 479 | 100.0 | 251 | 52.4 | 190 | 39.7 | 27 | 5.6 | 11 | 2.3 | 1 |
| 1936 | 390 | 389 | 100.0 | 203 | 52.2 | 155 | 39.8 | 21 | 5.4 | 10 | 2.6 | 1 |
| Looms (thousands)^c | | | | | | | | | | | | |
| 1924 | | 19.7 | 100.0 | 3.0 | 16.0 | 7.7 | 41.2 | 3.1 | 16.6 | 4.9 | 26.2 | |
| 1925 | | 20.2 | 100.0 | 3.7 | 18.3 | 8.7 | 43.1 | 2.7 | 13.4 | 5.1 | 25.2 | |
| 1926 | | 22.2 | 100.0 | 3.6 | 16.2 | 10.2 | 46.0 | 3.2 | 14.4 | 5.2 | 23.4 | |
| 1927 | | 21.7 | 100.0 | 3.4 | 15.7 | 10.6 | 48.8 | 3.6 | 16.6 | 4.1 | 18.9 | |
| 1928 | | 19.5 | 100.0 | 2.6 | 13.3 | 9.9 | 50.8 | 2.9 | 14.9 | 4.1 | 21.0 | |
| 1929 | | 18.1 | 100.0 | 2.4 | 13.3 | 9.4 | 51.9 | 2.8 | 15.5 | 3.5 | 19.3 | |
| 1930 | | 16.9 | 100.0 | 2.5 | 14.8 | 8.1 | 47.9 | 2.7 | 16.0 | 3.6 | 21.3 | |
| 1931 | | 15.7 | 100.0 | 2.4 | 15.3 | 8.5 | 54.1 | 2.2 | 14.0 | 2.6 | 16.6 | |
| 1932 | | 14.9 | 100.0 | 2.5 | 16.8 | 7.6 | 52.3 | 2.4 | 16.1 | 2.2 | 14.8 | |
| 1933 | | 14.4 | 100.0 | 2.3 | 16.0 | 7.9 | 54.8 | 2.4 | 16.7 | 1.6 | 12.5 | |
| 1934 | | 14.0 | 100.0 | 2.5 | 17.9 | 7.0 | 50.0 | 2.4 | 17.1 | 2.1 | 15.0 | |
| 1935 | | 13.5 | 100.0 | 3.0 | 22.2 | 6.8 | 50.4 | 2.1 | 15.6 | 1.6 | 11.8 | |
| 1936 | | 11.1 | 100.0 | 2.4 | 21.6 | 5.6 | 50.5 | 1.6 | 14.4 | 1.5 | 13.5 | |

^a Data compiled from yearly listings in Davison's *Rayon and Silk Trades*.^b Represents shops with two or more general types of looms (e. g., Jacquard or ribbon as well as broad silk) in which the number of broad-silk looms was not ascertainable.^c Excludes looms in shops whose broad-silk loomage was not ascertainable.

Table A-3.- NUMBER OF SHOPS AND LOOMS, BY TYPE OF OPERATION, 1924-36^a

| Item | Total | | Commission | | Independent | | Both commission and independent plus not specified | |
|--------------------------------------|--------|----------|------------|----------|-------------|----------|--|----------|
| | Number | Per-cent | Number | Per-cent | Number | Per-cent | Number | Per-cent |
| Shops | | | | | | | | |
| 1924 | 518 | 100.0 | 121 | 23.4 | 359 | 69.3 | 38 | 7.3 |
| 1925 | 598 | 100.0 | 198 | 33.2 | 376 | 63.1 | 22 | 3.7 |
| 1926 | 687 | 100.0 | 209 | 30.4 | 405 | 59.0 | 73 | 10.6 |
| 1927 | 844 | 100.0 | 215 | 25.4 | 369 | 43.7 | 260 | 30.9 |
| 1928 | 557 | 100.0 | 209 | 37.5 | 318 | 57.1 | 30 | 5.4 |
| 1929 | 517 | 100.0 | 201 | 38.9 | 278 | 53.8 | 38 | 7.3 |
| 1930 | 516 | 100.0 | 247 | 47.9 | 156 | 30.6 | 111 | 21.5 |
| 1931 | 478 | 100.0 | 235 | 49.2 | 148 | 30.5 | 97 | 20.3 |
| 1932 | 477 | 100.0 | 249 | 51.0 | 126 | 26.4 | 108 | 22.6 |
| 1933 | 455 | 100.0 | 242 | 53.2 | 124 | 27.2 | 89 | 19.6 |
| 1934 | 475 | 100.0 | 260 | 54.7 | 144 | 30.3 | 71 | 15.0 |
| 1935 | 480 | 100.0 | 285 | 59.4 | 119 | 24.8 | 76 | 15.8 |
| 1936 | 390 | 100.0 | 224 | 57.4 | 99 | 25.4 | 67 | 17.2 |
| Looms (thousands)^b | | | | | | | | |
| 1924 | 18.7 | 100.0 | 2.0 | 10.7 | 14.9 | 79.7 | 1.8 | 9.6 |
| 1925 | 20.2 | 100.0 | 3.1 | 15.3 | 16.3 | 80.7 | 0.8 | 4.0 |
| 1926 | 22.2 | 100.0 | 3.7 | 16.7 | 17.2 | 77.5 | 1.3 | 5.8 |
| 1927 | 21.7 | 100.0 | 4.2 | 19.4 | 15.8 | 72.8 | 1.7 | 7.8 |
| 1928 | 19.5 | 100.0 | 4.2 | 21.5 | 14.6 | 74.9 | 0.7 | 3.6 |
| 1929 | 18.1 | 100.0 | 4.3 | 23.8 | 12.7 | 70.2 | 1.1 | 6.0 |
| 1930 | 16.9 | 100.0 | 5.4 | 32.0 | 8.0 | 47.3 | 3.5 | 20.7 |
| 1931 | 15.7 | 100.0 | 5.4 | 34.4 | 7.0 | 44.6 | 3.3 | 21.0 |
| 1932 | 14.9 | 100.0 | 5.6 | 37.6 | 5.9 | 39.6 | 3.4 | 22.8 |
| 1933 | 14.4 | 100.0 | 5.7 | 39.6 | 5.7 | 39.6 | 3.0 | 20.8 |
| 1934 | 14.0 | 100.0 | 5.8 | 40.0 | 6.1 | 43.6 | 2.3 | 16.4 |
| 1935 | 13.5 | 100.0 | 6.1 | 45.2 | 5.0 | 37.0 | 2.4 | 17.8 |
| 1936 | 11.1 | 100.0 | 5.0 | 45.1 | 4.3 | 38.7 | 1.8 | 16.2 |

^aData compiled from yearly listings in Davison's *Rayon and Silk Trades*.^bExcludes looms in shops whose broad-silk loomage was not ascertainable.

PATERSON BROAD-SILK WORKERS

Table A-3.- NUMBER OF MIGRATING SHOPS AND THEIR AGGREGATE LOOMAGE, BY TYPE OF OPERATION, 1925-36^a

| Year | Total | | Commission | | Independent | | Both commission and independent plus not specified | |
|-------|-----------------|------------------|------------|-------|-------------|-------|--|-------|
| | Shops | Looms | Shops | Looms | Shops | Looms | Shops | Looms |
| Total | 56 | 4,821 | 11 | 398 | 37 | 3,817 | 8 | 606 |
| 1925 | 11 | 840 | 3 | 66 | 5 | 428 | 3 | 346 |
| 1926 | 2 | 74 | 1 | 20 | 0 | 0 | 1 | 54 |
| 1927 | 3 | 657 | 1 | 32 | 2 | 625 | 0 | 0 |
| 1928 | 7 | 619 | 0 | 0 | 7 | 619 | 0 | 0 |
| 1929 | 11 ^b | 950 ^b | 1 | 44 | 10 | 906 | 0 | 0 |
| 1930 | 2 | 218 | 0 | 0 | 2 | 218 | 0 | 0 |
| 1931 | 5 ^c | 382 ^c | 1 | 60 | 4 | 322 | 0 | 0 |
| 1932 | 2 | 237 | 0 | 0 | 2 | 237 | 0 | 0 |
| 1933 | 3 | 174 | 1 | 40 | 2 | 134 | 0 | 0 |
| 1934 | 2 | 84 | 1 | 40 | 0 | 0 | 1 | 44 |
| 1935 | 7 | 562 | 2 | 96 | 2 | 304 | 3 | 162 |
| 1936 | 1 | 24 | 0 | 0 | 1 | 24 | 0 | 0 |

^aData compiled from yearly listings in *Davison's Rayon and Silk Trades*.

^bIncludes one shop that moved 220 looms and left 80 in Paterson. Only 220 were counted for this shop.

^cIncludes one shop whose Paterson loomage is unknown.

Table A-4.- AVERAGE NUMBER OF LOOMS PER SHOP, BY SIZE OF SHOP, 1924-36^a

| Year | Total ^b | Size of shop (loomage) | | | |
|------|--------------------|------------------------|-------|--------|----------|
| | | 1-20 | 21-60 | 61-100 | Over 100 |
| 1924 | 36.3 | 12.3 | 36.7 | 79.5 | 222.7 |
| 1925 | 34.1 | 12.4 | 36.7 | 79.4 | 221.7 |
| 1926 | 33.6 | 11.5 | 35.9 | 84.2 | 192.6 |
| 1927 | 33.9 | 12.0 | 36.9 | 80.0 | 170.8 |
| 1928 | 35.4 | 11.7 | 37.1 | 78.4 | 164.0 |
| 1929 | 35.2 | 11.7 | 37.2 | 80.0 | 166.7 |
| 1930 | 33.0 | 11.4 | 34.3 | 79.4 | 163.6 |
| 1931 | 33.1 | 11.9 | 37.1 | 78.6 | 152.9 |
| 1932 | 31.3 | 11.6 | 35.8 | 77.4 | 146.7 |
| 1933 | 31.6 | 11.7 | 36.6 | 80.0 | 150.0 |
| 1934 | 29.5 | 10.6 | 36.1 | 80.0 | 150.0 |
| 1935 | 26.2 | 12.0 | 35.8 | 77.8 | 145.5 |
| 1936 | 26.5 | 11.8 | 36.1 | 76.2 | 150.0 |

^aData compiled from yearly listings in *Davison's Rayon and Silk Trades*.

^bExcludes looms in shops whose broad-silk loomage was not ascertainable.

Table A-5.- DISTRIBUTION OF 100 SMALL SHOPS IN 1926,
BY TYPE OF OPERATION, 1926-36^a

| Year | Total | | Commission | | Independent | | Both commission and independent | |
|------|--------|----------|------------|----------|-------------|----------|---------------------------------|----------|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| 1926 | 53 | 100.0 | 24 | 45.3 | 25 | 47.2 | 4 | 7.5 |
| 1927 | 54 | 100.0 | 24 | 44.4 | 25 | 46.3 | 5 | 9.3 |
| 1928 | 57 | 100.0 | 28 | 49.1 | 25 | 43.9 | 4 | 7.0 |
| 1929 | 57 | 100.0 | 27 | 47.4 | 24 | 42.1 | 6 | 10.5 |
| 1930 | 56 | 100.0 | 27 | 48.2 | 23 | 41.1 | 6 | 10.7 |
| 1931 | 65 | 100.0 | 37 | 56.9 | 24 | 36.9 | 4 | 6.2 |
| 1932 | 68 | 100.0 | 42 | 61.8 | 22 | 32.3 | 4 | 5.9 |
| 1933 | 74 | 100.0 | 47 | 63.5 | 23 | 31.1 | 4 | 5.4 |
| 1934 | 82 | 100.0 | 56 | 68.3 | 19 | 23.2 | 7 | 8.5 |
| 1935 | 95 | 100.0 | 70 | 73.7 | 19 | 20.0 | 6 | 6.3 |
| 1936 | 100 | 100.0 | 74 | 74.0 | 17 | 17.0 | 9 | 9.0 |

^aData obtained in NRP Field Survey: schedule for shops having 20 looms or less which were in business at any time during the year.

Table A-6.- AVERAGE NUMBER OF LOOMS PER SHOP,
BY TYPE OF OPERATION, 1924-36^a

| Year | Total ^b | Commission | Independent | Both commission and independent plus not specified |
|------|--------------------|------------|-------------|--|
| 1924 | 36.3 | 16.5 | 41.5 | 51.4 |
| 1925 | 34.1 | 15.7 | 43.4 | 42.1 |
| 1926 | 33.6 | 17.7 | 42.5 | 27.7 |
| 1927 | 33.9 | 19.5 | 42.6 | 30.4 |
| 1928 | 35.4 | 20.7 | 45.9 | 23.3 |
| 1929 | 35.2 | 21.4 | 45.7 | 31.4 |
| 1930 | 33.0 | 21.9 | 50.6 | 32.7 |
| 1931 | 33.1 | 23.0 | 47.9 | 35.1 |
| 1932 | 31.3 | 23.0 | 46.8 | 31.8 |
| 1933 | 31.6 | 23.6 | 46.0 | 33.7 |
| 1934 | 29.5 | 21.5 | 42.4 | 32.9 |
| 1935 | 28.2 | 21.4 | 42.0 | 32.0 |
| 1936 | 28.5 | 22.3 | 43.4 | 27.3 |

^aData compiled from yearly listings in Davison's *Sayon and Silk Trades*.

^bAverages computed only for those shops reporting broad-silk looms.

PATERSON BROAD-SILK WORKERS

Table A-7.- PRODUCTION OF TOTAL BROAD GOODS IN THE UNITED STATES AND NEW JERSEY, 1899-1933^a

| Year and State | Total broad goods ^b | | | All-silk broad goods ^b | | |
|------------------|--------------------------------|---------|--|-----------------------------------|---------|------------------------------|
| | Square yards (thousands) | Percent | Percentage change over preceding census year | Square yards (thousands) | Percent | Percent of total broad goods |
| 1899 | | | | | | |
| United States | 87,637 | 100.0 | - | 66,437 | 100.0 | 76.1 |
| New Jersey | 40,594 | 46.3 | - | 35,415 | 53.2 | 89.7 |
| All other States | 47,043 | 53.7 | - | 32,022 | 46.8 | 68.1 |
| 1904 | | | | | | |
| United States | 124,871 | 100.0 | +42.5 | 97,871 | 100.0 | 78.4 |
| New Jersey | 46,701 | 37.4 | +15.0 | 42,327 | 43.2 | 90.6 |
| All other States | 78,170 | 62.6 | +55.2 | 55,544 | 56.8 | 71.1 |
| 1909 | | | | | | |
| United States | 188,707 | 100.0 | +48.7 | 114,877 | 100.0 | 61.9 |
| New Jersey | 64,788 | 34.9 | +38.7 | 52,408 | 45.6 | 80.9 |
| All other States | 120,919 | 65.1 | +54.7 | 62,474 | 54.4 | 51.7 |
| 1914 | | | | | | |
| United States | 216,034 | 100.0 | +16.3 | 142,713 | 100.0 | 66.1 |
| New Jersey | 69,163 | 32.0 | + 6.8 | 52,049 | 36.5 | 75.3 |
| All other States | 146,871 | 68.0 | +21.5 | 90,664 | 63.5 | 61.7 |
| 1919 | | | | | | |
| United States | 310,132 | 100.0 | +43.6 | 245,661 | 100.0 | 79.3 |
| New Jersey | 108,548 | 35.0 | +56.9 | 99,483 | 40.5 | 91.5 |
| All other States | 201,584 | 65.0 | +37.3 | 146,378 | 59.5 | 72.6 |
| 1921 | | | | | | |
| United States | 278,411 | 100.0 | -10.2 | 230,903 | 100.0 | 82.9 |
| New Jersey | 81,559 | 29.3 | -24.9 | 74,333 | 32.2 | 91.1 |
| All other States | 196,852 | 70.7 | - 2.3 | 156,570 | 67.8 | 79.5 |
| 1923 | | | | | | |
| United States | 376,222 | 100.0 | +35.1 | 271,620 | 100.0 | 72.2 |
| New Jersey | 103,849 | 27.6 | +27.3 | 84,561 | 31.1 | 81.4 |
| All other States | 272,373 | 72.4 | +38.4 | 187,259 | 68.9 | 68.6 |
| 1925 | | | | | | |
| United States | 468,116 | 100.0 | +28.4 | 384,725 | 100.0 | 79.5 |
| New Jersey | 124,699 | 25.6 | +20.0 | 106,269 | 28.1 | 86.9 |
| All other States | 343,477 | 74.2 | +31.6 | 278,456 | 71.9 | 77.1 |
| 1927 | | | | | | |
| United States | 512,627 | 100.0 | + 8.1 | 385,530 | 100.0 | 75.2 |
| New Jersey | 126,643 | 24.7 | + 1.6 | 99,810 | 25.9 | 78.8 |
| All other States | 386,184 | 75.3 | + 7.7 | 285,720 | 74.1 | 74.0 |
| 1929 | | | | | | |
| United States | 597,114 | 100.0 | +16.4 | 484,807 | 100.0 | 71.1 |
| New Jersey | 108,856 | 18.2 | -14.0 | 85,708 | 20.2 | 78.7 |
| All other States | 488,258 | 81.8 | +28.4 | 399,099 | 79.8 | 69.4 |
| 1931 | | | | | | |
| United States | 666,664 | 100.0 | - 5.1 | 386,294 | 100.0 | 68.1 |
| New Jersey | 88,660 | 15.7 | -16.3 | 74,264 | 19.2 | 83.5 |
| All other States | 477,884 | 84.3 | - 2.1 | 312,030 | 80.8 | 65.3 |
| 1933 | | | | | | |
| United States | 558,661 | 100.0 | - 1.4 | 301,436 | 100.0 | 56.0 |
| New Jersey | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |
| All other States | n.s. | n.s. | n.s. | n.s. | n.s. | n.s. |

^aData were secured from the following volumes of the U. S. Department of Commerce, Bureau of the Census: data for 1899-1909, from *Thirty-Seventh Census of the United States: 1910*, Vol. X, "Manufactures: 1909" (1913), p. 185; for 1914-21, from *Biennial Census of Manufactures: 1921* (1924), p. 243; for 1923-27, from same for 1927 (1930), pp. 335-7; for 1929 from *Biennial Census of the United States: 1930*, "Manufactures: 1929" (1933), vol. II, p. 330; and for 1931-33, from *Statistical Census of Manufactures: 1933* (1935), p. 175.

^bExcludes pile fabrics; includes flat Jacquards.

n.s. Data not available.

Table A-8.- NATIVITY AND SEX OF WORKERS IN SILK MILLS, 1890-1930^a

| Nativity | 1890 | | | 1900 | | | 1910 | | | 1920 | | | 1930 | | |
|--------------------------------|--------------------|-------|-------|--------|-------|-------|--------|-------|-------|--------|--------|-------|--------|-------|-------|
| | Total ^b | Men | Women | Total | Men | Women | Total | Men | Women | Total | Men | Women | Total | Men | Women |
| Total | 12,371 | 6,340 | 6,031 | 12,602 | 6,536 | 6,066 | 16,030 | 8,318 | 7,712 | 19,435 | 10,022 | 9,413 | 11,545 | 6,646 | 4,899 |
| Native white | 5,880 | 2,240 | 3,340 | 6,238 | 2,534 | 3,704 | 7,987 | 2,975 | 5,012 | 9,937 | 3,820 | 6,117 | 5,690 | 2,395 | 3,295 |
| Native parentage | 1,459 | 624 | 835 | 1,525 | 646 | 879 | 2,039 | 770 | 1,269 | 2,691 | 1,027 | 1,664 | n. a. | n. a. | n. a. |
| Foreign parentage ^c | 4,121 | 1,616 | 2,505 | 4,713 | 1,888 | 2,825 | 5,948 | 2,205 | 3,743 | 7,246 | 2,793 | 4,453 | n. a. | n. a. | n. a. |
| Foreign white | 6,788 | 4,098 | 2,690 | 6,364 | 4,002 | 2,362 | 8,039 | 5,342 | 2,697 | 9,488 | 6,197 | 3,291 | 5,829 | 4,247 | 1,582 |
| Negro | 3 | 2 | 1 | 0 | 0 | 0 | 4 | 1 | 3 | 10 | 5 | 5 | 26 | 4 | 22 |

^aData for 1890 were secured from *Eleventh Census of the United States: 1890, "Population"* (U. S. Dept. Int., Census Office, 1897), part II, pp. 708-9; for 1900, from *Fifth Census of the United States: 1900, "Special Report on Occupations"* (U. S. Dept. Com. and Labor, Bur. Census, 1904), pp. 666-9. Data for the remaining years were secured from the following volumes of the U. S. Department of Commerce, Bureau of the Census: data for 1910, from *Thirteenth Census of the United States: 1910, "Population"* (1914), vol. IV,

D. 687; for 1920, from *Fourteenth Census of the United States: 1920, "Population"* (1923), vol. IV, pp. 1191-2; for 1930, from *Fifteenth Census of the United States: 1930, "Population"* (1933), vol. IV, p. 1039.

^bFigures for 1890 are for cotton, woolen, and other textile mill operatives.

^cEither one or both parents are foreign-born.

n. a. Data not available.

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Table A-9.- NATIVITY, BY SEX AND AGE OF WORKERS, 1938^a

| Sex and age in years | Total | | Native-born | | Foreign-born | |
|----------------------|--------|---------|-------------|---------|--------------|---------|
| | Number | Percent | Number | Percent | Number | Percent |
| Total workers | 618 | 100.0 | 209 | 100.0 | 407 | 100.0 |
| 18-24 | 51 | 8.3 | 46 | 22.0 | 5 | 1.2 |
| 25-34 | 105 | 17.0 | 58 | 27.8 | 47 | 11.8 |
| 35-44 | 161 | 26.1 | 56 | 26.8 | 105 | 25.8 |
| 45-54 | 163 | 26.5 | 27 | 12.9 | 136 | 33.4 |
| 55-64 | 103 | 16.7 | 17 | 8.1 | 86 | 21.1 |
| 65 or over | 33 | 5.4 | 5 | 2.4 | 28 | 6.9 |
| Median age | 44.4 | | 35.1 | | 48.4 | |
| Men - total | 478 | 100.0 | 113 | 100.0 | 365 | 100.0 |
| 18-24 | 27 | 5.6 | 23 | 20.3 | 4 | 1.1 |
| 25-34 | 61 | 12.8 | 29 | 25.7 | 32 | 8.8 |
| 35-44 | 124 | 25.9 | 29 | 25.7 | 95 | 26.0 |
| 45-54 | 139 | 29.1 | 15 | 13.3 | 124 | 34.0 |
| 55-64 | 99 | 20.7 | 15 | 13.3 | 84 | 23.0 |
| 65 or over | 26 | 5.9 | 2 | 1.7 | 24 | 7.1 |
| Median age | 46.9 | | 36.6 | | 49.2 | |
| Women - total | 138 | 100.0 | 96 | 100.0 | 42 | 100.0 |
| 18-24 | 24 | 17.4 | 23 | 24.0 | 1 | 2.4 |
| 25-34 | 44 | 31.9 | 29 | 30.2 | 15 | 35.7 |
| 35-44 | 37 | 26.8 | 27 | 28.1 | 10 | 23.8 |
| 45-54 | 24 | 17.4 | 12 | 12.5 | 12 | 28.5 |
| 55-64 | 4 | 2.9 | 2 | 2.1 | 2 | 4.8 |
| 65 or over | 5 | 3.6 | 3 | 3.1 | 2 | 4.8 |
| Median age | 35.3 | | 33.6 | | 40.0 | |

^aData obtained in NRP Field Survey: occupational-history schedule.

Table A-10.- PERCENTAGE DISTRIBUTION OF WORKERS IN SILK MILLS, BY AGE, 1890-1930^a

| Age in years | 1890 ^b | 1900 | 1910 | 1920 | 1930 |
|--------------------|-------------------|-------|-------|-------|-------|
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 10-44 ^c | 90.4 | 90.1 | 86.7 | 82.5 | 71.6 |
| 45 or over | 9.6 | 9.9 | 13.3 | 17.5 | 28.3 |
| Unknown | n.a. | n.a. | n.a. | n.a. | 0.1 |

^aData for 1890 were secured from *Eleventh Census of the United States: 1890, "Population"* (U. S. Dept. Int., Census Office, 1897), part II, pp. 708-9; for 1900, from *Twelfth Census of the United States: 1900, "Special Report on Occupations"* (U. S. Dept. Com. and Labor, Bur. Census, 1904), pp. 686-9. Data for the remaining years were secured from the following volumes of the U. S. Department of Commerce, Bureau of the Census: data for 1910, from *Thirteenth Census of the United States: 1910, "Population"* (1914), vol. IV, p. 587; for 1920, from *Fourteenth Census of the United States: 1920, "Population"* (1923), vol. IV, pp. 1191-2; for 1930, from *Fifteenth Census of the United States: 1930, "Population"* (1933), vol. IV, p. 1061.

^bFigures for 1890 are for cotton, woollen, and other textile mill operatives.

^cFigures for 1910 and 1920 include workers whose age was unknown.

n.a. Data not available.

Table A-11.- AGE OF BEGINNING WORK, BY SEX AND AGE OF WORKERS, 1936^a

| Sex and age in 1936 in years | Total | | Age of beginning work in years | | | | | | | | | | | | Median age of beginning work |
|------------------------------------|-------------|--------------|--------------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|---------------------------------------|
| | | | Under 11 | | 11-12 | | 13-14 | | 15-16 | | 17-19 | | 20 or over | | |
| | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | |
| Men - total ^b | 475 | 100.0 | 21 | 4.4 | 61 | 12.9 | 127 | 26.7 | 130 | 27.4 | 97 | 20.4 | 39 | 8.2 | 15.4 |
| 18-34 | 88 | 100.0 | 0 | - | 2 | 2.3 | 16 | 18.2 | 37 | 42.0 | 27 | 30.7 | 6 | 6.8 | 16.4 |
| 35-44 | 123 | 100.0 | 5 | 4.1 | 9 | 7.3 | 39 | 31.7 | 37 | 30.1 | 25 | 20.3 | 8 | 6.5 | 15.5 |
| 45-54 | 138 | 100.0 | 9 | 6.5 | 25 | 18.1 | 27 | 19.6 | 32 | 23.2 | 26 | 18.8 | 19 | 13.8 | 15.5 |
| 55 or over | 126 | 100.0 | 7 | 5.6 | 25 | 19.8 | 45 | 35.7 | 24 | 19.0 | 19 | 15.1 | 6 | 4.8 | 14.4 |
| Women - total ^c | 135 | 100.0 | 0 | - | 5 | 3.7 | 49 | 36.3 | 50 | 37.0 | 21 | 15.6 | 10 | 7.4 | 15.5 |
| 18-34 | 66 | 100.0 | 0 | - | 0 | - | 20 | 30.3 | 29 | 43.9 | 12 | 18.2 | 5 | 7.6 | 15.9 |
| 35-44 | 38 | 100.0 | 0 | - | 0 | - | 18 | 50.0 | 10 | 27.8 | 5 | 13.9 | 3 | 8.3 | 15.0 |
| 45-54 | 24 | 100.0 | 0 | - | 5 | 20.9 | 6 | 25.0 | 9 | 37.5 | 2 | 8.3 | 2 | 8.3 | 15.2 |
| 55 or over | 9 | † | 0 | - | 0 | - | 5 | † | 2 | † | 2 | † | 0 | - | † |

^aData obtained in NRP Field Survey: occupational-history schedule.

^bExcludes three men who did not report age of beginning work.

^cExcludes three women who did not report age of beginning work.

†Base too small for calculation.

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Table A-12.- SCHOOL GRADE COMPLETED, BY SEX AND AGE OF WORKERS, 1936^a

| Sex and age in 1936 in years | Total | | School grade completed | | | | | | | | Median school grade com- pleted |
|------------------------------------|-------------|--------------|------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|---|
| | | | None | | 1-6 | | 7-8 | | 9-16 | | |
| | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | |
| Men - total ^b | 473 | 100.0 | 127 | 26.8 | 154 | 32.6 | 145 | 30.7 | 47 | 9.9 | 5.3 |
| 18-34 | 88 | 100.0 | 4 | 4.5 | 10 | 11.4 | 44 | 50.0 | 30 | 34.1 | 6.4 |
| 35-44 | 121 | 100.0 | 31 | 25.6 | 46 | 38.0 | 41 | 33.9 | 3 | 2.5 | 4.8 |
| 45-54 | 139 | 100.0 | 52 | 37.4 | 52 | 37.4 | 30 | 21.6 | 5 | 3.6 | 3.0 |
| 55 or over | 125 | 100.0 | 40 | 32.0 | 46 | 36.8 | 30 | 24.0 | 9 | 7.2 | 3.9 |
| Women - total ^c | 137 | 100.0 | 6 | 4.4 | 36 | 26.3 | 78 | 56.9 | 17 | 12.4 | 7.7 |
| 18-34 | 68 | 100.0 | 1 | 1.5 | 10 | 14.7 | 44 | 64.7 | 13 | 19.1 | 8.0 |
| 35-44 | 36 | 100.0 | 1 | 2.8 | 10 | 27.8 | 21 | 58.3 | 4 | 11.1 | 7.7 |
| 45-54 | 24 | 100.0 | 4 | 16.7 | 12 | 50.0 | 8 | 33.3 | 0 | - | 5.0 |
| 55 or over | 9 | † | 0 | - | 4 | † | 5 | † | 0 | - | † |

^aData obtained in NRP Field Survey: occupational-history schedule.^bExcludes five men who did not report school grade completed.^cExcludes one woman who did not report school grade completed.[†]Base too small for calculation.Table A-13.- MARITAL STATUS, BY SEX AND AGE OF WORKERS, 1936^a

| Sex and age in years | Total | | Married | | Single | | Divorced | | Widowed | |
|-------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent | Num- ber | Per- cent |
| Men - total | 478 | 100.0 | 370 | 77.4 | 80 | 16.7 | 10 | 2.1 | 18 | 3.8 |
| 18-34 | 88 | 100.0 | 36 | 40.9 | 51 | 58.0 | 1 | 1.1 | 0 | - |
| 35-44 | 124 | 100.0 | 109 | 87.9 | 11 | 8.9 | 2 | 1.6 | 2 | 1.6 |
| 45-54 | 139 | 100.0 | 120 | 86.3 | 13 | 9.4 | 4 | 2.9 | 2 | 1.4 |
| 55 or over | 127 | 100.0 | 105 | 82.7 | 5 | 3.9 | 3 | 2.4 | 14 | 11.0 |
| Women - total | 138 | 100.0 | 27 | 19.6 | 61 | 58.7 | 12 | 8.7 | 18 | 13.0 |
| 18-34 | 68 | 100.0 | 23 | 33.8 | 40 | 58.8 | 3 | 4.4 | 2 | 3.0 |
| 35-44 | 37 | 100.0 | 9 | 24.3 | 23 | 62.2 | 4 | 10.8 | 7 | 18.9 |
| 45-54 | 24 | 100.0 | 1 | 4.2 | 11 | 45.8 | 4 | 16.7 | 8 | 33.3 |
| 55 or over | 9 | † | 0 | - | 7 | † | 1 | † | 1 | † |

^aData obtained in NRP Field Survey: occupational-history schedule.[†]Base too small for calculation.

Table A-14.- ADDITIONAL INDUSTRY ATTACHMENT OF FOUR GROUPS OF BROAD-SILK WORKERS, 1926-35^a

| Groups of Paterson broad-silk workers | Total | Other textiles | | | Nontextiles | | |
|---|-------|----------------|----------|-------|-------------|-------|--------------------|
| | | Total | Jacquard | Other | Total | Trade | Other ^b |
| In broad silk only, 1926-35; in specified industry in 1936 | 35 | 20 | 8 | 12 | 15 | 4 | 11 |
| In broad silk but entered specified industry prior to 1935 | 26 | 22 | 17 | 5 | 4 | 3 | 1 |
| In broad silk, 1926-36, with supplementary employment in specified industry | 116 | 66 | 42 | 26 | 48 | 10 | 38 |
| Entered broad silk from specified industry, 1926-35 | 44 | 26 | 7 | 19 | 18 | 9 | 9 |

^aData obtained in NRP Field Survey: occupational-history schedule.

^bIncludes mainly factory operatives in other industries, servants, and restaurant employees.

Table A-15.- LOCATION OF FIRST JOB OF PATERSON BROAD-SILK WORKERS, BY INDUSTRY OF FIRST JOB AND PLACE OF BIRTH^a

| Industry and location of first job | Total | | Place of birth | | | | | |
|------------------------------------|---------|----------|----------------|----------|-----------------------|----------|-----------------|----------|
| | | | Paterson | | Rest of United States | | Foreign country | |
| | Num-ber | Per-cent | Num-ber | Per-cent | Num-ber | Per-cent | Num-ber | Per-cent |
| Total | 616 | 100.0 | 150 | 100.0 | 59 | 100.0 | 407 | 100.0 |
| Paterson | 297 | 48.2 | 145 | 96.7 | 31 | 52.5 | 121 | 29.7 |
| Rest of United States | 117 | 19.0 | 5 | 3.3 | 28 | 47.5 | 84 | 20.6 |
| Foreign country | 202 | 32.8 | 0 | - | 0 | - | 202 | 49.7 |
| Broad silk | 198 | 100.0 | 74 | 100.0 | 21 | 100.0 | 103 | 100.0 |
| Paterson | 139 | 70.2 | 70 | 94.6 | 17 | 81.0 | 52 | 50.5 |
| Rest of United States | 37 | 18.7 | 4 | 5.4 | 4 | 19.0 | 29 | 28.1 |
| Foreign country | 22 | 11.1 | 0 | - | 0 | - | 22 | 21.4 |
| Other textile | 251 | 100.0 | 52 | 100.0 | 18 | 100.0 | 181 | 100.0 |
| Paterson | 103 | 41.0 | 51 | 98.1 | 10 | 55.6 | 42 | 23.2 |
| Rest of United States | 30 | 12.0 | 1 | 1.9 | 8 | 44.4 | 21 | 11.6 |
| Foreign country | 118 | 47.0 | 0 | - | 0 | - | 118 | 65.2 |
| Other industry | 162 | 100.0 | 24 | 100.0 | 19 | 100.0 | 119 | 100.0 |
| Paterson | 55 | 34.0 | 24 | 100.0 | 4 | 21.1 | 27 | 22.7 |
| Rest of United States | 49 | 30.2 | 0 | - | 15 | 78.9 | 34 | 26.6 |
| Foreign country | 58 | 35.8 | 0 | - | 0 | - | 58 | 48.7 |
| Not reported | 5 | f | 0 | - | 1 | f | 4 | f |
| Paterson | 0 | - | 0 | - | 0 | - | 0 | - |
| Rest of United States | 1 | f | 0 | - | 1 | f | 0 | - |
| Foreign country | 4 | f | 0 | - | 0 | - | 4 | f |

^aData obtained in NRP Field Survey: occupational-history schedule.

^fBase too small for calculation.

Table A-16.- SHOPS IN PAY-ROLL SAMPLE, BY NUMBER OF LOOMS AND TYPE OF OPERATION, 1926-36^a

| Shop number ^b | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|--------------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Total | 130 | 184 | 552 | 697 | 727 | 897 | 905 | 943 | 993 | 1,007 | 1,011 |
| 1 | 34 ^c | 36 ^c | 36 ^c | 36 ^c | 68 ^e | 68 ^e | 68 ^e | 68 ^e | 68 ^e | 68 ^e | 68 |
| 2 | 10 | 16 | 18 | 18 | 16 | 18 | 18 | (f) | 18 | 18 | 18 |
| 3 | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d | 28 ^d |
| 4 | 24 ^c | 30 ^b | 30 ^c | 30 ^c | 22 ^e | 22 ^e | 24 ^e | 24 ^e | 24 ^e | 24 ^e | 28 |
| 5 | 34 | 34 | 30 | 30 | 30 | 30 | 30 ^e | 30 ^e | 30 ^e | 30 ^e | 30 ^c |
| 6 | - | 40 ^c | 40 ^e | 40 ^e | 48 ^c | 48 ^c | 40 ^c | 40 ^e | 40 ^c | 50 ^c | 50 ^c |
| 7 | - | - | 22 | 22 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 8 | - | - | 112 ^c | 188 ^c | 184 ^c | 212 ^c | 220 ^c | 196 ^c | 196 ^c | 196 ^c | 196 ^c |
| 9 | - | - | 60 ^c | 60 ^c | 60 ^e | 60 ^e | 60 ^e | 60 ^c | 60 ^c | 60 ^b | 60 ^c |
| 10 | - | - | 22 ^c | 22 ^c | 22 ^e | 22 ^e | 22 ^e | 22 ^e | 22 ^e | 22 ^e | 22 |
| 11 | - | - | 158 ^c | 145 ^c | 145 ^c | 145 ^c | 135 ^c | 145 ^c | 145 ^e | 145 | 145 |
| 12 | - | - | - | 80 | 80 | 80 | 80 | 88 | 88 | 88 | 88 |
| 13 | - | - | - | - | - | 60 | 60 | 64 | 64 | 60 | 60 |
| 14 | - | - | - | - | - | 48 | 48 | 48 | 48 | 48 | 48 |
| 15 | - | - | - | - | - | 16 | 16 | 16 | 20 | 20 | 20 |
| 16 | - | - | - | - | - | 16 | 16 | 16 | 20 | 20 | 20 |
| 17 | - | - | - | - | - | - | 16 ^e | 16 ^e | 18 ^e | 18 ^e | 18 |
| 18 | - | - | - | - | - | - | - | 20 | 20 | 20 | 20 |
| 19 | - | - | - | - | - | - | - | - | 20 | 20 | 20 |
| 20 | - | - | - | - | - | - | - | - | 20 | 20 | 20 |
| 21 | - | - | - | - | - | - | - | - | - | 12 | 12 |
| 22 | - | - | - | - | - | - | - | - | - | 16 | 16 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops.
^bShops operate on a commission basis except as otherwise specified.
^cIndependent.
^dBoth commission and independent at some time during the year.

^eNot specified.
^fShop closed down, but listed in *Davies's Rayon and Silk Trades* as having 16 looms and included in total loomage for year.

Table A-17.- SHOPS IN PAY-ROLL SAMPLE, BY NUMBER OF MONTHS IN OPERATION, 1926-36^a

| Shop number | Average during period | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|-----------------------|-----------------------|-------|-------------------|-------------------|-------|-------|-------------------|-------------------|-------------------|-------|-------------------|-------|
| 1 | 10.52 | 12.00 | 12.00 | 11.75 | 11.50 | 11.75 | 10.75 | 9.50 | 8.75 | 11.00 | 8.00 | 8.75 |
| 2 | 7.43 | 11.50 | 9.25 | 9.25 | 10.00 | 9.75 | 2.75 | 0.75 | (b) | 8.00 | 9.25 | 3.75 |
| 3 | 9.32 | 9.50 | 11.00 | 12.00 | 11.50 | 10.50 | 7.50 | 8.50 | 7.75 | 9.50 | 11.25 | 3.50 |
| 4 | 10.50 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 10.75 | 10.75 | 9.25 | 11.50 | 9.50 | 3.75 |
| 5 | 11.14 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 7.00 | 9.25 | 12.00 | 12.00 | 10.25 |
| 6 | 10.28 | - | 7.50 ^c | 12.00 | 9.50 | 5.75 | 10.00 | 11.75 | 9.75 | 11.25 | 11.75 | 10.75 |
| 7 | 10.19 | - | - | 11.50 | 9.75 | 8.00 | 11.50 | 8.50 | 8.50 | 10.25 | 11.75 | 12.00 |
| 8 | 10.97 | - | - | 6.00 ^c | 10.25 | 12.00 | 11.00 | 12.00 | 9.25 | 10.25 | 11.00 | 12.00 |
| 9 | 11.25 | - | - | 9.75 ^c | 12.00 | 12.00 | 11.00 | 11.75 | 8.25 | 12.00 | 11.00 | 12.00 |
| 10 | 4.47 | - | - | 5.25 ^c | 7.50 | 2.25 | 3.50 | 1.75 | 2.25 | 7.25 | 8.50 | 2.75 |
| 11 | 8.41 | - | - | 7.75 ^c | 3.75 | 11.50 | 9.50 | 2.75 | 5.00 | 11.25 | 11.50 | 12.00 |
| 12 | 11.19 | - | - | - | 12.00 | 11.50 | 10.25 | 12.00 | 10.25 | 11.25 | 10.25 | 12.00 |
| 13 | 11.29 | - | - | - | - | - | 11.00 | 11.75 | 9.00 | 12.00 | 12.00 | 12.00 |
| 14 | 10.50 | - | - | - | - | - | 8.75 | 11.50 | 9.25 | 10.50 | 11.50 | 11.50 |
| 15 | 11.04 | - | - | - | - | - | 12.00 | 11.50 | 9.50 | 11.00 | 10.25 | 12.00 |
| 16 | 10.75 | - | - | - | - | - | 3.00 ^c | 11.00 | 8.50 | 10.75 | 11.75 | 11.75 |
| 17 | 8.88 | - | - | - | - | - | - | 6.00 ^c | 7.00 | 10.25 | 11.00 | 7.25 |
| 18 | 9.67 | - | - | - | - | - | - | - | 4.75 ^c | 10.00 | 11.00 | 8.00 |
| 19 | 7.58 | - | - | - | - | - | - | - | - | 9.75 | 6.50 | 6.50 |
| 20 | 7.58 | - | - | - | - | - | - | - | - | 8.25 | 8.50 | 6.00 |
| 21 | f | - | - | - | - | - | - | - | - | - | 11.00 | 7.50 |
| 22 | f | - | - | - | - | - | - | - | - | - | 8.75 ^c | 11.25 |
| Average for all shops | 9.77 | 11.40 | 11.25 | 11.50 | 10.15 | 9.92 | 9.48 | 8.92 | 8.22 | 10.40 | 10.44 | 8.97 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 63, fn. 5 for method of determining number of months in operation.

^bShop closed down.

^cRecords not available for entire year; incomplete records were not used in computation of averages.

^dBase too small for calculation.

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Table A-18.- SHOPS IN PAY-ROLL SAMPLE, BY NUMBER OF MONTHS OPERATING A NIGHT SHIFT, 1927-36^a

| Shop number | Average during period | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|-----------------------|-----------------------|------|-------------------|------|------|------|-------|------|-------|-------------------|------|
| 1 | 6.65 | - | - | - | - | - | 1.75 | 7.00 | 10.00 | 8.00 | 6.50 |
| 3 | 1.80 | - | - | - | - | 2.25 | 1.25 | 0.50 | 3.75 | 1.25 | - |
| 4 | 4.34 | 4.00 | 0.75 | 5.00 | - | - | 1.25 | 6.00 | 5.50 | 6.50 | 1.75 |
| 5 | 1.33 | - | - | - | - | - | - | 1.00 | 0.50 | 2.50 | - |
| 6 | f | - | - | - | - | 1.00 | - | - | - | - | 3.25 |
| 7 | 4.94 | - | 6.00 | 1.75 | - | 1.00 | 3.00 | 7.25 | 4.25 | 6.50 | 7.75 |
| 10 | 3.67 | - | - | - | - | 0.50 | 0.75 | 2.25 | 7.25 | 8.50 | 2.75 |
| 11 | 6.46 | - | 4.00 ^b | 3.25 | 4.25 | 2.00 | - | - | 9.75 | 9.75 | 9.75 |
| 12 | 8.86 | - | - | - | 6.50 | 6.50 | 11.50 | 9.50 | 10.00 | 10.00 | 6.00 |
| 13 | 5.04 | - | - | - | - | 6.25 | 2.75 | 3.25 | 10.25 | 4.75 | 3.00 |
| 14 | 3.54 | - | - | - | - | 2.75 | 0.75 | 2.00 | 5.75 | 3.00 | 7.00 |
| 17 | f | - | - | - | - | - | - | - | - | 1.00 | - |
| 19 | 4.17 | - | - | - | - | - | - | - | 5.25 | 4.00 | 3.25 |
| 20 | 5.42 | - | - | - | - | - | - | - | 7.75 | 5.75 | 2.75 |
| 22 | f | - | - | - | - | - | - | - | - | 6.50 ^b | 9.75 |
| Average for all shops | 4.84 | f | f | 3.33 | f | 2.76 | 2.86 | 4.53 | 6.67 | 5.61 | 5.29 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 63, fn. 5 for method of determining number of months in operation. None of the shops operated a night shift in 1928.

^bRecords not available for entire year; incomplete records were not used in computation of averages.

^cBase too small for calculation.

Table A-19.- MONTHLY AND YEARLY INDEX OF EMPLOYMENT, IN 12 IDENTICAL SHOPS, 1929-36^a
(1929=100)

| Year | Yearly | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1929 | 100.0 | 126.7 | 128.1 | 118.4 | 101.0 | 72.8 | 62.5 | 99.5 | 102.4 | 103.4 | 101.9 | 93.2 | 69.9 |
| 1930 | 118.9 | 86.9 | 138.8 | 153.9 | 142.2 | 119.4 | 101.4 | 51.5 | 64.9 | 111.8 | 134.0 | 146.6 | 155.3 |
| 1931 | 115.3 | 146.0 | 164.6 | 169.9 | 166.4 | 140.8 | 99.0 | 114.6 | 21.8 | 57.6 | 101.4 | 93.7 | 103.9 |
| 1932 | 99.3 | 105.8 | 122.6 | 106.6 | 105.8 | 106.3 | 84.5 | 59.7 | 79.6 | 101.0 | 120.4 | 111.7 | 87.9 |
| 1933 | 84.0 | 92.2 | 99.5 | 81.6 | 94.2 | 120.9 | 125.7 | 111.2 | 116.0 | 72.8 | 1.5 | 9.2 | 84.0 |
| 1934 | 119.3 | 113.1 | 164.6 | 161.2 | 140.8 | 96.6 | 86.4 | 96.1 | 127.7 | 56.3 | 129.6 | 117.0 | 139.3 |
| 1935 | 126.7 | 146.1 | 161.7 | 136.3 | 142.7 | 128.6 | 96.5 | 129.6 | 151.5 | 154.4 | 143.7 | 96.4 | 60.2 |
| 1936 | 108.5 | 96.5 | 97.6 | 95.6 | 91.7 | 90.6 | 104.9 | 103.9 | 121.4 | 121.4 | 125.7 | 125.2 | 125.7 |

^aData obtained in NRP Field Survey: pay-roll sample for 12 of 22 shops. See p. 66, fn. 11 for method of determining man-weeks worked.

Table A-20.- RATIO OF PERSONS ON PAY ROLL TO AVERAGE NUMBER REQUIRED, 1926-36^a

| Shop number | Yearly average | 1925 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|-----------------------|----------------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 2.3 | 1.5 | 1.3 | 1.4 | 2.1 | 1.8 | 1.5 | 2.0 | 4.3 | 2.8 | 1.9 | 2.0 |
| 2 | 2.4 | 2.6 | 3.5 | 2.0 | 1.9 | 1.6 | 1.2 | 2.2 | (b) | 4.0 | 1.7 | 1.8 |
| 3 | 5.1 | 4.5 | 5.2 | 5.1 | 5.7 | 4.1 | 3.7 | 8.7 | 5.2 | 4.8 | 5.2 | 1.0 |
| 4 | 2.5 | 1.4 | 3.2 | 2.6 | 2.8 | 1.9 | 1.7 | 4.5 | 3.3 | 2.0 | 1.6 | 2.4 |
| 5 | 3.1 | 2.3 | 2.5 | 2.9 | 2.6 | 2.4 | 3.5 | 3.8 | 4.0 | 3.2 | 3.9 | 4.3 |
| 6 | 4.9 | - | (c) | 4.0 | 4.4 | 3.6 | 4.8 | 3.6 | 3.8 | 6.1 | 7.6 | 6.8 |
| 7 | 4.2 | - | - | 5.0 | 5.4 | 5.4 | 4.4 | 5.1 | 4.5 | 3.2 | 3.2 | 2.9 |
| 8 | 1.9 | - | - | (d) | 2.7 | 2.2 | 2.0 | 2.1 | 1.8 | 1.7 | 1.3 | 1.5 |
| 9 | 2.7 | - | - | (e) | 4.1 | 2.3 | 3.2 | 3.1 | 2.8 | 2.0 | 2.0 | 1.8 |
| 10 | 3.2 | - | - | (e) | 5.1 | 4.0 | 2.5 | 3.0 | 1.2 | 2.6 | 5.6 | 3.4 |
| 11 | 5.0 | - | - | (e) | 2.2 | 8.3 | 4.9 | 2.2 | 6.5 | 5.1 | 6.5 | 5.9 |
| 12 | 2.9 | - | - | - | 3.6 | 5.1 | 3.3 | 2.8 | 2.2 | 2.0 | 2.1 | 2.6 |
| 13 | 3.7 | - | - | - | - | - | 4.1 | 4.5 | 2.8 | 2.5 | 4.6 | 4.0 |
| 14 | 3.0 | - | - | - | - | - | 3.7 | 4.8 | 3.4 | 2.4 | 2.2 | 2.6 |
| 15 | 3.8 | - | - | - | - | - | 2.1 | 3.2 | 1.9 | 3.3 | 5.5 | 4.8 |
| 16 | 3.2 | - | - | - | - | - | (e) | 6.2 | 4.6 | 2.5 | 1.4 | 3.7 |
| 17 | 2.5 | - | - | - | - | - | - | (e) | 1.9 | 1.8 | 3.8 | 2.5 |
| 18 | 7.3 | - | - | - | - | - | - | - | (e) | 7.5 | 6.5 | 8.3 |
| 19 | 3.5 | - | - | - | - | - | - | - | - | 3.6 | 3.2 | 3.6 |
| 20 | 2.8 | - | - | - | - | - | - | - | - | 2.2 | 2.9 | 3.5 |
| 21 | f | - | - | - | - | - | - | - | - | - | 2.6 | 2.9 |
| 22 | g | - | - | - | - | - | - | - | - | - | (c) | 3.9 |
| Average for all shops | 3.1 | 2.2 | 2.6 | 3.3 | 3.0 | 3.9 | 3.2 | 3.4 | 3.0 | 2.6 | 3.0 | 3.0 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 68, fn. 12 for method of determining this ratio.

^bShop closed down.

^cRecords not available for entire year; incomplete records were not used in computation of averages.

^dBase too small for calculation.

Table A-21.- PERCENTAGE OF PERSONS WORKING AT INDIVIDUAL SHOPS WHO RECEIVED OVER 1 WEEK OF EMPLOYMENT PER 2-WEEK PAY PERIOD, 1926-36^a

| Year | Yearly | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|------|--------|------|------|------|------|------|------|------|------|-------|------|------|------|
| 1926 | 83.4 | 82.6 | 87.7 | 84.8 | 84.3 | 83.8 | 86.0 | 82.1 | 84.3 | 81.8 | 82.5 | 79.8 | 82.2 |
| 1927 | 85.2 | 78.8 | 94.2 | 87.6 | 93.5 | 86.0 | 76.7 | 77.6 | 86.4 | 86.2 | 90.2 | 82.0 | 88.8 |
| 1928 | 76.3 | 86.6 | 81.3 | 89.1 | 86.2 | 77.5 | 81.1 | 78.9 | 73.8 | 72.6 | 68.8 | 67.5 | 76.7 |
| 1929 | 82.6 | 76.7 | 83.4 | 87.7 | 79.6 | 80.5 | 81.8 | 81.1 | 79.7 | 83.9 | 85.1 | 87.9 | 81.8 |
| 1930 | 77.1 | 65.5 | 78.1 | 75.0 | 80.6 | 77.7 | 69.3 | 63.3 | 79.1 | 77.1 | 85.4 | 81.5 | 60.5 |
| 1931 | 76.7 | 77.5 | 88.9 | 88.5 | 86.3 | 74.9 | 69.4 | 69.6 | 49.7 | 54.9 | 61.8 | 73.9 | 73.2 |
| 1932 | 71.3 | 69.0 | 82.8 | 81.4 | 81.5 | 71.6 | 55.0 | 56.9 | 56.6 | 72.8 | 76.4 | 80.3 | 58.5 |
| 1933 | 68.6 | 71.5 | 73.4 | 56.9 | 67.2 | 79.3 | 69.5 | 68.4 | 76.3 | 46.0 | 11.1 | 43.9 | 73.9 |
| 1934 | 75.7 | 80.0 | 85.8 | 85.8 | 75.7 | 60.8 | 72.3 | 63.0 | 76.9 | 52.1 | 75.2 | 79.7 | 75.2 |
| 1935 | 74.0 | 68.2 | 80.0 | 73.9 | 80.1 | 72.1 | 70.5 | 70.3 | 79.9 | 75.5 | 79.4 | 54.7 | 75.3 |
| 1936 | 70.8 | 76.4 | 76.8 | 74.0 | 67.2 | 71.8 | 67.6 | 64.5 | 67.3 | 69.6 | 77.3 | 72.8 | 66.5 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops.

Table A-22.- MONTHLY AND YEARLY LABOR TURN-OVER RATES OF ALL WORKERS AT INDIVIDUAL SHOPS, 1926-36^a

(Rate per 100 employees)

| Year | Yearly | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------|--------|------|------|------|------|------|------|------|------|-------|------|-------|------|
| Total accession rate | | | | | | | | | | | | | |
| 1926 | 184.7 | 13.1 | 7.9 | 20.4 | 12.7 | 9.3 | 15.1 | 17.6 | 15.4 | 22.1 | 15.4 | 16.1 | 19.6 |
| 1927 | 223.5 | 28.1 | 14.6 | 9.5 | 10.0 | 33.9 | 17.9 | 24.4 | 18.5 | 12.8 | 30.8 | 7.2 | 15.6 |
| 1928 | 393.2 | 26.8 | 24.0 | 14.8 | 33.3 | 26.3 | 28.8 | 28.4 | 41.5 | 54.5 | 34.0 | 33.7 | 47.1 |
| 1929 | 366.8 | 24.2 | 22.9 | 23.8 | 30.6 | 32.4 | 56.7 | 32.7 | 37.5 | 54.8 | 22.5 | 16.1 | 12.6 |
| 1930 | 467.2 | 66.9 | 47.4 | 41.7 | 23.1 | 36.5 | 20.2 | 47.0 | 52.6 | 40.8 | 29.5 | 39.5 | 22.0 |
| 1931 | 415.0 | 42.1 | 27.3 | 28.7 | 27.5 | 15.2 | 19.9 | 46.2 | 13.5 | 109.5 | 35.9 | 25.7 | 23.5 |
| 1932 | 342.1 | 33.3 | 24.6 | 13.9 | 29.7 | 29.5 | 24.6 | 19.5 | 64.1 | 47.6 | 25.6 | 10.3 | 19.4 |
| 1933 | 481.9 | 21.5 | 21.3 | 20.9 | 50.3 | 22.7 | 30.7 | 29.3 | 35.4 | 10.1 | 25.0 | 116.7 | 98.0 |
| 1934 | 326.3 | 30.4 | 41.5 | 17.8 | 15.6 | 10.6 | 34.8 | 45.0 | 44.9 | 17.2 | 18.6 | 19.2 | 30.7 |
| 1935 | 374.8 | 35.6 | 22.3 | 35.4 | 32.5 | 25.1 | 29.8 | 65.7 | 36.9 | 26.8 | 12.8 | 12.1 | 39.8 |
| 1936 | 362.4 | 49.5 | 17.1 | 26.0 | 37.3 | 22.6 | 36.9 | 45.9 | 34.0 | 25.7 | 26.2 | 32.2 | 29.0 |
| First accession rate | | | | | | | | | | | | | |
| 1926 | 111.9 | 13.1 | 6.3 | 14.1 | 7.9 | 5.6 | 1.9 | 13.7 | 9.6 | 11.9 | 9.2 | 9.7 | 8.9 |
| 1927 | 144.6 | 15.8 | 7.4 | 3.8 | 6.0 | 23.2 | 11.9 | 16.7 | 13.6 | 7.7 | 25.3 | 4.8 | 6.4 |
| 1928 | 251.4 | 19.6 | 18.0 | 2.8 | 19.0 | 12.6 | 21.6 | 21.3 | 26.7 | 40.3 | 25.6 | 16.1 | 27.8 |
| 1929 | 218.5 | 15.7 | 14.9 | 13.8 | 16.5 | 21.2 | 39.0 | 27.4 | 24.3 | 15.7 | 13.7 | 8.8 | 5.5 |
| 1930 | 233.0 | 17.4 | 28.7 | 32.0 | 15.5 | 24.2 | 9.3 | 3.8 | 15.2 | 25.8 | 18.8 | 27.6 | 14.7 |
| 1931 | 179.8 | 15.0 | 21.1 | 22.8 | 16.8 | 10.7 | 8.8 | 21.0 | 4.5 | 16.7 | 10.4 | 15.7 | 14.3 |
| 1932 | 176.4 | 20.3 | 13.6 | 6.6 | 17.4 | 12.9 | 6.1 | 7.8 | 37.8 | 29.0 | 16.5 | 5.0 | 5.2 |
| 1933 | 206.7 | 8.7 | 11.9 | 8.9 | 19.4 | 13.1 | 20.3 | 20.8 | 28.5 | 5.5 | 25.0 | 36.7 | 7.9 |
| 1934 | 134.4 | 20.7 | 23.8 | 10.9 | 5.6 | 3.2 | 9.6 | 11.5 | 17.7 | 3.1 | 11.2 | 7.8 | 9.3 |
| 1935 | 143.4 | 22.6 | 14.8 | 13.7 | 11.4 | 4.1 | 5.4 | 15.2 | 20.7 | 17.5 | 5.0 | 5.6 | 7.4 |
| 1936 | 168.7 | 15.5 | 4.0 | 6.5 | 13.8 | 8.1 | 15.6 | 20.7 | 20.6 | 15.4 | 14.2 | 16.2 | 16.1 |

| Rehiring rate | | | | | | | | | | | | | |
|-----------------------|-------|------|------|------|------|------|------|------|-------|-------|------|------|------|
| 1926 | 72.8 | - | 1.6 | 6.3 | 4.8 | 3.7 | 13.2 | 3.9 | 5.8 | 10.2 | 6.2 | 6.4 | 10.7 |
| 1927 | 78.9 | 12.3 | 7.4 | 5.7 | 4.0 | 10.7 | 6.0 | 7.7 | 4.9 | 5.1 | 5.5 | 2.4 | 7.2 |
| 1928 | 141.8 | 7.2 | 6.0 | 12.0 | 14.3 | 13.7 | 7.2 | 7.1 | 14.8 | 14.2 | 8.4 | 17.6 | 19.3 |
| 1929 | 148.3 | 8.5 | 8.0 | 10.0 | 12.1 | 11.2 | 17.7 | 5.3 | 13.2 | 39.1 | 8.8 | 7.3 | 7.1 |
| 1930 | 234.2 | 49.5 | 18.7 | 9.7 | 7.6 | 12.3 | 10.9 | 43.2 | 37.4 | 15.0 | 10.7 | 11.9 | 7.3 |
| 1931 | 235.2 | 27.1 | 6.2 | 5.9 | 8.7 | 4.5 | 11.1 | 25.2 | 9.0 | 92.8 | 25.5 | 10.0 | 9.2 |
| 1932 | 163.7 | 13.0 | 10.8 | 7.3 | 12.3 | 16.6 | 16.5 | 11.7 | 26.3 | 16.6 | 9.1 | 5.3 | 14.2 |
| 1933 | 275.2 | 12.8 | 9.4 | 12.0 | 30.9 | 9.6 | 10.4 | 8.5 | 6.9 | 4.6 | - | 80.0 | 90.1 |
| 1934 | 191.9 | 9.7 | 17.7 | 6.9 | 10.0 | 7.4 | 25.2 | 33.5 | 27.2 | 14.1 | 7.4 | 11.4 | 21.4 |
| 1935 | 231.4 | 13.0 | 7.5 | 21.7 | 21.1 | 21.0 | 24.4 | 50.5 | 16.2 | 9.3 | 7.8 | 6.5 | 32.4 |
| 1936 | 213.7 | 34.0 | 13.1 | 19.5 | 23.5 | 14.5 | 21.3 | 25.2 | 13.4 | 10.3 | 12.0 | 14.0 | 12.9 |
| Total separation rate | | | | | | | | | | | | | |
| 1926 | 192.3 | 8.2 | 15.9 | 7.8 | 28.6 | 20.4 | 11.4 | 21.6 | 5.8 | 6.8 | 15.4 | 29.0 | 21.4 |
| 1927 | 199.6 | 26.4 | 5.6 | 18.9 | 16.0 | 7.1 | 27.4 | 21.8 | 16.0 | 15.4 | 19.8 | 16.8 | 8.4 |
| 1928 | 405.3 | 20.7 | 40.0 | 19.4 | 33.3 | 23.7 | 47.8 | 30.3 | 35.8 | 32.2 | 40.0 | 49.7 | 32.4 |
| 1929 | 429.6 | 21.1 | 31.6 | 36.1 | 55.6 | 38.8 | 26.7 | 31.0 | 61.7 | 29.4 | 22.9 | 17.1 | 57.6 |
| 1930 | 391.1 | 16.5 | 29.9 | 33.4 | 33.4 | 42.6 | 74.1 | 30.3 | 19.7 | 20.4 | 19.5 | 28.8 | 42.5 |
| 1931 | 449.8 | 21.1 | 22.0 | 29.5 | 26.2 | 46.4 | 45.9 | 66.5 | 100.0 | 19.9 | 28.0 | 21.4 | 23.9 |
| 1932 | 352.6 | 20.6 | 25.5 | 23.9 | 29.4 | 35.4 | 33.9 | 36.4 | 35.9 | 31.6 | 32.0 | 19.9 | 28.1 |
| 1933 | 451.7 | 15.5 | 17.5 | 47.5 | 22.8 | 19.6 | 23.6 | 25.6 | 33.8 | 109.2 | 87.5 | 36.7 | 12.4 |
| 1934 | 387.7 | 28.2 | 22.1 | 23.7 | 23.6 | 46.0 | 38.4 | 37.7 | 27.3 | 76.9 | 22.1 | 24.0 | 17.7 |
| 1935 | 426.5 | 24.6 | 35.3 | 26.4 | 38.2 | 58.8 | 37.8 | 39.5 | 29.9 | 27.1 | 24.7 | 64.1 | 20.1 |
| 1936 | 332.9 | 26.1 | 27.9 | 35.5 | 30.5 | 22.4 | 39.6 | 22.2 | 25.8 | 26.9 | 26.2 | 30.8 | 19.0 |

See footnotes at end of table.

Table A-22.- MONTHLY AND YEARLY LABOR TURN-OVER RATES OF ALL WORKERS AT INDIVIDUAL SHOPS, 1926-36 - Continued

(Rate per 100 employees)

| Year | Yearly | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|--|--------|------|------|------|------|------|------|------|------|-------|------|------|------|
| Lay-off rate - short time ^b | | | | | | | | | | | | | |
| 1926 | 41.4 | - | 3.2 | 3.1 | 1.6 | 11.1 | 3.8 | 2.0 | 1.9 | 1.7 | 3.0 | 6.4 | 3.6 |
| 1927 | 26.3 | 1.8 | 1.9 | 3.8 | 6.0 | 1.8 | 3.6 | 2.6 | 1.2 | - | - | 3.6 | - |
| 1928 | 89.1 | 2.1 | 3.0 | 5.5 | 15.9 | 1.0 | 5.9 | 5.2 | 6.0 | 4.3 | 6.0 | 24.9 | 7.3 |
| 1929 | 108.9 | 2.4 | 3.1 | 3.8 | 6.0 | 3.7 | 1.6 | 4.4 | 33.6 | 4.7 | 1.7 | 2.0 | 41.9 |
| 1930 | 59.9 | 3.4 | 5.3 | 2.2 | 3.3 | 4.7 | 13.4 | 7.6 | 4.5 | 2.3 | 2.3 | 2.7 | 8.2 |
| 1931 | 70.4 | 3.9 | 2.0 | 3.6 | 2.2 | 5.2 | 16.6 | 1.9 | 22.5 | 1.8 | 4.3 | 1.0 | 5.4 |
| 1932 | 67.3 | 4.1 | 4.5 | 2.7 | 3.6 | 9.3 | 3.9 | 13.0 | 4.3 | 2.0 | 2.1 | 7.5 | 10.1 |
| 1933 | 73.2 | 3.4 | 2.9 | 26.6 | 3.3 | 2.6 | 1.8 | 2.5 | 1.4 | 1.7 | 25.0 | - | 2.0 |
| 1934 | 117.7 | 13.0 | 1.7 | 6.5 | 2.9 | 5.1 | 3.9 | 7.0 | 5.2 | 56.3 | 3.7 | 7.3 | 5.1 |
| 1935 | 112.5 | 3.2 | 11.2 | 5.8 | 15.0 | 22.4 | 16.4 | 16.6 | 3.8 | 3.8 | 0.9 | 6.5 | 4.9 |
| 1936 | 61.3 | 3.9 | 3.0 | 9.2 | 5.8 | 5.1 | 11.4 | 4.2 | 3.5 | 4.6 | 4.6 | 4.6 | 1.2 |
| Lay-off rate - long time ^c | | | | | | | | | | | | | |
| 1926 | 64.3 | 4.9 | 4.8 | 1.6 | 9.5 | 5.6 | 3.8 | 3.9 | 3.9 | 1.7 | 6.2 | 11.3 | 7.1 |
| 1927 | 69.1 | 3.5 | - | 5.7 | 6.0 | 3.5 | 11.9 | 5.1 | 3.7 | 9.0 | 9.9 | 4.8 | 6.0 |
| 1928 | 127.3 | 9.3 | 19.0 | 7.4 | 2.3 | 7.4 | 21.6 | 7.7 | 8.0 | 8.2 | 17.2 | 8.8 | 10.4 |
| 1929 | 118.1 | 6.1 | 7.3 | 11.9 | 22.0 | 19.7 | 6.0 | 7.1 | 5.1 | 9.5 | 8.4 | 5.4 | 6.6 |
| 1930 | 130.8 | 1.7 | 5.0 | 6.9 | 9.1 | 14.6 | 37.2 | 17.4 | 7.1 | 3.9 | 4.4 | 4.2 | 19.1 |
| 1931 | 163.1 | 3.4 | 5.9 | 4.0 | 2.8 | 13.2 | 14.2 | 39.6 | 66.2 | 5.4 | 8.6 | 10.0 | 9.6 |
| 1932 | 114.7 | 4.4 | 9.0 | 8.0 | 12.7 | 9.6 | 19.6 | 15.2 | 6.2 | 5.1 | 8.0 | 6.5 | 10.4 |
| 1933 | 210.3 | 2.7 | 5.1 | 13.5 | 4.7 | 7.4 | 3.9 | 6.3 | 14.7 | 94.8 | 37.5 | 16.7 | 3.0 |
| 1934 | 140.9 | 4.0 | 3.3 | 5.9 | 10.9 | 27.3 | 21.6 | 19.6 | 9.8 | 17.5 | 9.1 | 6.1 | 5.6 |
| 1935 | 138.3 | 6.8 | 8.3 | 8.1 | 9.5 | 18.3 | 9.2 | 8.6 | 4.4 | 4.7 | 11.0 | 42.4 | 7.0 |
| 1936 | 79.7 | 7.6 | 11.2 | 15.4 | 12.2 | 4.1 | 11.7 | 4.2 | 5.5 | 4.6 | 2.2 | 1.0 | - |

Final separation rate^d

| | | | | | | | | | | | | | |
|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1926 | 86.6 | 3.3 | 7.9 | 3.1 | 17.5 | 3.7 | 3.8 | 15.7 | - | 3.4 | 6.2 | 11.3 | 10.7 |
| 1927 | 104.2 | 21.1 | 3.7 | 9.4 | 4.0 | 1.8 | 11.9 | 14.1 | 11.1 | 6.4 | 9.9 | 8.4 | 2.4 |
| 1928 | 188.9 | 9.3 | 18.0 | 6.5 | 15.1 | 15.3 | 20.3 | 17.4 | 19.8 | 19.7 | 16.8 | 16.0 | 14.7 |
| 1929 | 202.6 | 12.6 | 21.2 | 20.4 | 27.6 | 15.4 | 17.1 | 19.5 | 23.0 | 16.2 | 12.8 | 9.7 | 7.1 |
| 1930 | 200.4 | 11.4 | 19.6 | 24.3 | 21.0 | 23.1 | 23.5 | 5.3 | 8.1 | 14.2 | 12.8 | 21.9 | 15.2 |
| 1931 | 196.3 | 13.6 | 14.1 | 21.9 | 21.2 | 28.0 | 15.1 | 24.8 | 11.3 | 11.7 | 15.1 | 10.4 | 8.9 |
| 1932 | 170.6 | 12.1 | 12.0 | 13.2 | 12.9 | 16.5 | 10.4 | 6.2 | 25.4 | 24.5 | 21.9 | 5.9 | 7.6 |
| 1933 | 168.2 | 9.4 | 9.5 | 7.4 | 14.8 | 9.6 | 17.9 | 16.8 | 17.7 | 12.7 | 25.0 | 20.0 | 7.4 |
| 1934 | 129.1 | 11.2 | 17.1 | 11.3 | 9.8 | 13.6 | 12.9 | 10.9 | 12.3 | 3.1 | 9.3 | 10.6 | 7.0 |
| 1935 | 175.7 | 14.6 | 15.8 | 12.5 | 13.7 | 18.1 | 10.4 | 14.1 | 21.7 | 18.6 | 12.8 | 15.2 | 6.2 |
| 1936 | 191.9 | 14.6 | 13.7 | 10.9 | 12.5 | 13.2 | 16.5 | 13.8 | 16.8 | 17.5 | 19.4 | 25.2 | 17.8 |

Replacement rate^e

| | | | | | | | | | | | | | |
|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1926 | 184.7 | 8.2 | 7.9 | 7.8 | 12.7 | 9.3 | 11.4 | 17.6 | 5.8 | 6.8 | 15.4 | 16.1 | 19.6 |
| 1927 | 199.6 | 26.4 | 5.6 | 9.5 | 10.0 | 7.1 | 17.9 | 21.8 | 16.0 | 12.8 | 19.8 | 7.2 | 8.4 |
| 1928 | 393.2 | 20.7 | 24.0 | 14.8 | 33.3 | 23.7 | 28.8 | 28.4 | 35.8 | 32.2 | 34.0 | 33.7 | 32.4 |
| 1929 | 366.8 | 21.1 | 22.9 | 23.8 | 30.6 | 32.4 | 26.7 | 31.0 | 37.5 | 29.4 | 22.5 | 16.1 | 12.6 |
| 1930 | 391.1 | 16.5 | 29.9 | 33.4 | 23.1 | 36.5 | 20.2 | 30.3 | 19.7 | 20.4 | 19.5 | 28.8 | 22.0 |
| 1931 | 415.0 | 21.1 | 22.0 | 28.7 | 26.2 | 15.2 | 19.9 | 46.2 | 13.5 | 18.9 | 26.0 | 21.4 | 23.5 |
| 1932 | 342.1 | 20.6 | 24.6 | 13.9 | 29.4 | 29.5 | 24.6 | 19.5 | 35.9 | 31.6 | 25.6 | 10.3 | 19.4 |
| 1933 | 451.7 | 15.5 | 17.5 | 20.9 | 22.8 | 19.8 | 23.6 | 25.6 | 33.6 | 10.1 | 25.0 | 36.7 | 12.4 |
| 1934 | 326.3 | 26.2 | 22.1 | 17.8 | 15.6 | 10.6 | 34.8 | 37.7 | 27.3 | 17.2 | 18.6 | 19.2 | 17.7 |
| 1935 | 374.6 | 24.6 | 22.3 | 26.4 | 32.5 | 25.1 | 29.8 | 39.5 | 29.9 | 26.8 | 12.8 | 12.1 | 20.1 |
| 1936 | 332.9 | 26.1 | 17.1 | 26.0 | 30.5 | 22.4 | 36.9 | 22.2 | 25.8 | 25.7 | 26.2 | 30.8 | 19.0 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 71, fn. 17 for method of determining labor turn-over rates.

^bAny separation of less than 28 days.

^cAny separation of 28 days or more.

^dAny separation failing to accede again to pay roll during entire period for which data were taken.

^eThe annual replacement rate represents not the total of the monthly rates (as is the case for the other turn-over rates), but either the yearly accession or yearly separation rate, whichever is the lower.

PATERSON BROAD-SILK WORKERS

Table A-23.- DISTRIBUTION OF ALL PERSONS WHO WORKED
AT INDIVIDUAL SHOPS, BY NUMBER OF WEEKS WITH WORK
AND NUMBER OF EMPLOYMENT PERIODS,
1926-28^a

| Number of weeks with work | Total | | | Number of employment periods | | |
|---------------------------|--------|---------|--------------------|------------------------------|------|-----------|
| | Number | Percent | Cumulative percent | 1 | 2 | 3 or over |
| 1926 | | | | | | |
| Total | 120 | 100.0 | - | 74.2 | 20.0 | 5.8 |
| 1- 2 | 18 | 15.0 | 15.0 | 14.2 | 0.8 | 0 |
| 3- 4 | 7 | 5.8 | 20.8 | 3.3 | 1.7 | 0.8 |
| 5- 9 | 16 | 13.3 | 34.1 | 10.8 | 2.5 | 0 |
| 10-13 | 9 | 7.5 | 41.6 | 5.9 | 0.8 | 0.8 |
| 14-18 | 12 | 10.0 | 51.6 | 8.4 | 0.8 | 0.8 |
| 19-22 | 3 | 2.5 | 54.1 | 1.7 | 0 | 0.8 |
| 23-26 | 11 | 9.2 | 63.3 | 4.9 | 2.5 | 1.8 |
| 27-35 | 10 | 8.3 | 71.6 | 5.0 | 2.5 | 0.8 |
| 36-44 | 11 | 9.2 | 80.8 | 3.8 | 5.9 | 0 |
| 45-51 | 11 | 9.2 | 90.0 | 6.7 | 2.5 | 0 |
| 52 | 12 | 10.0 | 100.0 | 10.0 | 0 | 0 |
| 1927 | | | | | | |
| Total | 139 | 100.0 | - | 85.6 | 10.8 | 3.6 |
| 1- 2 | 37 | 26.6 | 26.6 | 25.9 | 0.7 | 0 |
| 3- 4 | 14 | 10.1 | 36.7 | 10.1 | 0 | 0 |
| 5- 9 | 16 | 11.5 | 48.2 | 11.5 | 0 | 0 |
| 10-13 | 14 | 10.1 | 58.3 | 5.1 | 4.3 | 0.7 |
| 14-18 | 8 | 4.3 | 62.6 | 2.9 | 0.7 | 0.7 |
| 19-22 | 3 | 2.2 | 64.8 | 1.5 | 0.7 | 0 |
| 23-26 | 7 | 5.0 | 69.8 | 3.5 | 1.5 | 0 |
| 27-35 | 6 | 4.3 | 74.1 | 2.1 | 0.7 | 1.5 |
| 36-44 | 8 | 5.8 | 79.9 | 4.4 | 0.7 | 0.7 |
| 45-51 | 8 | 5.8 | 85.7 | 4.3 | 1.5 | 0 |
| 52 | 20 | 14.3 | 100.0 | 14.3 | 0 | 0 |
| 1928 | | | | | | |
| Total | 255 | 100.0 | - | 65.1 | 25.5 | 9.4 |
| 1- 2 | 65 | 25.5 | 25.5 | 24.3 | 1.2 | 0 |
| 3- 4 | 32 | 12.5 | 38.0 | 11.4 | 1.1 | 0 |
| 5- 9 | 45 | 17.6 | 55.6 | 12.1 | 5.1 | 0.4 |
| 10-13 | 19 | 7.5 | 63.1 | 5.1 | 2.0 | 0.4 |
| 14-18 | 15 | 5.9 | 69.0 | 2.3 | 2.0 | 1.6 |
| 19-22 | 14 | 5.5 | 74.5 | 1.8 | 1.6 | 2.3 |
| 23-26 | 8 | 3.1 | 77.6 | 1.2 | 1.2 | 0.7 |
| 27-35 | 14 | 5.5 | 83.1 | 1.2 | 1.9 | 2.4 |
| 36-44 | 16 | 6.3 | 89.4 | 1.6 | 3.9 | 0.8 |
| 45-51 | 24 | 9.4 | 98.8 | 3.1 | 5.5 | 0.8 |
| 52 | 9 | 1.2 | 100.0 | 1.2 | 0 | 0 |

See footnote at end of table.

Table A-28. - DISTRIBUTION OF ALL PERSONS WHO WORKED
AT INDIVIDUAL SHOPS, BY NUMBER OF WEEKS WITH WORK
AND NUMBER OF EMPLOYMENT PERIODS,
1928-28^a - Continued

| Number of weeks with work | Total | | | Number of employment periods | | |
|---------------------------|--------|---------|--------------------|------------------------------|------|-----------|
| | Number | Percent | Cumulative percent | 1 | 2 | 3 or over |
| 1929 | | | | | | |
| Total | 824 | 100.0 | - | 76.0 | 19.1 | 4.9 |
| 1- 2 | 217 | 26.3 | 26.3 | 24.9 | 1.4 | 0 |
| 3- 4 | 118 | 14.3 | 40.6 | 12.5 | 1.6 | 0.2 |
| 5- 9 | 120 | 14.6 | 55.2 | 12.4 | 1.7 | 0.5 |
| 10-13 | 78 | 9.5 | 64.7 | 7.7 | 1.3 | 0.5 |
| 14-18 | 80 | 9.7 | 74.4 | 7.9 | 1.7 | 0.1 |
| 19-22 | 49 | 5.8 | 80.2 | 2.3 | 2.5 | 1.0 |
| 23-26 | 54 | 6.6 | 86.8 | 0.8 | 5.7 | 0.1 |
| 27-35 | 38 | 4.6 | 91.4 | 2.4 | 1.0 | 1.2 |
| 36-44 | 25 | 3.0 | 94.4 | 0.8 | 1.0 | 1.2 |
| 45-51 | 32 | 3.9 | 98.3 | 2.6 | 1.2 | 0.1 |
| 52 | 14 | 1.7 | 100.0 | 1.7 | 0 | 0 |
| 1930 | | | | | | |
| Total | 1,019 | 100.0 | - | 75.3 | 18.4 | 6.3 |
| 1- 2 | 352 | 34.5 | 34.5 | 34.0 | 0.5 | 0 |
| 3- 4 | 192 | 19.0 | 47.5 | 10.8 | 1.7 | 0.5 |
| 5- 9 | 165 | 16.2 | 63.7 | 13.2 | 2.7 | 0.3 |
| 10-13 | 71 | 7.0 | 70.7 | 4.9 | 1.5 | 0.6 |
| 14-18 | 84 | 8.3 | 77.0 | 4.4 | 1.0 | 0.9 |
| 19-22 | 42 | 4.1 | 81.1 | 1.9 | 1.3 | 0.9 |
| 23-26 | 19 | 1.9 | 83.0 | 0.5 | 0.9 | 0.5 |
| 27-35 | 46 | 4.5 | 87.5 | 1.0 | 2.1 | 1.4 |
| 36-44 | 42 | 4.1 | 91.6 | 0.6 | 2.6 | 0.9 |
| 45-51 | 61 | 7.9 | 99.5 | 3.5 | 4.1 | 0.3 |
| 52 | 5 | 0.5 | 100.0 | 0.5 | 0 | 0 |
| 1931 | | | | | | |
| Total | 1,101 | 100.0 | - | 66.8 | 23.8 | 9.4 |
| 1- 2 | 345 | 31.3 | 31.3 | 30.8 | 0.5 | 0 |
| 3- 4 | 156 | 14.2 | 45.5 | 12.4 | 1.5 | 0.3 |
| 5- 9 | 161 | 14.6 | 60.1 | 11.4 | 2.5 | 0.7 |
| 10-13 | 71 | 6.4 | 66.5 | 4.4 | 1.2 | 0.6 |
| 14-18 | 60 | 5.4 | 71.9 | 2.9 | 1.5 | 1.0 |
| 19-22 | 57 | 5.2 | 77.1 | 3.4 | 1.2 | 0.6 |
| 23-26 | 39 | 3.0 | 80.1 | 0.7 | 1.5 | 0.8 |
| 27-35 | 45 | 4.1 | 84.2 | 0.3 | 2.1 | 1.7 |
| 36-44 | 86 | 7.8 | 92.0 | 0 | 4.8 | 3.0 |
| 45-51 | 83 | 7.6 | 99.6 | 0.1 | 7.0 | 0.5 |
| 52 | 4 | 0.4 | 100.0 | 0.4 | 0 | 0 |

See footnote at end of table.

PATERSON BROAD-SILK WORKERS

Table A-28.- DISTRIBUTION OF ALL PERSONS WHO WORKED
AT INDIVIDUAL SHOPS, BY NUMBER OF WEEKS WITH WORK
AND NUMBER OF EMPLOYMENT PERIODS,
1926-26^a - Continued

| Number of weeks with work | Total | | | Number of employment periods | | |
|---------------------------|--------|---------|--------------------|------------------------------|------|-----------|
| | Number | Percent | Cumulative percent | 1 | 2 | 3 or over |
| 1932 | | | | | | |
| Total | 964 | 100.0 | - | 75.4 | 15.2 | 9.4 |
| 1- 2 | 336 | 34.8 | 34.8 | 34.0 | 0.8 | 0 |
| 3- 4 | 96 | 10.0 | 44.8 | 8.4 | 1.5 | 0.1 |
| 5- 9 | 153 | 15.9 | 60.7 | 12.5 | 2.1 | 1.3 |
| 10-13 | 46 | 4.8 | 65.5 | 3.0 | 1.2 | 0.6 |
| 14-18 | 62 | 6.4 | 71.9 | 3.7 | 2.0 | 0.7 |
| 19-22 | 34 | 3.5 | 75.4 | 1.8 | 1.2 | 0.5 |
| 23-26 | 24 | 2.5 | 77.9 | 1.1 | 0.6 | 0.5 |
| 27-35 | 50 | 5.2 | 83.1 | 1.5 | 1.7 | 2.0 |
| 36-44 | 79 | 8.1 | 91.2 | 2.7 | 2.4 | 3.0 |
| 45-51 | 74 | 7.7 | 98.9 | 5.6 | 1.7 | 0.4 |
| 52 | 11 | 1.1 | 100.0 | 1.1 | 0 | 0 |
| 1933 | | | | | | |
| Total | 930 | 100.0 | - | 52.8 | 35.6 | 11.6 |
| 1- 2 | 281 | 30.2 | 30.2 | 28.7 | 1.5 | 0 |
| 3- 4 | 97 | 10.4 | 40.6 | 7.4 | 2.9 | 0.1 |
| 5- 9 | 175 | 18.8 | 59.4 | 9.9 | 8.5 | 0.4 |
| 10-13 | 54 | 5.8 | 65.2 | 1.7 | 3.7 | 0.4 |
| 14-18 | 59 | 6.3 | 71.5 | 2.0 | 3.4 | 0.9 |
| 19-22 | 35 | 3.8 | 75.3 | 1.0 | 1.8 | 1.0 |
| 23-26 | 37 | 4.0 | 79.3 | 1.0 | 1.5 | 1.5 |
| 27-35 | 117 | 12.6 | 91.9 | 1.0 | 5.3 | 6.3 |
| 36-44 | 75 | 8.1 | 100.0 | 0.1 | 7.0 | 1.0 |
| 45-51 | 0 | 0 | 100.0 | 0 | 0 | 0 |
| 52 | 0 | 0 | 100.0 | 0 | 0 | 0 |
| 1934 | | | | | | |
| Total | 1,064 | 100.0 | - | 52.6 | 22.9 | 24.3 |
| 1- 2 | 288 | 26.6 | 26.6 | 25.5 | 1.1 | 0 |
| 3- 4 | 99 | 9.1 | 35.7 | 6.9 | 1.8 | 0.4 |
| 5- 9 | 144 | 13.9 | 49.0 | 7.6 | 4.1 | 1.6 |
| 10-13 | 78 | 7.2 | 56.2 | 4.0 | 2.0 | 1.2 |
| 14-18 | 89 | 8.2 | 64.4 | 3.5 | 3.6 | 1.1 |
| 19-22 | 41 | 3.8 | 68.2 | 1.1 | 1.5 | 1.2 |
| 23-26 | 37 | 3.4 | 71.6 | 1.5 | 1.2 | 0.7 |
| 27-35 | 67 | 6.2 | 77.8 | 0.7 | 1.1 | 4.4 |
| 36-44 | 179 | 16.5 | 94.3 | 0.1 | 4.4 | 12.0 |
| 45-51 | 60 | 5.5 | 99.8 | 1.7 | 2.1 | 1.7 |
| 52 | 2 | 0.2 | 100.0 | 0.2 | 0 | 0 |

See footnote at end of table.

Table A-28.- DISTRIBUTION OF ALL PERSONS WHO WORKED
AT INDIVIDUAL SHOPS, BY NUMBER OF WEEKS WITH WORK
AND NUMBER OF EMPLOYMENT PERIODS,
1926-36^a - Continued

| Number of weeks with work | Total | | | Number of employment periods | | |
|---------------------------|--------|---------|--------------------|------------------------------|------|-----------|
| | Number | Percent | Cumulative percent | 1 | 2 | 3 or over |
| 1935 | | | | | | |
| Total | 1,192 | 100.0 | - | 63.4 | 24.9 | 11.7 |
| 1- 2 | 379 | 31.8 | 31.8 | 30.5 | 1.3 | 0 |
| 3- 4 | 116 | 9.7 | 41.5 | 7.2 | 2.3 | 0.2 |
| 5- 9 | 166 | 13.9 | 55.4 | 10.6 | 2.1 | 1.2 |
| 10-13 | 77 | 6.5 | 61.9 | 3.7 | 1.7 | 1.1 |
| 14-18 | 75 | 6.3 | 68.2 | 3.1 | 1.9 | 1.3 |
| 19-22 | 59 | 4.9 | 73.1 | 2.3 | 1.2 | 1.4 |
| 23-26 | 31 | 2.6 | 75.7 | 0.9 | 0.8 | 0.9 |
| 27-35 | 84 | 7.0 | 82.7 | 1.0 | 2.0 | 4.0 |
| 36-44 | 108 | 9.1 | 91.8 | 3.2 | 4.4 | 1.5 |
| 45-51 | 94 | 7.9 | 99.7 | 0.6 | 7.2 | 0.1 |
| 52 | 4 | 0.3 | 100.0 | 0.3 | 0 | 0 |
| 1936 | | | | | | |
| Total | 1,118 | 100.0 | - | 72.4 | 19.8 | 8.0 |
| 1- 2 | 350 | 31.3 | 31.3 | 30.4 | 0.9 | 0 |
| 3- 4 | 126 | 11.3 | 42.6 | 9.1 | 2.0 | 0.2 |
| 5- 9 | 192 | 17.2 | 59.8 | 11.9 | 3.5 | 1.8 |
| 10-13 | 72 | 6.4 | 66.2 | 3.8 | 2.2 | 0.4 |
| 14-18 | 57 | 5.1 | 71.3 | 2.4 | 1.3 | 1.4 |
| 19-22 | 43 | 3.8 | 75.1 | 1.5 | 1.3 | 1.0 |
| 23-26 | 44 | 3.9 | 79.0 | 1.9 | 1.2 | 0.8 |
| 27-35 | 65 | 5.8 | 84.8 | 1.9 | 2.3 | 1.6 |
| 36-44 | 61 | 5.5 | 90.3 | 1.7 | 3.0 | 0.8 |
| 45-51 | 67 | 6.0 | 96.3 | 4.1 | 1.9 | 0 |
| 52 | 41 | 3.7 | 100.0 | 3.7 | 0 | 0 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 66, fn. 11 for method of determining weeks with work.

Table A-24.- NUMBER OF WEEKS WITH WORK AND AVERAGE LENGTH OF EMPLOYMENT PERIOD, BY NUMBER OF EMPLOYMENT PERIODS FOR ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS, 1926-1930

| Number of employment periods | All workers | | | Workers with $\frac{1}{2}$ year or less with work | | | Workers with over $\frac{1}{2}$ to 1 year with work | | |
|------------------------------|-------------|-------------------------|-------------------|---|-------------------------|-------------------|---|-------------------------|-------------------|
| | Total | Average number of weeks | | Total | Average number of weeks | | Total | Average number of weeks | |
| | | With work | Employment period | | With work | Employment period | | With work | Employment period |
| 1926 | | | | | | | | | |
| Total | 120 | 22.7 | 17.2 | 76 | 10.4 | 8.0 | 44 | 44.0 | 32.8 |
| 1 | 89 | 21.8 | 21.8 | 59 | 9.4 | 9.4 | 30 | 46.3 | 46.3 |
| 2 | 24 | 27.0 | 13.5 | 11 | 12.2 | 6.1 | 13 | 39.4 | 19.7 |
| 3 or over | 7 | 19.2 | 6.4 | 6 | f | 5.5 | 1 | f | 11.7 |
| 1927 | | | | | | | | | |
| Total | 139 | 19.0 | 15.8 | 97 | 7.1 | 6.0 | 42 | 46.4 | 36.8 |
| 1 | 119 | 18.4 | 18.4 | 84 | 6.1 | 6.1 | 35 | 47.9 | 47.9 |
| 2 | 15 | 21.4 | 10.7 | 11 | 14.0 | 7.0 | 4 | f | 21.0 |
| 3 or over | 5 | 25.9 | 7.2 | 2 | f | 3.3 | 3 | f | 10.4 |
| 1928 | | | | | | | | | |
| Total | 255 | 15.5 | 10.3 | 198 | 7.4 | 5.4 | 57 | 43.7 | 22.2 |
| 1 | 186 | 10.0 | 10.0 | 148 | 5.5 | 5.5 | 18 | 46.6 | 46.6 |
| 2 | 65 | 26.6 | 13.3 | 38 | 11.2 | 5.6 | 29 | 44.2 | 22.1 |
| 3 or over | 24 | 26.1 | 7.2 | 14 | 18.2 | 5.0 | 10 | 36.7 | 10.2 |
| 1929 | | | | | | | | | |
| Total | 824 | 12.6 | 9.6 | 715 | 8.3 | 6.6 | 109 | 40.6 | 24.2 |
| 1 | 626 | 9.9 | 9.9 | 564 | 6.3 | 6.3 | 62 | 42.4 | 42.4 |
| 2 | 157 | 19.6 | 9.9 | 131 | 15.8 | 7.9 | 26 | 40.4 | 20.2 |
| 3 or over | 41 | 25.6 | 7.6 | 20 | 15.1 | 4.2 | 21 | 34.3 | 10.9 |
| 1930 | | | | | | | | | |
| Total | 1,019 | 12.5 | 9.4 | 845 | 6.3 | 5.2 | 174 | 42.7 | 22.7 |
| 1 | 767 | 8.2 | 8.2 | 711 | 5.2 | 5.2 | 56 | 46.6 | 46.6 |
| 2 | 187 | 26.0 | 13.0 | 97 | 11.0 | 5.5 | 90 | 42.0 | 21.0 |
| 3 or over | 65 | 24.1 | 7.4 | 37 | 14.7 | 4.5 | 28 | 36.7 | 11.3 |

| | | | | | | | | | |
|-----------|-------|------|------|-----|------|-----|-----|------|------|
| 1931 | | | | | | | | | |
| Total | 1,101 | 12.6 | 9.4 | 883 | 6.7 | 5.4 | 218 | 41.6 | 16.2 |
| 1 | 736 | 5.7 | 5.7 | 728 | 5.3 | 5.3 | 8 | 43.6 | 43.6 |
| 2 | 262 | 30.2 | 15.1 | 109 | 12.4 | 6.2 | 153 | 43.0 | 21.5 |
| 3 or over | 103 | 27.8 | 8.5 | 46 | 15.3 | 4.8 | 57 | 37.8 | 11.7 |
| 1932 | | | | | | | | | |
| Total | 964 | 14.0 | 10.0 | 751 | 6.1 | 4.8 | 213 | 41.8 | 22.3 |
| 1 | 727 | 10.7 | 10.7 | 621 | 4.7 | 4.7 | 106 | 46.0 | 46.0 |
| 2 | 147 | 22.0 | 11.0 | 91 | 11.2 | 5.6 | 56 | 39.6 | 19.8 |
| 3 or over | 90 | 27.8 | 7.7 | 39 | 14.4 | 4.1 | 51 | 37.6 | 10.3 |
| 1933 | | | | | | | | | |
| Total | 930 | 12.6 | 7.8 | 738 | 6.9 | 4.6 | 192 | 34.5 | 14.7 |
| 1 | 491 | 5.1 | 5.1 | 461 | 4.4 | 4.4 | 10 | 35.0 | 35.0 |
| 2 | 331 | 19.2 | 9.6 | 217 | 10.4 | 5.2 | 114 | 36.2 | 18.1 |
| 3 or over | 108 | 26.7 | 6.1 | 40 | 15.2 | 4.5 | 68 | 33.8 | 10.4 |
| 1934 | | | | | | | | | |
| Total | 1,084 | 16.8 | 9.3 | 776 | 7.6 | 5.3 | 308 | 40.2 | 14.4 |
| 1 | 572 | 7.5 | 7.6 | 543 | 5.5 | 5.5 | 29 | 44.7 | 44.7 |
| 2 | 248 | 21.6 | 10.8 | 166 | 11.6 | 5.8 | 82 | 42.0 | 21.0 |
| 3 or over | 264 | 32.5 | 9.6 | 67 | 14.0 | 4.1 | 197 | 38.6 | 11.4 |
| 1935 | | | | | | | | | |
| Total | 1,192 | 14.8 | 9.2 | 902 | 6.8 | 5.0 | 290 | 40.1 | 16.6 |
| 1 | 756 | 8.1 | 8.1 | 695 | 5.2 | 5.2 | 61 | 41.8 | 41.8 |
| 2 | 297 | 27.6 | 13.8 | 135 | 10.6 | 5.3 | 162 | 42.2 | 21.1 |
| 3 or over | 139 | 24.2 | 5.8 | 72 | 15.6 | 4.3 | 67 | 33.6 | 7.1 |
| 1936 | | | | | | | | | |
| Total | 1,116 | 14.3 | 10.3 | 884 | 6.8 | 5.1 | 234 | 42.5 | 26.5 |
| 1 | 809 | 11.7 | 11.7 | 682 | 5.3 | 5.3 | 127 | 46.3 | 46.3 |
| 2 | 219 | 21.4 | 10.7 | 138 | 10.8 | 5.4 | 81 | 39.4 | 19.7 |
| 3 or over | 90 | 20.0 | 5.8 | 64 | 14.7 | 4.2 | 26 | 36.1 | 11.4 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 86, fn. 11 for method of determining weeks with work. ^bBase too small for calculation.

Table A-25.- AVERAGE NUMBER OF WEEKS WITH WORK FOR ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY OCCUPATIONAL GROUP, 1926-36^a

| Year | All workers | | Weavers | | Other skilled | | Semiskilled | |
|------|-------------|-----------------------------------|---------|-----------------------------------|---------------|-----------------------------------|-------------|-----------------------------------|
| | Number | Average number of weeks with work | Number | Average number of weeks with work | Number | Average number of weeks with work | Number | Average number of weeks with work |
| 1926 | 120 | 22.7 | 84 | 22.8 | 17 | 20.6 | 19 | 24.2 |
| 1927 | 139 | 19.0 | 98 | 19.3 | 19 | 16.4 | 23 | 19.5 |
| 1928 | 255 | 15.5 | 153 | 16.6 | 33 | 19.0 | 69 | 11.1 |
| 1929 | 824 | 12.6 | 537 | 13.3 | 89 | 14.7 | 198 | 9.5 |
| 1930 | 1,019 | 12.5 | 683 | 12.5 | 113 | 14.5 | 223 | 11.4 |
| 1931 | 1,101 | 13.6 | 706 | 14.1 | 166 | 12.4 | 229 | 12.8 |
| 1932 | 964 | 14.0 | 599 | 15.1 | 153 | 13.3 | 212 | 11.6 |
| 1933 | 930 | 12.6 | 637 | 12.7 | 136 | 12.8 | 157 | 12.1 |
| 1934 | 1,064 | 16.8 | 708 | 16.2 | 161 | 15.1 | 215 | 13.6 |
| 1935 | 1,192 | 14.9 | 859 | 15.0 | 146 | 14.5 | 165 | 15.0 |
| 1936 | 1,118 | 14.3 | 799 | 13.6 | 115 | 18.7 | 204 | 14.6 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 66, fn. 11 for method of determining weeks with work.

Table A-26.- PERCENTAGE DISTRIBUTION OF TOTAL NUMBER OF WEEKS WITH WORK ON DAY AND NIGHT SHIFT FOR ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS, BY OCCUPATIONAL GROUP, 1926-36^a

| Year | All workers | | | Weavers | | | Other skilled | | | Semiskilled | | |
|------|-------------|-------|-------|---------|-------|-------|---------------|-------|-------|-------------|-------|-------|
| | Total | Day | Night | Total | Day | Night | Total | Day | Night | Total | Day | Night |
| 1926 | 100.0 | 100.0 | - | 100.0 | 100.0 | - | 100.0 | 100.0 | - | 100.0 | 100.0 | - |
| 1927 | 100.0 | 95.4 | 4.6 | 100.0 | 95.2 | 4.8 | 100.0 | 94.6 | 5.4 | 100.0 | 96.7 | 3.3 |
| 1928 | 100.0 | 82.4 | 17.6 | 100.0 | 76.7 | 23.3 | 100.0 | 99.7 | 0.3 | 100.0 | 87.3 | 12.7 |
| 1929 | 100.0 | 93.4 | 6.6 | 100.0 | 91.4 | 8.6 | 100.0 | 98.9 | 1.1 | 100.0 | 96.8 | 3.2 |
| 1930 | 100.0 | 89.0 | 11.0 | 100.0 | 87.1 | 12.9 | 100.0 | 91.3 | 8.7 | 100.0 | 93.8 | 6.2 |
| 1931 | 100.0 | 91.2 | 8.8 | 100.0 | 89.1 | 10.9 | 100.0 | 95.2 | 4.8 | 100.0 | 95.6 | 4.4 |
| 1932 | 100.0 | 87.2 | 12.8 | 100.0 | 85.7 | 14.3 | 100.0 | 89.4 | 10.6 | 100.0 | 90.9 | 9.1 |
| 1933 | 100.0 | 81.8 | 18.2 | 100.0 | 78.3 | 21.7 | 100.0 | 88.4 | 11.6 | 100.0 | 91.0 | 9.0 |
| 1934 | 100.0 | 76.7 | 23.3 | 100.0 | 72.4 | 27.6 | 100.0 | 85.8 | 14.2 | 100.0 | 88.3 | 11.7 |
| 1935 | 100.0 | 78.4 | 21.6 | 100.0 | 74.9 | 25.1 | 100.0 | 84.6 | 15.4 | 100.0 | 89.9 | 10.1 |
| 1936 | 100.0 | 84.7 | 15.3 | 100.0 | 81.0 | 19.0 | 100.0 | 91.8 | 8.2 | 100.0 | 93.3 | 6.7 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops. See p. 66, fn. 11 for method of determining weeks with work.

Table A-27.- PERCENTAGE DISTRIBUTION OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY OCCUPATIONAL GROUP AND SHIFT, 1926-36^a

| Year | All workers | | | | Weavers | | | | Other skilled | | | | Semiskilled | | | |
|------|-------------|-------|----------------------------|-------|---------|-------|----------------------------|-------|---------------|-------|----------------------------|-------|-------------|-------|----------------------------|-------|
| | Total | Day | Day and night ^b | Night | Total | Day | Day and night ^b | Night | Total | Day | Day and night ^b | Night | Total | Day | Day and night ^b | Night |
| 1926 | 100.0 | 100.0 | - | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | - | - | 100.0 | 100.0 | - | - |
| 1927 | 100.0 | 85.7 | 1.4 | 12.9 | 100.0 | 84.7 | 2.0 | 13.3 | 100.0 | 88.9 | - | 11.1 | 100.0 | 87.0 | - | 13.0 |
| 1928 | 100.0 | 84.7 | 0.4 | 14.9 | 100.0 | 77.7 | 0.7 | 21.6 | 100.0 | 97.0 | - | 3.0 | 100.0 | 94.2 | - | 5.8 |
| 1929 | 100.0 | 86.0 | 7.0 | 7.0 | 100.0 | 82.7 | 10.4 | 6.9 | 100.0 | 97.8 | - | 2.2 | 100.0 | 89.4 | 1.0 | 9.6 |
| 1930 | 100.0 | 71.5 | 10.1 | 18.4 | 100.0 | 63.1 | 11.9 | 25.8 | 100.0 | 84.1 | 12.4 | 3.5 | 100.0 | 90.6 | 5.4 | 4.0 |
| 1931 | 100.0 | 74.7 | 9.4 | 15.9 | 100.0 | 65.0 | 11.8 | 23.2 | 100.0 | 90.4 | 6.6 | 3.0 | 100.0 | 93.5 | 3.9 | 2.6 |
| 1932 | 100.0 | 68.9 | 12.9 | 18.2 | 100.0 | 60.3 | 15.2 | 24.5 | 100.0 | 83.0 | 11.8 | 5.2 | 100.0 | 83.0 | 7.1 | 9.9 |
| 1933 | 100.0 | 62.9 | 12.9 | 24.2 | 100.0 | 53.8 | 15.1 | 31.1 | 100.0 | 86.8 | 8.8 | 4.4 | 100.0 | 79.0 | 7.6 | 13.4 |
| 1934 | 100.0 | 63.0 | 13.7 | 23.3 | 100.0 | 56.5 | 15.0 | 28.5 | 100.0 | 71.5 | 13.0 | 15.5 | 100.0 | 78.1 | 9.8 | 12.1 |
| 1935 | 100.0 | 57.5 | 13.2 | 29.3 | 100.0 | 50.1 | 13.2 | 36.7 | 100.0 | 70.9 | 14.2 | 14.9 | 100.0 | 81.1 | 12.4 | 6.5 |
| 1936 | 100.0 | 60.9 | 10.3 | 26.8 | 100.0 | 50.4 | 10.8 | 36.8 | 100.0 | 81.7 | 11.3 | 7.0 | 100.0 | 90.2 | 7.8 | 2.0 |

^aData obtained in NRP Field Survey: pay-roll sample for 22 shops.

^bWorkers employed on both day and night shift, although not necessarily at the same time.

Table A-26.- USUAL INDUSTRY AND OCCUPATION OF BROAD-SILK WORKERS, 1986^a

| Usual industry and occupation ^b | Total | | Men | | Women | |
|--|--------|-----------------------|--------|-----------------------|--------|-----------------------|
| | Number | Percent of broad silk | Number | Percent of broad silk | Number | Percent of broad silk |
| Total | 616 | - | 478 | - | 138 | - |
| Broad silk | 578 | 100.0 | 450 | 100.0 | 128 | 100.0 |
| Warper | 50 | 8.7 | 45 | 10.0 | 5 | 3.9 |
| Twister | 23 | 4.0 | 23 | 5.1 | 0 | - |
| Enterer | 4 | 0.7 | 4 | 0.9 | 0 | - |
| Loom fixer | 35 | 6.0 | 35 | 7.8 | 0 | - |
| Weaver | 395 | 68.3 | 337 | 74.9 | 58 | 45.3 |
| Quiller and winder | 60 | 10.4 | 0 | - | 60 | 46.9 |
| Picker | 4 | 0.7 | 0 | - | 4 | 3.1 |
| Other | 7 | 1.2 | 6 | 1.3 | 1 | 0.8 |
| Other textile | 32 | - | 25 | - | 7 | - |
| Warper | 2 | - | 2 | - | 0 | - |
| Twister | 2 | - | 2 | - | 0 | - |
| Loom fixer | 3 | - | 3 | - | 0 | - |
| Weaver | 17 | - | 16 | - | 1 | - |
| Quiller and winder | 6 | - | 0 | - | 6 | - |
| Other | 2 | - | 2 | - | 0 | - |
| Other industry | 6 | - | 3 | - | 3 | - |

^aData obtained in NRP Field Survey: occupational-history schedule.

^bSee p. 53, fn. 2 for definition of usual industry and occupation.

Table A-29.- DISTRIBUTION OF ALL FIRST ACCESSIONS, BY LENGTH OF CONNECTION
WITH INDIVIDUAL ESTABLISHMENT, 1926-36^a

| Length of connection | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|----------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | Number | | | | | | | | | | |
| Total | 120 | 126 | 585 | 523 | 693 | 702 | 578 | 541 | 592 | 654 | 617 |
| ½ year or less | 48 ^b | 69 ^c | 359 ^d | 339 ^e | 522 ^f | 513 ^g | 490 ^h | 382 ⁱ | 418 ^j | 514 ^k | 562 ^l |
| Over ½ to 1 year | 12 | 17 | 59 | 37 | 55 | 41 | 34 | 38 | 51 | 60 | 55 |
| Over 1 year | 60 | 40 | 168 | 147 | 116 | 148 | 114 | 121 | 122 | 80 | - |
| 1-2 | 7 | 12 | 61 | 53 | 41 | 41 | 31 | 46 | 64 | 80 | - |
| 2-3 | 11 | 5 | 34 | 24 | 16 | 16 | 25 | 32 | 59 | - | - |
| 3-4 | 4 | 9 | 11 | 14 | 10 | 19 | 18 | 41 | - | - | - |
| 4-5 | 3 | 1 | 13 | 6 | 9 | 28 | 40 | - | - | - | - |
| 5-6 | 5 | - | 7 | 4 | 13 | 44 | - | - | - | - | - |
| 6-7 | 2 | 4 | 15 | 9 | 28 | - | - | - | - | - | - |
| 7-8 | 4 | 4 | 10 | 37 | - | - | - | - | - | - | - |
| 8-9 | 1 | 3 | 17 | - | - | - | - | - | - | - | - |
| 9-10 | 7 | 2 | - | - | - | - | - | - | - | - | - |
| 10-11 | 16 | - | - | - | - | - | - | - | - | - | - |
| | Percent | | | | | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ½ year or less | 40.0 | 54.8 | 61.3 | 64.8 | 75.3 | 73.1 | 74.4 | 70.6 | 70.6 | 78.6 | 91.1 |
| Over ½ to 1 year | 10.0 | 13.5 | 10.0 | 7.1 | 7.9 | 5.8 | 5.9 | 7.0 | 8.6 | 9.2 | 8.9 |
| Over 1 year | 50.0 | 31.7 | 28.7 | 28.1 | 16.8 | 21.1 | 19.7 | 22.4 | 20.8 | 12.2 | - |
| 1-2 | 5.8 | 9.5 | 10.4 | 10.1 | 5.9 | 5.8 | 5.4 | 8.9 | 10.8 | 12.2 | - |
| 2-3 | 9.2 | 3.9 | 5.8 | 4.6 | 2.3 | 2.3 | 4.3 | 5.9 | 9.8 | - | - |
| 3-4 | 3.3 | 7.1 | 1.9 | 2.7 | 1.4 | 2.7 | 3.1 | 7.6 | - | - | - |
| 4-5 | 2.5 | 0.8 | 2.2 | 1.1 | 1.2 | 4.0 | 6.9 | - | - | - | - |
| 5-6 | 4.2 | - | 1.2 | 0.8 | 1.9 | 6.3 | - | - | - | - | - |
| 6-7 | 1.7 | 3.2 | 2.6 | 1.7 | 4.1 | - | - | - | - | - | - |
| 7-8 | 3.3 | 3.2 | 1.7 | 7.1 | - | - | - | - | - | - | - |
| 8-9 | 0.8 | 2.4 | 2.9 | - | - | - | - | - | - | - | - |
| 9-10 | 5.8 | 1.6 | - | - | - | - | - | - | - | - | - |
| 10-11 | 13.4 | - | - | - | - | - | - | - | - | - | - |

^aData obtained in NRP Field Survey; pay-roll sample for 22 shops.

^b44 (26.7 percent) had one employment period.

^c66 (49.2 percent) had one employment period.

^d202 (51.8 percent) had one employment period.

^e201 (57.8 percent) had one employment period.

^f475 (88.5 percent) had one employment period.

^g478 (68.1 percent) had one employment period.

^h397 (68.7 percent) had one employment period.

ⁱ328 (60.6 percent) had one employment period.

^j348 (58.8 percent) had one employment period.

^k443 (67.7 percent) had one employment period.

^l501 (81.2 percent) had one employment period.

Table A-30.- DISTRIBUTION OF ALL FIRST ACCESSIONS TO THE DAY SHIFT, BY LENGTH OF CONNECTION WITH INDIVIDUAL ESTABLISHMENT, 1926-36^a

| Length of connection | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 |
|----------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | Number | | | | | | | | | | |
| Total | 120 | 109 | 488 | 485 | 511 | 545 | 415 | 338 | 385 | 357 | 352 |
| ½ year or less | 48 ^b | 53 ^c | 275 ^d | 302 ^e | 357 ^f | 385 ^g | 291 ^h | 209 ⁱ | 244 ^j | 253 ^k | 308 ^l |
| Over ½ to 1 year | 12 | 17 | 55 | 37 | 45 | 39 | 29 | 27 | 39 | 37 | 44 |
| Over 1 year | 60 | 39 | 158 | 146 | 109 | 142 | 95 | 102 | 103 | 67 | - |
| 1-2 | 7 | 12 | 55 | 53 | 37 | 39 | 20 | 38 | 48 | 67 | - |
| 2-3 | 11 | 5 | 33 | 24 | 16 | 15 | 23 | 26 | 55 | - | - |
| 3-4 | 4 | 9 | 10 | 14 | 10 | 17 | 16 | 36 | - | - | - |
| 4-5 | 3 | 1 | 13 | 6 | 8 | 27 | 36 | - | - | - | - |
| 5-6 | 5 | - | 7 | 4 | 10 | 44 | - | - | - | - | - |
| 6-7 | 2 | 3 | 13 | 8 | 28 | - | - | - | - | - | - |
| 7-8 | 4 | 4 | 10 | 37 | - | - | - | - | - | - | - |
| 8-9 | 1 | 3 | 17 | - | - | - | - | - | - | - | - |
| 9-10 | 7 | 2 | - | - | - | - | - | - | - | - | - |
| 10-11 | 16 | - | - | - | - | - | - | - | - | - | - |
| | Percent | | | | | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| ½ year or less | 40.0 | 48.6 | 56.3 | 62.3 | 69.9 | 66.9 | 70.1 | 61.9 | 63.4 | 70.9 | 87.5 |
| Over ½ to 1 year | 10.0 | 15.6 | 11.3 | 7.6 | 8.8 | 7.1 | 7.0 | 8.0 | 9.6 | 10.3 | 12.5 |
| Over 1 year | 50.0 | 35.8 | 32.4 | 30.1 | 21.3 | 26.0 | 22.9 | 30.1 | 26.8 | 18.8 | - |
| 1-2 | 5.8 | 11.0 | 11.3 | 10.9 | 7.2 | 7.1 | 4.8 | 11.2 | 12.5 | 18.8 | - |
| 2-3 | 9.2 | 4.6 | 6.8 | 5.0 | 3.1 | 2.7 | 5.5 | 7.7 | 14.3 | - | - |
| 3-4 | 3.3 | 8.2 | 2.0 | 2.9 | 1.9 | 3.1 | 3.9 | 11.2 | - | - | - |
| 4-5 | 2.5 | 0.9 | 2.7 | 1.2 | 1.6 | 5.0 | 8.7 | - | - | - | - |
| 5-6 | 4.2 | - | 1.4 | 0.8 | 2.0 | 8.1 | - | - | - | - | - |
| 6-7 | 1.7 | 2.8 | 2.7 | 1.7 | 5.5 | - | - | - | - | - | - |
| 7-8 | 3.3 | 3.7 | 2.0 | 7.6 | - | - | - | - | - | - | - |
| 8-9 | 0.8 | 2.8 | 3.5 | - | - | - | - | - | - | - | - |
| 9-10 | 5.8 | 1.8 | - | - | - | - | - | - | - | - | - |
| 10-11 | 13.4 | - | - | - | - | - | - | - | - | - | - |

^aData obtained in WPA Field Survey; pay-roll sample for 22 shops.

^b44 (36.7 percent) had one employment period.

^c49 (48.0 percent) had one employment period.

^d222 (45.9 percent) had one employment period.

^e284 (58.4 percent) had one employment period.

^f317 (62.0 percent) had one employment period.

^g338 (61.9 percent) had one employment period.

^h251 (60.9 percent) had one employment period.

ⁱ175 (51.8 percent) had one employment period.

^j200 (51.9 percent) had one employment period.

^k205 (57.4 percent) had one employment period.

^l265 (75.8 percent) had one employment period.

Table A-21.- AVERAGE WEEKLY EARNINGS OF ALL PERSONS WHO WORKED AT INDIVIDUAL SHOPS,
BY MONTH AND YEAR, 1926-36^a

(Dollars)

| Year | Yearly | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1926 | 25.88 | 25.97 | 26.43 | 26.05 | 25.29 | 25.73 | 24.61 | 24.28 | 22.23 | 21.99 | 29.69 | 25.72 | 26.06 |
| 1927 | 26.22 | 23.88 | 29.94 | 31.72 | 26.73 | 25.29 | 22.74 | 24.45 | 28.95 | 25.28 | 27.49 | 23.32 | 26.06 |
| 1928 | 23.98 | 26.25 | 23.61 | 26.49 | 23.76 | 24.52 | 25.60 | 20.71 | 22.41 | 29.67 | 20.08 | 21.61 | 24.41 |
| 1929 | 26.75 | 26.84 | 34.34 | 31.90 | 25.95 | 27.88 | 23.90 | 23.96 | 25.03 | 23.91 | 23.05 | 24.92 | 23.87 |
| 1930 | 24.30 | 21.27 | 24.72 | 26.61 | 26.81 | 24.29 | 21.41 | 17.66 | 21.74 | 22.71 | 26.71 | 25.21 | 26.07 |
| 1931 | 22.14 | 25.35 | 26.50 | 24.30 | 24.77 | 21.52 | 18.98 | 20.60 | 10.17 | 17.51 | 21.46 | 19.77 | 20.08 |
| 1932 | 15.91 | 17.56 | 20.37 | 18.93 | 18.23 | 16.67 | 13.37 | 13.24 | 11.99 | 15.65 | 14.87 | 16.21 | 13.64 |
| 1933 | 13.55 | 14.02 | 13.82 | 11.56 | 13.93 | 15.01 | 14.68 | 14.21 | 15.11 | 7.46 | 3.36 | 14.67 | 14.94 |
| 1934 | 14.76 | 17.17 | 17.90 | 16.06 | 15.33 | 9.77 | 14.88 | 11.26 | 14.31 | 9.93 | 16.24 | 15.38 | 14.59 |
| 1935 | 14.35 | 15.13 | 14.03 | 14.44 | 15.46 | 13.73 | 13.54 | 12.55 | 14.73 | 14.51 | 15.79 | 12.94 | 14.60 |
| 1936 | 13.38 | 13.34 | 15.02 | 13.23 | 12.41 | 12.78 | 13.00 | 12.48 | 13.12 | 13.73 | 14.83 | 12.46 | 13.81 |

^aData obtained in NRP Field Survey: pay-roll sample for 19 of 22 shops.

Table A-22.- DISTRIBUTION OF ALL PERSONS WHO WORKED AT
INDIVIDUAL SHOPS, BY AMOUNTS RECEIVED
DURING YEAR, 1926-26^a

| Year | Total | | Amounts received (dollars) | | | | | |
|------|--------|---------|----------------------------|-------|--------|---------|-----------|---------------|
| | Number | Percent | Less than 11 | 11-50 | 51-100 | 101-500 | 501-1,000 | 1,001 or over |
| 1926 | 95 | 100.0 | 3.1 | 13.7 | 11.8 | 38.9 | 18.9 | 13.8 |
| 1927 | 118 | 100.0 | 12.7 | 22.1 | 10.2 | 24.8 | 17.0 | 13.4 |
| 1928 | 233 | 100.0 | 10.7 | 17.2 | 14.2 | 34.7 | 13.7 | 9.5 |
| 1929 | 757 | 100.0 | 11.5 | 20.1 | 11.2 | 30.2 | 19.2 | 7.8 |
| 1930 | 958 | 100.0 | 15.0 | 20.0 | 12.8 | 31.1 | 11.2 | 9.9 |
| 1931 | 1,044 | 100.0 | 14.5 | 21.2 | 13.4 | 25.7 | 15.1 | 10.1 |
| 1932 | 859 | 100.0 | 19.7 | 24.3 | 9.4 | 28.2 | 15.8 | 4.8 |
| 1933 | 755 | 100.0 | 15.4 | 20.8 | 12.1 | 35.7 | 13.8 | 2.8 |
| 1934 | 941 | 100.0 | 12.4 | 20.8 | 9.9 | 31.0 | 23.0 | 2.9 |
| 1935 | 1,047 | 100.0 | 20.8 | 19.7 | 11.9 | 28.4 | 18.2 | 3.0 |
| 1936 | 949 | 100.0 | 17.9 | 22.1 | 13.5 | 27.8 | 15.7 | 3.0 |

^aData obtained in NRP Field Survey: pay-roll sample for 19 of 22 shops.

Table A-23.- MEDIAN EARNINGS RECEIVED DURING YEAR FOR ALL
WORKERS, BY NUMBER OF WEEKS ON INDIVIDUAL PAY ROLLS,
1926-36^a

(Dollars)

| Year | All workers | Number of weeks on pay roll | | | |
|------|-------------|-----------------------------|---------------------|-----------------------|-----------------------|
| | | 1-16 | 17-32 | 33-48 | 49-52 |
| 1926 | 232.85 | 103.00 | 475.50 ^b | 900.50 ^b | 1,258.83 ^b |
| 1927 | 138.00 | 49.50 | 575.50 ^b | 1,150.00 ^b | 1,138.00 ^b |
| 1928 | 138.00 | 73.50 | 520.50 | 885.50 | 1,575.50 ^b |
| 1929 | 153.00 | 67.50 | 665.50 | 990.50 | 1,140.50 |
| 1930 | 118.00 | 60.50 | 518.00 | 1,025.50 | 1,325.50 |
| 1931 | 105.50 | 47.50 | 525.50 | 1,000.50 | 1,050.50 |
| 1932 | 81.50 | 26.50 | 340.50 | 645.50 | 653.00 |
| 1933 | 110.50 | 38.50 | 350.50 | 550.50 | (c) |
| 1934 | 145.50 | 37.50 | 320.50 | 670.50 | 733.00 |
| 1935 | 90.70 | 28.50 | 325.50 | 700.50 | 825.50 ^b |
| 1936 | 83.50 | 30.00 | 245.50 | 548.50 | 795.50 |

^aData obtained in NRP Field Survey: pay-roll sample for 19 of 22 shops.

^bMedian based on less than 25 but more than 10 workers.

^cNo persons in this group.

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