

New England Labor and Labor Problems

**A Reprint of a Special Section of Eight Articles
from the Monthly Labor Review, March 1957**

Bulletin No. 1212

UNITED STATES DEPARTMENT OF LABOR

James P. Mitchell, *Secretary*

BUREAU OF LABOR STATISTICS

Ewan Clague, *Commissioner*



New England Labor and Labor Problems

**A Reprint of a Special Section of Eight Articles
from the Monthly Labor Review, March 1957**

Bulletin No. 1212
UNITED STATES DEPARTMENT OF LABOR
James P. Mitchell, *Secretary*
BUREAU OF LABOR STATISTICS
Ewan Clague, *Commissioner*



For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.
Price 35 cents

Contents

	Page
An editorial note.....	IV
Contributors to the special section.....	VI
Profiles of worker family living in Boston, 1875-1950.....	1
Summary of findings.....	1
Rise in levels of living.....	3
Massachusetts wage-earner families, 1875.....	4
Massachusetts cotton-textile workers, 1888.....	5
Wage earners in Massachusetts, 1901.....	6
Boston wage and salaried workers, 1918.....	7
Boston wage and clerical workers, 1934-36.....	8
Boston wage and clerical workers, 1950.....	9
Conclusion.....	10
Historical patterns and recent trends in employment.....	11
Determinants of markets for manufactures.....	11
Inevitable decline in relative position.....	12
Factory employment patterns since 1939.....	13
Trends in nonmanufacturing employment.....	14
Intrastate employment trends.....	15
Conclusions.....	16
Labor-management relations.....	18
Industrial transition and labor relations.....	18
Extent of unionization.....	19
Factors shaping management policy.....	19
Bargaining and economics.....	20
Public and neutral influences.....	22
Management training.....	22
Union leadership.....	22
Conclusion.....	23
Wages and personal income.....	24
Regional wage and income levels.....	24
Wages in soft-goods industries.....	25
Wages in metalworking.....	26
Community wage levels.....	27
Union wage scales.....	28
Related wage practices.....	29
Comparative living costs.....	30
Summary.....	30
The problem of depressed areas.....	31
Failure to adapt to change.....	32
Magnitude of the problem.....	33
Effects upon the community.....	33
State and local community remedial efforts.....	34
Proposed federal legislation.....	34
Conclusions.....	35
Labor turnover in textile mills.....	36
Composition of the work force.....	36
Total separations.....	37
Quit rates.....	38
New employees.....	38
Job applicants.....	39
Reasons for quits.....	39
Principal conclusions.....	39
Collective bargaining and competitive cost in the shoe industry.....	40
The importance of labor cost in competition.....	41
Union-nonunion changes in earnings level.....	42
Regional earnings levels.....	44
Conclusions.....	45
The growth of the aircraft industry.....	46
Development of New England aircraft industry.....	46
Employment and earnings in aircraft.....	48
The outlook.....	50

New England Labor and Labor Problems . . .

NEW ENGLAND, as the late Bernard De Voto admiringly put it, "is the first American section to be finished, to achieve stability in the conditions of its life. It is the first old civilization, the first permanent civilization in America." Hence all Americans, as a matter of tradition, possess a sympathetic interest in the area that cradled our national development. The problems which beset the area today are thus doubly worthy of attention.

The labor, industrial relations, and general economic problems of New England are complex, and in some ways they differ from those prevailing in other areas of the country. No group of eight articles can cover all significant aspects of such problems. What has been attempted here is a selective analysis of certain tendencies deemed to be of importance, interest, and aid in understanding what is taking place in New England. The reader should not look for more. The problems of New England are and have been a subject for study by both local and national commissions, and it is to the reports of these inquiries that the reader should turn if he desires detailed statistical layouts and packaged recommendations.

The situations at which seven of these articles point touch on the problem areas and industries, the broadening base of manufacturing and the increasing influence of new industries, the real lack of homogeneity within the region in respect to wage levels and labor market characteristics, the mature and generally conservative practice of labor relations and collective bargaining. The eighth article, concerned principally with Boston, portrays the changing level of living of the wage earner and his family over the course of three-quarters of a century.

Generally speaking, the authors have assumed a critical but optimistic attitude toward the particular problems they are discussing, and they recognize also that the problems are plainly but inextricably intermeshed. New England is in a state of thoroughgoing change in its economic base and in the relationship of one State to another. An economy once dominated by textiles is now experiencing the ascendance of aircraft engine and electrical equipment manufactures. But the latter are not pushing ahead directly in the path of the receding textiles. The movements frequently affect different localities. Consequently, there are the serious labor

force dislocations and social problems privy to distressed areas. Such a state of pressures and resistances disturbs wage relationships, variegates wage levels, and tends to make both labor and management cautious and conservative in some of their collective bargaining relationships.

Despite the travail which some New England industries, communities, and workers are experiencing, most of the authors feel that the future holds stability and growth in store, in part because of the character and tradition of the New England people. Perhaps what is lacking in the series, although it is hinted at in several of the articles, especially in the review of living and spending habits, is a separate treatment of the special ethos of the New Englander. In 1888, the first U. S. Commissioner of Labor, in reporting on the status of the Boston working girl, may have caught a glimpse of what is meant by this: "Music, literature, art, lectures, are all within reach, and the working girls of Boston avail themselves of such privileges to a great extent. A buttonhole maker gave as her reason for not living in the suburbs, where living was cheaper, that she would then be debarred from lectures, concerts, oratorios . . . Suspender makers . . . belong to Browning clubs, and discuss the tariff and similar vital issues. Work is regarded as honorable, and the barriers which exist between people of leisure and wage earners may in some cases be overcome."

It is worthwhile to note, in closing, that the first experiment by the Monthly Labor Review in publishing a group of articles on a given subject or locality was ventured in July 1946 on the subject Reconversion in New England. An editorial note introducing those five articles somewhat cautiously warned the reader that they were "summary in scope and are not intended to give a comprehensive survey of general labor conditions in the region." As a matter of fact, now that more than a decade has passed there probably is no risk in revealing the editorial secret that availability of the articles for that issue was completely unplanned, even if fortuitous. Ever since, there has been a residue of guilty feeling that something better was due New England. It is with confidence that the following articles are offered as a modicum of redemption.

—L. R. K.

Contributors to the Special Section

The Bureau of Labor Statistics is profoundly grateful to the authors of the eight articles in this issue of the Monthly Labor Review which make up the special section entitled "New England Labor and Labor Problems." Each author is a specialist on the particular subject of his article and also a working resident of New England. The patience of all authors has been strained during the many months this project has been under way, but their diligence has been unflagging; it certainly has been fruitful. No effort has been made to limit or otherwise influence the point of view of the authors to conform with any official policy with respect to the general subject matter.

EWAN CLAGUE, *Commissioner of Labor Statistics*

LEONARD ARNOLD, author of *Labor Turnover in Textile Mills*, is the Director of Research of the Northern Textile Association.

E. R. LIVERNASH, author of *Collective Bargaining and Competitive Cost in the Shoe Industry*, is an Associate Professor of Business Administration at the Graduate School of Business Administration, Harvard University.

WENDELL D. MACDONALD, author of *Profiles of Worker Family Living in Boston, 1875-1950*, is the Director of the New England Regional Office, Bureau of Labor Statistics, U. S. Department of Labor.

WILLIAM H. MIERNYK, author of *The Problem of Depressed Areas*, is the Director of the Bureau of Business and Economic Research, Northeastern University.

PAUL V. MULKERN, author of *Wages and Personal Income*, is the Wage Analyst of the New England Regional Office, Bureau of Labor Statistics, U. S. Department of Labor.

A. HOWARD MYERS, author of *Labor-Management Relations*, is the Director of the Labor Relations Institute, Northeastern University.

EDWARD T. O'DONNELL, author of *Historical Patterns and Recent Trends in Employment*, is the Manpower and Employment Analyst of the New England Regional Office, Bureau of Labor Statistics, U. S. Department of Labor.

DAVID PINSKY, author of *The Growth of the Aircraft Industry*, is the Director of Research and Information, Connecticut Labor Department.

Profiles of Worker Family Living in Boston, 1875–1950

Seventy-five years of steadily growing income, credit, and technology have greatly changed patterns of expenditures of worker families in Boston.

WENDELL D. MACDONALD

THE ECONOMIC PROFILE of the Boston wage earner and his family in 1950 was vastly altered from that of his 1875 counterpart. Seventy-five years of sweeping transition in the manner of day-to-day existence, guided by technological, educational, and institutional advances, had heightened and brightened, at least in a material sense, the manner of living of workers in the Nation's oldest urban area.

Students of the mores of Boston and Bay State worker families have access to the findings in six comprehensive studies of worker-family income, savings, and expenditures. Studies made by Federal or State agencies provide data on the ways in which Boston or Massachusetts wage-earner families exchanged their funds, and in recent years their credit also, for goods and services in 1875, 1888, 1901, 1918, 1934–36, and 1950.¹

In addition to considering the shifts in the manner of family living between various points of time over the past 75 years, this article also explores the special consumption characteristics in 1950 of the Boston area in comparison with those of 10 other large city areas—Baltimore, Chicago, Cleveland, Los Angeles, New York, Philadelphia–Camden, Pittsburgh, San Francisco–Oakland, St. Louis, and the northern New Jersey area.

Summary of Findings

Boston worker families had extensively improved their material plane of living by 1950 as compared with any of the earlier years studied. The proportion of total expenditure accounted for by food declined almost steadily from 1875, when food amounted to 56.5 percent, to 1950, when it

was only 35.4 percent. This was a positive sign of rising living standards according to the Engelian hypothesis.² The percentage of expenditure allocated to “sundries,” or miscellaneous, advanced from only 6.2 percent to 35.6 percent over the three-quarters of a century. This kind of trend is regarded as a sign of material improvement by consumption analysts. The increase in number of workers owning their own homes has been marked. In 1875, only 1 percent of those surveyed were homeowners and, by 1901, the ratio was 15 percent for Massachusetts families studied. Among Boston families surveyed, the ratio of homeowners to total families increased from 9 percent in 1918 to 27.4 percent in 1950.

Worker-family money income in current dollars was 5 times as high in 1950 as in 1875, while real income in 1950 dollars increased by only 79 percent over the same span of time. The 79-percent gain in real annual earnings occurred mostly between World War I and 1950.

¹ The approach in all six studies was roughly similar in concept, methodology, and presentation, save that in more recent surveys increased consumer credit has injected complications and added to the need for information about changes in family assets and liabilities. Broad comparisons relating to differences in family income and spending between selected years from 1875 to 1950, separated by rather long intervals, are assumed to be reasonably valid. Definitions, coverage, and concepts are not precisely alike in each study, but there is sufficient comparability among the six surveys to warrant meaningful, although somewhat guarded, conclusions.

Sources of the data are: 1875—Massachusetts Bureau of Statistics of Labor, Sixth Annual Report, March 1875, Pt. IV, Condition of Workingmen's Families, Boston, Wright and Potter, 1875 (pp. 191–450); 1888—U. S. Commissioner of Labor, Seventh Annual Report, 1891, Vol. II, Cost of Production: The Textiles—Pt. III, Cost of Living, 1892; 1901—U. S. Commissioner of Labor, Eighteenth Annual Report, 1903, Cost of Living and Retail Prices of Food, 1904; 1918—Cost of Living in the United States, BLS Bull. 357, 1924; 1934–36—Money Disbursements of Wage Earners and Clerical Workers in the North Atlantic Region, 1934–36, BLS Bull. 637, Vol. II, Eleven Cities, 1939; 1950—Family Income, Expenditures, and Savings in 1950, BLS Bull. 1097, Revised, 1953.

² Ernst Engel (1821–96), chief statistician of the Prussian Bureau of Statistics, held that the percentage of family expenditures used to buy food provided “an accurate and truthful measure of the well-being of a people.” See *Die Lebenskosten in Belgien*. (*In* Bulletin of International Statistics, Rome, 1895 Vol. IX, pp. 62–124.)

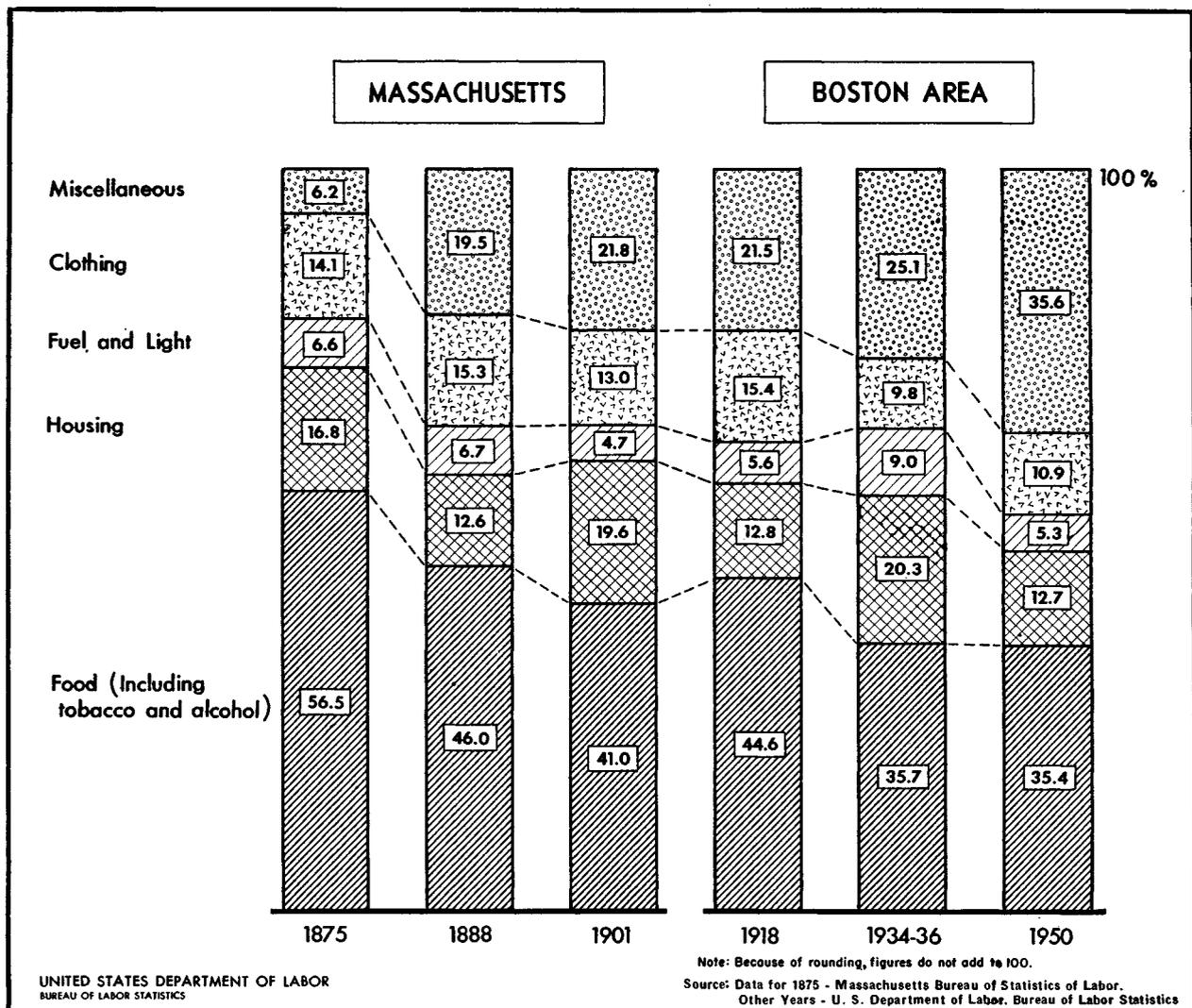
Child labor accounted for one-fourth of worker-family income 75 years ago, but gradually disappeared, and by the mid-20th century was virtually nonexistent. On the other hand, the importance of the wife's earnings to the family budget has increased in the 20th century.

The plane-of-living advance made possible by gains in real income since World War I has been greatly assisted by the expansion of consumer credit. A gradual retreat from frugality has occurred over three-quarters of a century.

The Boston worker family in 1950 had a lower income than worker families in 9 of 11 large cities of the Nation studied in that year. The

mode of living of Boston families in 1950 was not basically different in terms of consumption habits than in other large cities, except for a few significant items of spending. The Boston worker family spent the least, the figures show, among the 11 large cities for alcohol, but expended the most for shelter and tobacco. The Boston worker family also had the largest outlay for reading material, but was among the lowest for auto transportation. For food consumption, at home and in restaurants, these families spent close to the median among the Nation's large cities. In expenditure for clothing, Boston ranked eighth among the 11 cities.

Proportion of Expenditures for Specified Commodity Groups, by Wage-Earner Families in Boston Area and Massachusetts, Selected Periods, 1875-1950



There was little evidence that consumption patterns were much affected by national origin except with regard to a few specific items in the case of first-generation American families or where religious customs dictated food preferences. The foreign-born heads of families were 69 percent of the group surveyed in 1875, 76 percent in 1888, and 57 percent by 1901. In the 1934-36 survey group, the ratio was 39 percent. By 1950, it was only 19 percent.

Rise in Levels of Living

The mode of living of worker families in Boston, as elsewhere in the Nation, exhibited an astounding transformation between 1875 and 1950. Material standards improved so markedly over this sweep of time that the shift was almost one of kind rather than degree. Economic forces, inventive genius, social reforms, and the aspirations of people of varied backgrounds traced an entirely new economic profile. Burgeoning technological inventiveness sparked a rise in industrial productivity which made possible higher earnings, shorter workweeks, and more leisure for workers and minimized the need for children's labor to augment the family's income. The talent of Americans for innovation produced and marketed the new varieties of goods and services—canned goods, frozen foods, refrigerators, radios, automobiles, televisions, diaper services, baby foods—which have not only set the tone but practically dictated the mode of modern living.

Broadened social consciousness led to pressure for improved housing conditions and factory regulation, through civic action and legislation. A growing awareness of the need for improved sanitation and preventive medical care brought about a healthier, stronger people in the Bay State. Traditionally a leader in programs for social and economic progress, Massachusetts was

¹ See *Seventy Years of Service—The Story of BLS: A Special Section*, Monthly Labor Review, January 1955.

² As long ago as 1853, E. Duclap, at the International Statistical Congress, classified family spending into groupings that even today are valid and form the framework of most consumer expenditure studies. One of the two-way Duclap classifications has been rejected and his division of elastic expenditure into two groups, "good" and "bad," is no longer followed by modern statisticians. See Edouard Duclap, *Budgets économiques des classes ouvrières en Belgique, subsistances, salaires, population*. Brussels, M. Hayez, imprimeur de la Commission centrale de statistique, 1855 (pp. 6-8).

³ The U. S. Bureau of the Census, in the 1950 Census of Population, reported that 18.1 percent of all married women in the Boston metropolitan area were in the labor force.

among the earliest States to legislate in regard to education, sanitation, working conditions of women and children, and industrial safety.

The contributions of the labor movement in urging reforms and sponsoring legislation to improve living conditions and education should not be overlooked. Progressive and enlightened employers have similarly contributed to the great change, often as pioneers. The role of the fact-finder was equally valuable in investigating and publicizing the true condition of the worker and his manner of living.³

The pattern of Boston family living, if techniques of investigation were adequate, might be measured not only by material consumption but by nonmaterial criteria as well. How to measure nonmaterial values remains, of course, an unsolved problem. The lyceum and the local literary society have for the most part disappeared from community life. Although the symphony orchestra and other concert music retain their popularity, and museums and lectures continue to attract Bostonians, such amusements as the horse and dog races, the drive-in movies, and television win large attendance totals. These latter expenditures would be of the luxurious and improvident type in the Duclap classification.⁴

It is gratifying that the children are no longer forced into employment at an early age to enable the Boston family to make ends meet or to raise family living standards. On the other hand, the working wife or mother spends her time gainfully employed outside the house and away from the children for the length of the work day and week, frequently in order that the components of the new higher standard of living may be purchased.⁵

The rise in consumer credit accounted for a sizable proportion of the greater spending of Boston families by the year 1950. Current family income was no longer divided in the traditional and orthodox fashion between current consumption and savings. The savings considerations have been somewhat dampened and income at the halfway mark of the 20th century was more likely to be earmarked for past consumption than for savings. Whatever the reasons—the increase in social security, buying in anticipation of wartime shortages, the rise of private pension and health funds, a stout faith in the future, the siren call of the "commercial," or some shift in workers' value scales—parsimony appeared to be in full retreat.

Massachusetts Wage-Earner Families, 1875

The profile of the wage-earner family 75 years ago⁶ was completely different from the 1950 counterpart. A study of wage-earner families in Massachusetts in 1875, completed by the Massachusetts Bureau of Statistics of Labor, recorded that the average size was 5.1 persons, in contrast with 3.5 for Boston in 1950. (See table 1.) The annual income of the earlier year families amounted to \$763, or \$2,180 in 1950 dollars.⁷ Of this, \$738 was spent for current consumption.

The consumption pattern of that era was greatly at variance with the 1950's. Not unexpectedly, and in accordance with Engel's law of consumption, a much larger percentage of expenditure was made for food in 1875 by these lower income families—56.5 percent, compared with 35.4 percent in 1950. Table 2 and the chart indicate strikingly the decreasing proportion of family expenditures allocated to food purchases over the period of the six studies, with each survey disclosing a smaller percentage than the previous one, except that the 1918 survey indicated an increase from 1901. This latter relationship, however, may be attributed to the exceedingly high price level for foodstuffs in the World War I era.

Another traditional measure of material well-being is the proportion of family expenditures for the miscellaneous or "sundries" group,⁸ i. e., everything except food, housing, fuel and light, and clothing. There has been a steady advance in the proportion spent for this catchall group—from 6.2 percent in 1875 to 35.6 percent in 1950. Not only did total volume of sundry purchases expand, but the number and varieties of goods and services in the mid-20th century market basket were wholly unlike those in the first Massachusetts sampling.

A notion of the way in which families lived in 1875 in the Bay State is indicated by the presence or absence of expenditures for certain prestige possessions among the families sampled. For example, 11 percent of these families owned pianos or organs, 34 percent were the owners of sewing machines, and 52 percent had one or more rooms carpeted. The carpeting was important not only for decorative purposes but also for insulation during cold winters. Twenty-six percent owned pews in churches.

Another important yardstick of family well-being is the relative importance of meat versus vegetables in their diet. Le Play, who greatly influenced Carroll D. Wright, the director of the first of these Massachusetts expenditure studies, has said that "economic progress could be measured by changes in the proportion of food expenditure, especially the relation between animal and vegetable foods."⁹ Consequently, an attempt was made to obtain this relationship by classifying each family by the number of times meat was eaten each day. The tally was as follows: Of 397 families, 83 had meat once a day, 223 twice a day, 88 three times a day, and only 3 ate no meat.¹⁰

The actual menus of families for three meals a day were collected in this survey and described in detail. Although meat dishes were quite common, there was a monotonous similarity, not only from day to day, but from family to family, in the workers' diet. The usual supper menu was bread, butter, gingerbread, and tea. Not unexpectedly in Boston, baked beans appeared on most family tables each Saturday night, even as today, and the traditional meal of baked beans warmed over for Sunday breakfast was prevalent even in 1875. The ethnic composition of these families apparently had little impact on food consumption, as families ate what was available, not what they would choose because of tradition or custom in the old country.

⁶ For 1875, the figures presented in this article are the results of personal investigations by agents of the Massachusetts Bureau of Statistics of Labor in the "condition, social and pecuniary," of 397 families of workmen in 15 cities and 21 towns of Massachusetts, which were representative of "places where considerable business was carried on and wage-laborers congregated." The heads of families considered were "wage-laborers, men of family, and with comparatively few exceptions, having children dependent upon them for support. . . . As regarded occupations, those prominent in or peculiar to certain towns, were designated as proper for investigation": i. e., ". . . mill operatives at the seats of textile manufacture; those engaged in building trades in large or growing towns; leather-finishers and shoemakers, in those places devoted to the manufacture or utilization of leather; metalworkers in the foundry districts; out-door laborers where public improvements were in progress, or the moving of merchandise carried on to a great extent; and finally, shop trades in those towns having prominent or peculiar industries."

⁷ Adjusted by means of data in index of estimated cost of living in U. S., 1820-1913, compiled by the Federal Reserve Bank of New York and converted to a 1947-49 base by the Bureau of Labor Statistics, which was linked to the BLS Consumer Price Index for years subsequent to 1913. (Mimeographed table available upon request to the Bureau of Labor Statistics.)

⁸ These ratios emphasized by both Engel and Le Play have limited use, according to Carle C. Zimmerman, in his *Consumption and Standards of Living* (New York, D. Van Nostrand Co., 1936, p. 286). "Those who use advancement expenditures as an index of well-being imply that the more complex and prosperous peoples and societies are happier and have a greater fund of psychological well-being than the simpler peoples and societies."

⁹ F. Le Play, *Ferblantier, couvreur et vitrier d'Aix-les-Bains*. (*In Les ouvriers des deux mondes*. Paris, La Société internationale des études pratiques d'économie sociale, 1859, Vol. 2, pp. 9-62.)

¹⁰ In this tally, the combination of eggs at breakfast and fish at supper, or vice versa, was counted as meat for one meal.

TABLE 1.—Average family size, annual income, and current expenditures for goods and services by worker families surveyed in the Boston area and Massachusetts, 1875–1950

Year and survey group	Number of families in sample	Average family size	Annual income after taxes		Current expenditures for goods and services ¹	
			Current dollars	1950 dollars	Current dollars	1950 dollars
<i>Massachusetts</i>						
1875: Wage-earner families.....	397	5.1	\$763	\$2,180	\$738	\$2,109
1888: Cotton-textile worker families.....	400	5.6	704	2,193	661	2,059
1901: Wage-earner families.....	2,577	4.6	818	2,406	731	2,150
<i>Boston area</i>						
1918: Wage- and salaried-worker families.....	407	5.3	1,477	2,363	1,438	3,301
1934-36: Wage- and clerical-worker families.....	516	4.0	1,571	2,766	1,570	2,764
1950: Wage- and clerical-worker families.....	146	3.5	3,900	3,900	4,301	4,301

¹ In this table, the 1875 through 1918 figures count insurance premiums, and the 1875 through 1934-36 figures count gifts and contributions, as current expenditures for goods and services. Conversely, the 1934-36 and 1950 figures exclude outlays for insurance premiums and the 1950 figure also excludes gifts and contributions. This should be borne in mind when comparing the figures in this table.

SOURCE: See text footnote 1.

Typically, the families of 75 years ago bought 2 tons of coal per year for \$19 and 3 cords of wood for \$24 for heating and cooking purposes, and purchased kerosene for lighting at an annual cost which ranged from \$3.60 to \$6 per year. A few families, however, depended upon their children to gather firewood on the streets.

The penchant for self-improvement was exemplified by the fact that 264 of 397 families bought books and papers. Their traits as joiners are shown by the 135 families who allocated funds for membership in fraternal societies. Many of these organizations had beneficial features often carrying an insurance privilege. Significantly, only one family in this survey reported a direct outlay for life insurance premiums, whereas the Boston worker-family averaged \$169 for insurance premiums in 1950.

The most significant findings of this 1875 study, however, are those dealing with the sources of

¹¹ Some understatement of income, the treating of personal insurance not as savings but as an expenditure, and the unusual amount spent on time payments for consumer durables during 1950, in anticipation of expected shortages and price rises because of the Korean conflict, make it virtually impossible to gauge with preciseness the amount by which these Boston families went into debt.

¹² In 1888, data were obtained from 400 Massachusetts families in which the head of the family was employed in the cotton-textile industry. The figures used in this article are for all families surveyed and not for the "normal families" (families selected according to specified criteria), for which comparative data are also presented in the original report.

worker-family income. For example, about 35 percent of heads of worker families were able by their individual earnings to supply family needs, while 64 percent relied upon the earnings of wives and children, particularly the latter. Commonly, boys at 12 and girls at 15 were forced by necessity into labor in large numbers. These young people supplied 25 percent of family income, while the father accounted for 75 percent, and the wife for only 0.1 percent. (See table 3.) The children accounted for one-fourth to one-third of total earnings, children under 15 accounting for one-eighth to one-sixth. Without the assistance of children, a majority of families would have been in poverty or debt. With the aid of these younger workers, however, one-half of the families saved money, only one-tenth went into debt, and the rest broke even.

In retrospect, it seems miraculous that the average annual income of \$763 (or \$2,180 in 1950 dollars) reported by these Massachusetts worker families exceeded their reported expenditures by \$25, or 3 percent of their incomes. By contrast, in 1950, with average incomes of \$3,900, the average Boston wage-earner and clerical family laid out more funds for current consumption of goods and services than were taken in as income.¹¹

Massachusetts Cotton-Textile Workers, 1888

Cotton-textile worker families, with an average of 5.6 members, had annual incomes of \$704 in 1888 (\$2,193 in 1950 dollars), according to a U. S. Bureau of Labor Statistics study of 400 cotton-textile worker families in Massachusetts.¹² The difference in annual earnings between the 1875 and 1888 studies is explained partially by the fact that in the later study the workers were entirely from one industry and not as many higher paid craftsmen were represented. In spite of this limitation, certain meaningful comparisons are possible. First, the food expenditure in 1888 was a smaller proportion of the total outlay than in 1875, as food prices had dropped. Both the fuel and light group and the clothing category accounted for about the same percent of the total in both years. Housing expense, on the other hand, had declined as a percentage of all expenditures between 1875 and 1888, but this trend was no doubt greatly influenced by the fact that a large number of the textile workers included in

the 1888 sample lived in small towns where rents were lower and company-owned houses more common than in the cities.

Most important, however, was the rise in the percentage of income available for outlay on the miscellaneous or sundry group, where the percentage rose from 6.2 percent in 1875 to 19.5 percent in 1888, in spite of a lower annual dollar income in the later study. Although retail prices had declined 9 percent from 1875 to 1888, the implication here is that a greater quantity and variety of goods as well as subsistence items were attainable by wage earners.

Although the variety in the family budget was not wide by modern standards, nevertheless by 1888 there began to appear significant expenditures for amusements. Among the 400 families, 210 reported an average of \$11.50 for this category. Two hundred and eighty-nine families spent an average of \$9.47 for tobacco. Labor organization dues were paid by 111 families who averaged \$6.56. Books and magazines accounted for \$6.47 per family, with 327 making expenditures of this kind. Nevertheless, there was only slender evidence in these first two Massachusetts expenditure studies of the amazing changes that were destined to occur by 1950.¹³

As in 1875, it was impossible for wage earners by 1888 to make accounts balance solely through the husbands' efforts. On the average, these Massachusetts cotton-textile worker families could count on an annual income from all sources of \$704, of which \$431 was earned by the husband. In 152 of the 400 families, there was an income from boarders and lodgers; in 105, income from wives' earnings; and in 138, from children's earnings.

One hundred and ninety-one families reported on the average a surplus of \$138 and 136 families reported a deficit of \$48, the others breaking even.

Wage Earners in Massachusetts, 1901

At the turn of the century, a third survey of family living in Massachusetts was conducted by the Bureau of Labor Statistics.¹⁴ By 1901, the income of Massachusetts wage-earner families had risen to \$818, or \$2,406 in 1950 dollars. These Massachusetts families spent an average of \$731. The proportion of income spent on food was 56.5 percent in 1875, 46 percent in 1888, and only 41 percent in the 1901 study. The outlay for sundries as a percentage of total expenditures, on the Massachusetts families spent an average of \$731. other hand, was higher by 1901—21.8 percent.

It was significant that 2,038 of the 2,577 wage earners' families in the 1901 survey reported an annual surplus, while only 143 had a deficit. The remaining 397 families' incomes and expenditures were approximately in balance.

¹³ In 1887, 1 year previous to the date of this study of cotton-textile workers, *Looking Backward, 2000-1887*, by Edward Bellamy, was published in Boston (Houghton, Mifflin and Co.), which with its sequel, *Equality* (New York, D. Appleton and Co., 1897), contained an amazing forecast of the future economic profile of Boston by the year A. D. 2000. Bellamy, in his dream of a future society, described the "electroscope"—his word for television, which he visualized would enter every Boston home by the year 2000. Furthermore, the programs would be not only for enjoyment, but also for educational purposes. Bellamy also anticipated heating and cooking by electricity, and eating from paper plates. The radio would become commonplace in the future, according to Bellamy, but he believed that sound would come through telephones, not aeriels and individual sets. Curiously enough, he did not anticipate the automobile and its ability to bring about a complete transformation in transportation and living habits.

¹⁴ The 1901 survey covered 2,577 families of wage earners and small-salaried workers in Massachusetts during 1899-1902 (most of the data applying to the year 1901). All investigations were limited to families headed by persons with a salary or wage not exceeding \$1,200.

TABLE 2.—Distribution of current expenditures for goods and services by worker families surveyed in the Boston area and Massachusetts, 1875-1950

Year and survey group	Total expenditures for goods and services ¹		Food (including tobacco and alcohol)		Housing		Fuel and light		Clothing		Other goods and services	
	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent	Dollars	Per cent
<i>Massachusetts</i>												
1875: Wage-earner families.....	\$738	100.0	\$417	56.5	\$124	16.8	\$49	6.6	\$104	14.1	\$46	6.2
1888: Cotton-textile worker families.....	661	100.0	304	46.0	83	12.6	44	6.7	101	15.3	129	19.5
1901: Wage-earner families.....	731	100.0	300	41.0	143	19.6	34	4.7	95	13.0	159	21.8
<i>Boston area</i>												
1918: Wage- and salaried-worker families.....	1,438	100.0	641	44.6	184	12.8	80	5.6	222	15.4	309	21.5
1934-36: Wage- and clerical-worker families.....	1,570	100.0	561	35.7	319	20.3	141	9.0	154	9.8	394	25.1
1950: Wage- and clerical-worker families.....	4,301	100.0	1,524	35.4	548	12.7	229	5.3	470	10.9	1,530	35.6

¹ See footnote 1, table 1.

SOURCE: See text footnote 1.

NOTE.—Because of rounding, sums of individual items do not necessarily equal totals.

TABLE 3.—Average annual income of worker families surveyed in the Boston area and Massachusetts, by source of funds 1875 to 1934-36¹

Year and survey group	Average income (current dollars)	Husband		Wife		Children		Other	
		Average income	Percent of total						
<i>Massachusetts</i>									
1875: Wage-earner families.....	\$763	\$572	75.0	\$1	0.1	\$190	24.9	-----	-----
1888: Cotton-textile worker families.....	704	431	61.2	48	6.8	155	22.1	\$70	9.9
1901: Wage-earner families.....	818	665	81.3	2	.2	22	2.7	129	15.8
<i>Boston area</i>									
1918: Wage- and salaried-worker families....	1,477	1,277	86.5	19	1.3	127	8.6	54	3.7
1934-36: Wage- and clerical-worker families..	1,571	1,302	83.0	\$172	\$10.9	(?)	(?)	97	6.1

¹ Data not available for 1950.² Earnings of wife and children were combined in the survey reports.

SOURCE: See text footnote 1.

In regard to sources of income, a sensational transformation had occurred since the time of the earlier surveys. By the early 20th century, only 9 percent of the worker families had incomes from the earnings of children, as compared with 35 percent of the families in the 1888 study. About 31 percent of the 1901 families obtained funds from keeping boarders and lodgers and 15 percent derived funds from miscellaneous sources.

The average family income from the earnings of the husband amounted to \$665 in current dollars, or 81 percent of the total, whereas the wife and children accounted for less than 1 percent and 3 percent, respectively, of the total income, while income from other sources (mostly boarders and lodgers) was 16 percent. Of the 2,577 families in the 1901 Massachusetts sample, 15 percent owned their own homes, while 85 percent rented their dwellings. (See table 4.) In 1875, the percentage of homeowners had been only 1 percent.

In the 1901 study, the expenditure patterns of a subsample of 253 families¹⁵ portray the diversity of expenditures and the importance of spending for goods and services which were rarely found in the earlier system of living. For example, 21 percent of these families contributed to charity,

¹⁵ As these families were selected solely on the basis of their ability to give the information sought in the desired detail, the data must be interpreted with caution.

¹⁶ For 1918, the figures pertain to 407 wage-earner and salaried-worker families surveyed in Boston. Eligibility requirements for families to be surveyed were: the family must have as a minimum a husband and wife and at least one child who is not a boarder or lodger (thus increasing average family size); the family must have kept house in the locality for the entire year covered; at least 75 percent of the family income must come from the principal breadwinner or others who contribute all earnings to the family fund; all items of income and expenditures of members other than those living as lodgers must be obtainable; the family may not have boarders nor over three lodgers, either outsiders or children living as such; and the family must have no subrental other than furnished rooms for lodgers. Slum or charity families or non-English-speaking families who had been less than 5 years in the United States were not taken.

92 percent to religious organizations, 52 percent to labor organizations, and 73 percent contributed to other kinds of organizations. By 1901, the necessity and importance of insurance had grown in the view of the average wage earner in Massachusetts along with the rise of life insurance firms, since 28 percent of these families made outlays for life insurance and 18 percent for property insurance—expenditures almost nonexistent in 1875 and 1888.

These same worker families made an outlay of \$79 per year for furniture, \$11 for books and newspapers, and a similar amount for amusements and vacations. Alcoholic beverages accounted for \$18 of their spending and tobacco for \$13, in 1901.

Boston Wage and Salaried Workers, 1918

The sources and amounts of Boston family income at the close of World War I are recorded in a Bureau of Labor Statistics study.¹⁶ The average wage-earner family size was 5.3 for 407 families for whom detailed income and expenditure information is presented.

The average annual income of \$1,477 in current dollars for these families was double that of the 1888 families and nearly twice that of the 1875 and 1901 families. In 1950 dollars, the relationship was quite different; the 1918 income of \$2,363 was less than that in the 1901 study and only about 8 percent more than in the 2 earlier studies. Of the 1918 income, about 86 percent was earned by the husband, 1 percent by the wife, and 9 percent by the children. Other sources accounted for 4 percent.

Light is cast upon one aspect of living conditions of Boston worker families in 1918 by examining housing facilities. Although these families did not uniformly have modern conveniences, nevertheless

a major step forward had been made since the earlier studies. Of 373 Boston families who resided in houses, flats, or apartments,¹⁷ 206 had bathrooms and practically all had inside flush toilets. Nine percent of these Boston wage-earner families owned their residence as compared with 20 percent in 1934-36 and 27.4 percent in 1950. In the earlier Massachusetts studies, only 1 percent were homeowners in 1875, 7.5 percent in 1888, and 15 percent in 1901.

Boston Wage and Clerical Workers, 1934-36

The 1934-36 BLS study of wage earners and clerical workers in Boston reported an average family size of 4.0 and an annual income of \$1,571 in current dollars, or, in 1950 dollars, \$2,766.¹⁸ The food expenditures amounted to 35.7 percent of the total, but had been 44.6 percent in 1918, while sundry spending accounted for 25.1 percent of the total compared to 21.5 percent 17 years earlier.

The proportion of total expenditures going into clothing in the midthirties was lower in Boston (9.8 percent) than in the other large cities studied. In 1934-36, the average amount spent on automobile transportation by wage-earner or clerical families was smaller in Boston than in any other large city. Incidentally, expenditures for this category were only 2 percent of total expenditures in 1934-36, but were 8.5 percent in 1950.

By the mid-1930's, the proportion of income derived from the chief wage earner of the family was 83 percent, compared with 86 percent in 1918, 81 percent in 1901, and 75 percent in 1875. Other earners (wife and children) accounted for 11 percent and other sources for 6 percent of the average net money income of \$1,571 for the 516 Boston

TABLE 4.—Extent of homeownership among worker families surveyed in the Boston area and Massachusetts, 1875-1950

Year and survey group	Percent		
	Total	Owning	Renting
<i>Massachusetts</i>			
1875: Wage-earner families.....	100.0	1.0	99.0
1888: Cotton-textile worker families.....	100.0	7.5	92.5
1901: Wage-earner families.....	100.0	15.0	85.0
<i>Boston area</i>			
1918: Wage- and salaried-worker families.....	100.0	9.0	91.0
1934-36: Wage- and clerical-worker families...	100.0	20.0	80.0
1950: Wage- and clerical-worker families.....	100.0	27.4	72.6

SOURCE: See text footnote 1.

TABLE 5.—Percentage distribution, by nativity, of the family heads in worker families surveyed in the Boston area and Massachusetts, 1875-1950¹

Nativity	Percent				
	Massachusetts			Boston area	
	1875	1888	1901	1934-36 ²	1950 ³
Worker family heads...	100.0	100.0	100.0	100.0	100.0
American born.....	31.5	23.8	43.3	60.9	81.0
Foreign born.....	68.5	76.2	56.7	39.1	19.0
Canada.....		2.8	14.4	2.7	3.2
Canada (French).....	7.3	18.2		1.4	.4
England.....	20.2	22.0	5.6	1.4	.7
Germany.....	6.5	1.2	2.1	.4	.4
Ireland.....	33.5	26.2	26.8	13.8	3.7
Italy.....				8.8	3.3
Russia.....			1.3	2.7	2.9
Scotland.....		3.3	2.0		.4
Sweden.....			2.8	.9	3.3
Other.....	1.0	2.5	1.7	7.0	.7

¹ Data not available for 1918.

² Data applying to 1934-36 are for homemaker, not head of family. See text footnote 19.

³ Data on nativity were not collected in the 1950 BLS study. Data in this column are from the 1950 Census of Population and are for all families (not just wage-earner families) and, therefore, may understate the proportion of foreign born among wage-earner families.

SOURCE: See text footnote 1.

wage and clerical worker families surveyed in 1934-36. Of the Boston families, 64 percent had a net surplus, 32 percent reported a net deficit, and the remainder came out even.

By 1934, the profile of the Boston worker family had undergone immense changes. Over 90 percent of Boston wage-earner families who owned their houses now had central heat, gas or electricity for cooking, running hot water, and inside flush toilets, while 24 percent had electric refrigerators, 54 percent possessed telephones, and 43 percent had garden space. For the 80 percent who rented, these facilities were less prevalent.

Fourteen percent of the Boston families owned automobiles, on which they spent an average of \$168 for operation and maintenance. For medical care during the year, Boston wage- and clerical-worker families spent an average of \$49, while \$41 went to community organizations, welfare, and gifts. Clothing outlay had declined from \$222 in 1918, to \$154 in 1934, partly because apparel

¹⁷ Excludes those living in owned dwellings and those whose rent included heat or light.

¹⁸ In 1934-36, the group of wage-earner and clerical-worker families surveyed in Boston numbered 516 white families and was confined to those families with 2 or more persons, with family incomes of at least \$500 per year, who had not been on relief during the survey year. A \$200 per month or \$2,000 per year maximum income limit was established for inclusion of clerical workers. No income limit was set for wage earners, but at least 1 earner in a wage-earner family must have been employed for 36 weeks and must have earned at least \$300. Families interviewed were drawn from a random sample. Data obtained for Boston pertain to the year ending February 1935.

prices had decreased by 14.4 percent in Boston. Relatively few persons owned pews in churches, but large numbers contributed in other forms to religious societies in 1934.

Homemakers of 198 families, or 39 percent of the total sample surveyed in 1934-36, were born outside of the United States.¹⁹ (See table 5.) Of this number, the predominating national groups of foreign born were Irish (14 percent), and Italian (9 percent). In the 1875 survey, the ratios were 69 percent of family heads foreign born, with 34 percent of these born in Ireland and 20 percent in England. No information on nativity of either family heads or homemakers was collected in the 1950 survey by the Bureau of Labor Statistics, but the Census of Population for that year indicated only 19 percent of all family heads in Metropolitan Boston were foreign born. This figure may understate the proportion of foreign born among wage earners, which is always higher than among the heads of all families.

This transition in composition of population by national origin of family head constituted a major change in the profile of the wage-earner family in Boston. However, apparently incidence of foreign birth little affected expenditure patterns or material wants of Boston worker families. Although there were differences in preferences for specific commodities and services among first-generation families, by far the overriding considerations determining the manner of family living were level of income, the availability of goods and services, and family size and composition. Examination of the detailed family food menus in the 1875 study and the food item purchases in the 1888 and 1901 surveys by national origin fails to reveal any important nationality tendencies in food consumption, suggesting rapid acceptance of consumption patterns in the country of adoption. Heritage, of course, was important in helping to form the social, political, and cultural patterns of the Boston community. National origin appears to have played a minor role except in such matters as food recipes handed down from mother to daugh-

Table 6.—Average money receipts, average outlays, and percentage distribution of outlays by two-or-more person wage- and clerical-worker families surveyed in the Boston area, 1950

Item	Amount		Boston's rank among 11 large city areas ¹
	Amount	Percent of total ³	
Number of families covered.....	146		
Average family size (persons).....	3.5		2
<i>Average money receipts</i>			
Money income before personal taxes.....	\$4,138		10
Money income after personal taxes ²	3,886		9
Other receipts.....	14		8
Total receipts (after taxes).....	3,900		10
<i>Average outlays</i>			
Current outlays for goods and services (total).....	\$4,301	100.0	10
Food and drink.....	1,352	31.4	5
Alcoholic drinks.....	66	1.5	11
Clothing.....	470	10.9	8
Shelter (current expense) ⁴	548	12.7	1
Fuel, light, refrigeration, and water.....	229	5.3	1
Household operation.....	165	3.8	8
Housefurnishings and equipment.....	259	6.0	9
Automobile purchase and operation.....	367	8.5	9
Other transportation.....	97	2.3	6
Medical care.....	203	4.7	9
Personal care.....	101	2.3	3
Recreation.....	203	4.7	10
Reading.....	44	1.0	1
Education.....	15	.3	8
Tobacco.....	106	2.5	1
Miscellaneous goods and services ⁵	76	1.8	1
Gifts and contributions.....	121		5
Personal insurance premiums.....	169		11
Net change in assets and liabilities ⁶	-347		2
Payments on principal of mortgages and downpayments on owned homes.....	108		10
Balancing difference (average) ⁷	-344		1

¹ The 10 large city areas in addition to Boston are: Baltimore, Chicago, Cleveland, Los Angeles, New York, northern New Jersey area, Philadelphia-Camden, Pittsburgh, San Francisco-Oakland, and St. Louis. See BLS Bull. 1097, Revised, 1953.

² After deduction of Federal and State income, poll, and personal property taxes.

³ Because of rounding, percentages do not add to 100.

⁴ Rent, interest on mortgages, taxes on owned homes, and maintenance.

⁵ A great variety of items: funeral expenses, alimony, etc.

⁶ Personal insurance premiums and all outlays for durable consumer goods except dwellings are treated as current expenses and not included in the assets and liabilities.

⁷ Represents the average net difference between reported money receipts and reported money disbursements (i. e., sum of current outlays, gifts and contributions, and personal insurance premiums subtracted from sum of money receipts, after taxes, plus net decrease in assets and liabilities). It is a measure of the net reporting error and cannot be assigned to any one segment of the accounts.

SOURCE: See text footnote 1.

ter, or skills brought by first-generation immigrants in the fabrication of clothing or housefurnishings.

Boston Wage and Clerical Workers, 1950

The average size in 1950 of wage-earner and clerical-worker families in Boston, 3.5 persons, was smaller than that in any of the 5 earlier surveys but was second largest among the 11 cities of 1,000,000 population or more surveyed in that year.²⁰ (See table 6.) On the other hand, total

¹⁹ In the 1934-36 study, nativity data in regard to the homemaker (usually the wife) were collected, but no information on the head of the family.

²⁰ For 1950, the figures presented in this article were obtained from 146 Boston wage- and clerical- or sales-worker families of 2 or more persons. They were drawn from a random sample and no lower income was set for inclusion nor was any restriction imposed as to receipt of public assistance at any time during the survey year. A \$10,000 maximum income limit was fixed for inclusion of wage- and clerical- or sales-workers.

money receipts after personal taxes amounted for these families to \$3,900 (compared with an average of \$4,038 for the United States²¹)—a level exceeded in 9 of the other large cities, and surpassing only the money income in Baltimore.

In this 1950 survey, the proportion of total expenditures allocated to "miscellaneous" was 35.6 percent, surpassing even the percentage outlay of 35.4 percent spent for food by Boston wage-earner families. These same families had a housing cost which was only 12.7 percent of all purchases. This low ratio compared to 1934-36, when it was 20.3 percent, is attributable to two factors: rent control and much higher real incomes.

Inspection of the differences in the average amount of expenditure for major consumption commodities among the 11 cities reveals that Boston worker families were relatively low spenders for most major categories, but purchased partly by necessity and partly by inclination a few significant items of consumption at relatively high rates compared to families in the other large cities.

The average shelter cost for the Boston wage earner in 1950, for example, was higher than in the other 10 large cities. Similarly, the group which includes fuel, light, refrigeration, and water was one for which Boston families laid out more than in any other large city.²² Boston families ranked first in spending both for tobacco products and for reading materials. For food consumption, at home and in restaurants, Boston wage-earner families spent close to the median among the Nation's large cities. In contrast to the relatively high tobacco expenditures in Boston, the annual worker-family outlay for alcoholic beverages was less than in the other large metropolitan areas.²³ In expenditures for clothing, Boston ranked eighth among the 11 cities.

The relatively low average spending for automobile transportation amounting to only \$367 per worker family, was explained by the much higher rank (6th) for Boston in terms of spending for "other transportation," compared to a rank of 9th among the 11 cities for auto transportation.

Perhaps even more revealing than the amounts spent and the rank of Boston was the wide variety of items of which worker families made purchases in 1950 compared to the earlier years in which family expenditures had been studied. In common with worker families elsewhere in the Nation, Boston families bought television sets and musical

instruments, television combination sets, mechanical refrigerators, cooking stoves, and automatic washing machines in large quantities. The improved plane of living in 1950 was manifest in the purchase of such services as laundry-sent-out, laundrettes, and babysitting.

Two hundred and three dollars per wage-earner family were spent for medical services and \$46 per family for clothing services (that is, dry cleaning, shoe repairing, and like items). In the recreation group, Boston worker families made their largest single outlay for paid admissions to concerts and sporting events, and the next greatest for cameras and photographic supplies. All of these were the components of a system of living replete with commodities and services of the sundries group, many of which were unknown and even undreamed of at the time of the previous studies.

Conclusion

The strands of advancement threaded their way through the Boston community, spinning and weaving a new fabric of living in a continuous process over three-quarters of a century. Advancing technology made available new goods at reasonable prices and, at the same time, higher wages and shorter hours. Reform movements focused on education, slum clearance, and working conditions. Political action exercised by various groups, including labor unions, obtained favorable social welfare legislation. Trade unionism and collective bargaining grew and won higher wages, more leisure, and improved conditions for workers. The efforts and accomplishments of many enlightened employers aided in improving working conditions and planes of living. The role of the factfinder in the social sciences brought to light the true conditions of workers' families, providing a factual basis from which to initiate change and bring reform. These statistical explorations began with the Massachusetts Bureau of Statistics of Labor created in 1869 and the United States Bureau of Labor Statistics founded in 1884.

²¹ For a detailed analysis in terms of the averages for the United States see *Standards and Levels of Living of City-Worker Families*, *Monthly Labor Review*, September 1956 (p. 1015).

²² Boston showed a relatively high proportion of rented units; however, the comparatively high expenditure for fuel was affected both by the climate and the fact that the rent included heat in only about a third of such units.

²³ Although family expenditures for tobacco and alcohol are known to be underreported in surveys, it can be assumed that the survey results reflect intercity variations in expenditures for these items.

New England's economy has become less dependent on shoes and textiles as employment has risen in both nonmanufacturing and durable-goods manufacturing.

Historical Patterns and Recent Trends in Employment

EDWARD T. O'DONNELL

RECOGNITION and exploitation of New England's natural resources and advantageous location for profitable manufacture came early. For instance, in 1637, Abraham Shaw was granted by the Great and General Court of Massachusetts the right to take ore and fuel from common lands for the purpose of manufacturing "iron bars";¹ and in 1644, a large iron works was begun in Lynn. A year earlier, the town of Braintree had voted the setting aside of 3,000 acres for encouragement of an iron works,² and nearly everywhere in the little coastal settlements, establishments were busily turning out bricks, pottery, hollowware, bar iron, scythes, shovels, axes, hammers, and nails, all articles essential to settlers in a new land. Thus, New England's interest in manufacture and its traditional devotion to the production of light metalwares and consumers' goods both began early and stemmed naturally from the nature of the readiest market.

Near the beginning of the 19th century, the greatest regional industry was born with the building of a spinning frame on the English Arkwright model by Samuel Slater in Rhode Island. With this event, the economic history of New England was revolutionized, for the region possessed every gift necessary to the manufacture of textiles: Available waterpower, the proper degree of humidity for the best processing of yarn, an adequate labor supply, and excellent ports for the import of raw cotton and the export of finished product. In addition, impending political and historical developments were to guarantee markets for New England industries of a magnitude that had previously been unimagined.

421586—57—3

Determinants of Markets for Manufactures

Earliest of these great politico-economic events was the War of 1812 which cut the flow of English woven goods into this country and thus afforded an opportunity for New England merchants to seize the domestic market. Prior to 1812, New England had only 32 spinning mills. Between 1812 and 1815, 73 were constructed.³ Even more significant as part of the general regional pattern of industrial development, the first power looms in America were installed in 1813 by the Boston Manufacturing Co. of Waltham. The weaving of cloth and the spinning of thread under a single roof marked perhaps the beginning of the textile industry in America, as well as the factory system as we know it.⁴ New England's position in the mid-20th century in the manufacture of precision machines and interchangeable parts owes much to the development over the years of mechanical skills by workers, and of technical knowledge by management and inventors, in connection with improving the productivity of textile machinery.⁵

Of course, other influences helped shape the region's machinery and metalworking economy and account in part for interstate differences which persist to the present. Although none of the early iron or copper mines of Connecticut appear to have developed into major operations,

¹ Nathan/el Bradstreet Shurtliff, *Records of the Governor and Company of Massachusetts*, Boston, W. White, Printer to the Commonwealth, 1873, Vol. I (p. 206), Vol. II (pp. 61, 81, 103, 125).

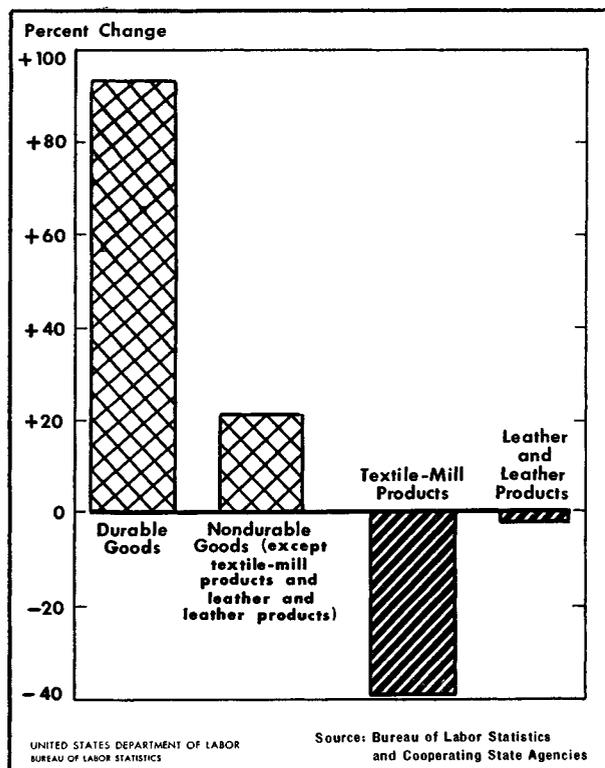
² Samuel A. Bates, *The Ancient Iron Works at Braintree, Massachusetts*, South Braintree, F. A. Bates, 1898 (p. 2).

³ C. J. Ware, *The Early New England Cotton Textile Manufacture*, Boston, Houghton, Mifflin Co., 1931 (p. 37).

⁴ Victor S. Clark, *History of Manufactures in the United States*, New York, McGraw-Hill Book Co., Inc., 1929, Vol. I (p. 450).

⁵ *Ibid.* (p. 516).

Chart 1. Industry Shifts in Manufacturing Employment, New England, 1939 to 1956¹



¹ 1956 data are preliminary.

the presence of the metals and the need of the colonists for handtools and household wares led to the growth of a light manufacturing industry devoted to meeting these demands.⁶ Further impetus was imparted to Connecticut metalworking by the intensive development of clock-making. In the beginning, the clock movements were of wood, but early and continuing effort was made to substitute metal, and in 1837, an inexpensive brass clock was placed on the market by Chauncey Jerome of Plymouth, Conn. Its immediate success proved a boon to the brass mills of the Nutmeg State.⁷ At about the same time, light machines were devised which produced pins from wire and automatically stuck them on paper, an advance which secured to its inventors dominance of the burgeoning American market.⁸ From beginnings such as these, Connecticut developed its metallic industries which make it today a center of hard goods production.

The unparalleled westward surge to settle inland America, beginning not long after the

settlement of the War of 1812, insured even more than earlier developments that New England would specialize in the mass production of commodities for the Nation's ever-increasing population. America needed textiles, shoes, handtools, and weapons, and New England capitalized and prospered upon her early mechanization.

Inevitable Decline in Relative Position

But the westward migration which provided the market also contained the seeds of future competition; each newly developed section of the country built its own manufacturing establishments which utilized closer sources of raw material and sold their goods to the new centers of population. Perhaps the most obvious single factor in speeding the loss of New England's relative position was the universal adoption of steam as a prime source of industrial power and the consequent loss of premium upon waterpower sites—probably New England's greatest locational advantage.⁹

As the fight to retain markets became fiercer and the region's competitive advantages decreased, New England management attitudes became less daring than those of the early innovators and were increasingly concerned with maintenance of existing positions.¹⁰ Beset by unflagging competition from other sections of the country, New England over the years has been sorely pressed to maintain a share of markets sufficient to support full employment in its factories. That it has not been uniformly successful in all aspects of this struggle has engendered a measure of pessimism over the region's future as a manufacturing center.¹¹ Some of this doubt may be justified, but, in major outline, the record contains more favorable than gloomy implications. An examination of the course of New England's economic fortunes since 1939, as revealed by the ebb and flow of employment, indicates much to allay the fears that the region has become static and is concerned principally with fighting holding actions.

⁶ William G. Lathrop, *The Brass Industry in the United States*, revised edition, Mt. Carmel, Conn., William G. Lathrop, 1926 (p. 22).

⁷ William G. Lathrop, *op. cit.* (p. 34).

⁸ *Ibid.* (p. 62).

⁹ Thomas Russell Smith, *The Cotton Textile Industry of Fall River, Massachusetts*, New York, King's Crown Press, 1944 (pp. 41-44).

¹⁰ The Federal Reserve Bank of Boston, *Annual Report for 1955* (p. 6).

¹¹ Seymour E. Harris, *New England's Decline in the American Economy*. (*In Harvard Business Review*, Cambridge, Spring 1947, pp. 348-371.)

Factory Employment Patterns Since 1939

Between 1939 and 1956, nonagricultural employment in New England increased by more than 1 million jobs, or 40 percent, as shown in the following tabulation:

	<i>Monthly average nonagricultural employment (thousands)</i>
1939.....	2, 582. 4
1943.....	3, 380. 7
1949.....	3, 201. 3
1953.....	3, 563. 8
1955.....	3, 513. 4
1956 ¹	3, 608. 3

¹ Preliminary.

SOURCE: Bureau of Labor Statistics and cooperating State agencies.

Analysis of these employment trends reveals elements of both strength and weakness since certain of the region's oldest and largest manufacturing industries have not, over this span of years, shared in the general employment gains. The most dramatic and widely publicized of these unfavorable developments is the deep decline in employment suffered by the region's textile industry (chart 1). Since 1939, when it was the major source of jobs for factory operatives, employment in the New England textile industry decreased by 108,900 jobs, or 39.5 percent. Moreover, between 1939 and 1956, the number of workers in the shoe and leather industry, second only to the textile industry in 1939 as a source of manufacturing employment, remained about stable,¹² as shown in the following tabulation:

	<i>Monthly average employment</i>	
	<i>Textile-mill products (thousands)</i>	<i>Leather and leather products (thousands)</i>
1939.....	275. 3	113. 9
1943.....	296. 5	101. 8
1949.....	252. 2	114. 4
1953.....	214. 7	114. 3
1955.....	173. 0	114. 9
1956 ¹	166. 4	111. 9

¹ Preliminary.

SOURCE: Bureau of Labor Statistics and cooperating State agencies.

On the other hand, offsetting the employment record of textiles and shoes and leather products,

¹² New England's record is better when measured by production rather than by employment. Its relative share of national output has been well maintained and of recent years has increased modestly. For a discussion of this point, see p. 310 of this issue.

¹³ Chris A. Theodore, *New England Economic Indicators*, Boston University, College of Business Administration, Bureau of Business Research, 1955 (section on Manufactures).

job totals in practically all of the other New England major manufacturing industry groups have increased in keeping with the nationwide pattern of advance:

	<i>Monthly average employment</i>	
	<i>Durable goods (thousands)</i>	<i>Nondurable goods, exclusive of textile- mill products and leather and leather products (thousands)</i>
1939.....	391. 8	387. 2
1943.....	967. 3	406. 3
1949.....	585. 5	423. 8
1953.....	791. 3	463. 9
1955.....	719. 4	460. 5
1956 ¹	757. 8	469. 5

¹ Preliminary.

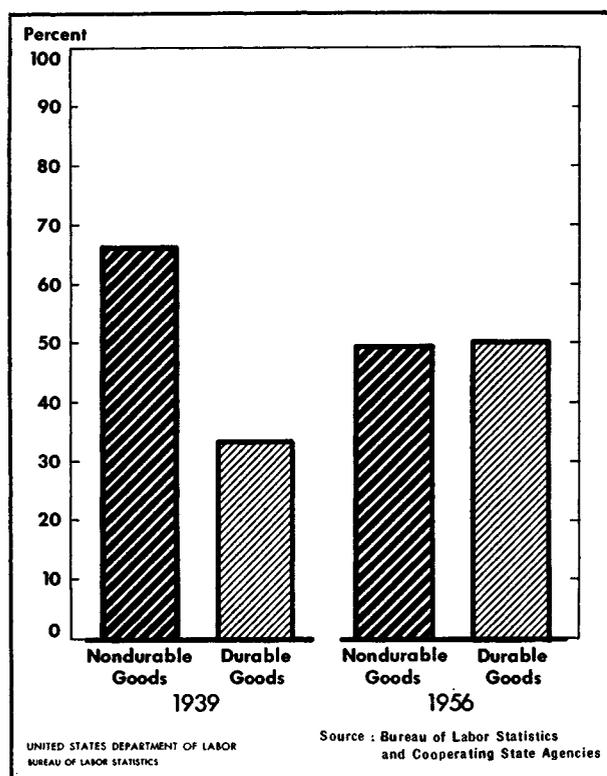
SOURCE: Bureau of Labor Statistics and cooperating State agencies.

One effect of the divergence of trends between textiles and shoes and leather, on one hand, and all other manufacturing, on the other, has been a shift of the balance in factory employment away from the historical heavy reliance upon nondurable goods toward an even division between nondurable and durable goods in 1956. (See chart 2.) Nondurable-goods employment accounted for 66.5 percent of New England manufacturing employment in 1939, for 57.4 in 1949, and for only 49.7 percent in 1956.

New England's improving balance between hard and soft goods is not the result of merely subtracting textile employment from an otherwise static manufacturing economy. Durable-goods employment has had an impressive growth in absolute terms which compares respectably with rates of growth in other sections of the country.

Some of the oldest and most widely disseminated production statistics which treat with New England manufacturing industries are concerned with textiles and shoes and leather.¹³ Their widespread use in the past has tended to focus attention upon the vicissitudes of those two industries which have failed to keep pace with the employment expansion of the rest of the region's manufacturing industries. This emphasis has helped nurture the opinion that New England's productive efforts are somehow overconcentrated in depressed nondurables. In fact, New England's soft-goods industries, apart from textiles and shoes and leather, have experienced a sizable employment gain of 21.3 percent since 1939.

Chart 2. Durable and Nondurable Goods Employment as a Percent of Manufacturing Employment in New England, 1939 and 1956¹



¹ 1956 data are preliminary.

Diversified Base of Manufactures. In comparison with other States and regions, New England's manufacturing employment, whether in durables or nondurables, is not presently unduly concentrated in any small group of industries, but rests upon a broad base of well-diversified manufactures most of which are directly tied in with the national level of industrial activity. It remains undeniable that in the past a heavy concentration of employment in the textile industry worked to New England's disadvantage. Because of this experience, New Englanders currently display a strong inclination to spread employment among a broader list of industries. Not only is the regional factory economy today less vulnerable to employment declines stemming from the ills of a single industry, it is far better diversified than the economies of some competitive areas which have been the heaviest gainers from New England's loss of textile preeminence. None of the New England States was among the top 25 percent of the States in a

ranking by the degree of concentration of manufacturing employment in each State's three largest manufacturing industry groups.¹⁴ Massachusetts and Connecticut, with concentrations of 32.1 and 45.2 percent, were below the median of 46.4 percent. In the remaining New England States, employment in the 3 largest industry groups ranged from 50.7 to 57.0 percent of total manufacturing employment. Comparable figures for other representative States were: New York, 35.6 percent; Virginia, 40.6; Ohio, 43.8; California, 45.2; Georgia, 56.6; North Carolina, 66.7; and South Carolina, 78.0.

Trends in Nonmanufacturing Employment

Because major extractive industries are but lightly represented in New England, and because of the early and intensive development of manufactures, the percentage of the region's work force in nonmanufacturing employment is lower than in the United States as a whole. In 1939, for example, 54.8 percent of New England's nonagricultural workers were concerned with nonmanufacturing activities. At the same time, the national percentage was 66.8 percent. In 1956, however, the national percentage remained almost unchanged at 67.2, while New England's participation in nonmanufacturing employment advanced to 58.2 percent (chart 3). Since 1939, the advances in major categories of nonmanufacturing employment were steady and impressive (table 1).

TABLE 1.—Average monthly employment in principal non-manufacturing industries, New England, 1939 and 1956¹

Industry	Employment (in thousands)		Percent change from 1939
	1939	1956 ¹	
Total.....	1,414.1	2,102.9	48.7
Construction.....	84.3	177.2	110.2
Transportation and public utilities.....	172.4	220.1	27.7
Wholesale and retail trade.....	506.7	704.4	39.0
Finance, insurance, and real estate.....	100.7	169.0	67.8
Service and miscellaneous.....	255.3	410.9	60.9
Government (Federal, State, and local).....	294.7	421.3	43.0

¹ Preliminary.

SOURCE: Bureau of Labor Statistics and cooperating State agencies.

¹⁴ Based upon employment data obtained from reports by State agencies cooperating in the Federal-State Current Employment Statistics Program. Excluded from this comparison were Delaware, Idaho, Kentucky, Nebraska, Nevada, New Mexico, North Dakota, and Wyoming, since published data for these States were not available in form to permit isolation of the 3 largest Standard Industrial Classification 2-digit industry groups.

Whether it is desirable for New England to experience a decrease in the share of manufacturing employment is a matter over which distinguished experts disagree. Some hold that such a development, if of considerable magnitude, may be the result of substitution of low-paid service employment for well-paid factory jobs and should not be viewed with equanimity.¹⁵ Other experts believe that the tertiary industries assume rising importance in an advancing industrial economy and offer hope for overcoming some of the adverse effects of New England's dependence on manufacturing.¹⁶ Whatever the interpretation, certainly the absolute increase in nonmanufacturing employment has provided many New England workers with jobs; and if the second of the two opinions holds true, the region's great wealth of educational, medical, financial, research, and recreational facilities probably will provide significantly greater employment in the future. The continued exploitation of these industries should be a keystone of State and regional development policy.

Intrastate Employment Trends

To a greater or lesser extent, employment trends within the individual New England States between 1939 and 1956 have reflected overall regional changes. Each State has experienced increases in the relative importance of nonmanufacturing employment and in the absolute number of jobs in both manufacturing and nonmanufacturing. The employment record of the textile industry has been uniformly unfavorable in the 6 States, and an almost sidewise trend of shoe and leather employment has occurred in 2 of the 3 States where this industry is a major factor. Only Maine had a notable increase in the number of shoe and leather operatives, and some evidence exists that Maine's gains were at the expense of her New England neighbors.

Despite the employment trends in textiles and shoe and leather products, every State in the region boosted its manufacturing job total between 1939 and 1956. The rates of gain, as well

TABLE 2.—*Employment in manufacturing and nonmanufacturing industries in New England States, 1939 and 1956*

State	Manufacturing employees			Nonmanufacturing employees		
	Number (in thousands)		Per cent change from 1939	Number (in thousands)		Per cent change from 1939
	1939	1956 ¹		1939	1956 ¹	
Connecticut.....	281.2	433.8	54.3	278.0	461.2	65.9
Maine.....	94.6	108.4	14.6	117.0	167.6	43.2
Massachusetts.....	568.8	710.6	24.9	781.6	1,133.9	45.1
New Hampshire.....	68.6	82.7	20.5	76.4	99.7	30.5
Rhode Island.....	127.8	131.5	2.9	113.6	165.9	46.0
Vermont.....	27.3	38.6	41.4	47.5	66.4	39.8

¹ Preliminary.

SOURCE: Bureau of Labor Statistics and cooperating State agencies.

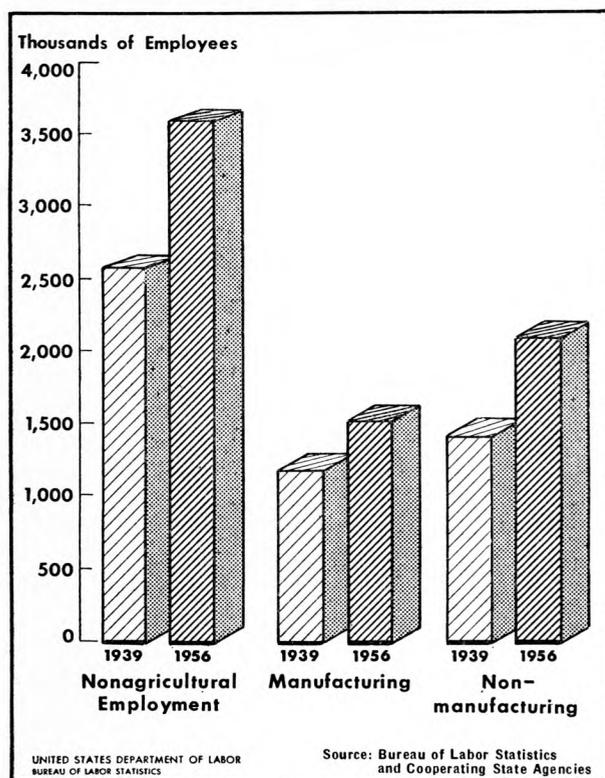
as the underlying reasons, differed from State to State. In general, the States fall roughly into three categories with respect to changes in manufacturing employment. Thus, Rhode Island increased factory jobs only slightly over the period, while moderate gains were scored by Maine, New Hampshire, and Massachusetts. Vermont increased its manufacturing workers by 41.4 percent, and Connecticut's 54.3-percent employment rise put the Nutmeg State far in the van in the matter of increased factory employment, as shown in table 2.

Most dramatic among the manufacturing employment advances were those of the electrical-equipment industry, particularly the light assembly operations comprising the communications-equipment category, and transportation equipment with especial emphasis upon aircraft engines in Connecticut. Rhode Island did not increase employment in any single industry sufficiently to offset the textile industry decline, although the growth of employment in costume jewelry provided a bright spot. New Hampshire and Massachusetts, on the other hand, by increasing employment in their electrical-equipment industries, were able to cushion somewhat the impact of textile job declines. Vermont's gains were for the most part due to a sizable employment increase in the production of metalworking machinery. No new industry of major size developed in Maine over this span of years, but the gain in shoes and leather products served to compensate in some degree for the State's losses in textiles. Connecticut during this period has been New England's prize example of the effect upon employment of a manufacturing boom. Of the enormous job gain

¹⁵ Committee of New England of the National Planning Association, *The People of New England and Their Employment*, Monograph No. 7, Boston, New England Council, 1954 (p. 290). See also William H. Miernyk, *Labor Mobility and Regional Growth*. (*In* *Economic Geography*, Clark University, Worcester, Vol. 31, October 1955, pp. 321-322.)

¹⁶ Seymour E. Harris, *op. cit.* (p. 352).

Chart 3. Manufacturing and Nonmanufacturing Employment in New England, 1939 and 1956¹



¹ 1956 data are preliminary.

in the Nutmeg State, much was due to the extraordinary volume of production of aircraft engines and parts. This has tended, of course, to stimulate activity in allied metalworking and machinery, the overall effect being to establish Connecticut at this point of cyclical expansion not only as the leader among New England States, but as one of the most dynamic in the Nation in terms of employment rise.

The employment situation of nonmanufacturing industries was more uniformly favorable among the States. The gains have been impressive both in relative and absolute terms. Each State has participated in the residential, government, industrial, and highway phases of the nationwide building boom, and, consequently, construction employment has risen extensively everywhere. Aggressive promotional drives have aided each State in developing its recreation industry, with a resulting stimulus to employment in service activities and retail trade. Buoyed by a high level of national income and full employment, the insur-

ance and finance industries, long New England strong points, have become even greater providers of employment in several of the States, notably Connecticut, Massachusetts, and Vermont. During the postwar period, government employment, particularly State and local, mounted in volume with the increased number of schools and the additional police and other civic services required by the great shifts in population and growth of suburban areas since the close of World War II. A combination of these factors of industrial boom, construction activity, and population shifts has contributed to the expansion of job opportunities in transportation and public utilities. In five States, as well as in New England as a region, non-manufacturing industries today account for a greater relative share of total nonfarm employment than in 1939, as seen in the following tabulation:

	Nonmanufacturing employment as a percent of total nonagricultural employment	
	1939	1956 ¹
Connecticut.....	49.7	51.5
Maine.....	55.3	60.8
Massachusetts.....	57.9	61.5
New Hampshire.....	52.7	54.7
Rhode Island.....	47.1	55.8
Vermont.....	63.5	63.2

¹ Preliminary.

SOURCE: Bureau of Labor Statistics and cooperating State agencies.

Conclusions

Several broad conclusions are supported by a review of the historical development of manufacturing in New England and an examination of the regional and State patterns of employment changes since 1939.

The early development of manufacturing and the tendency to emphasize the production of consumers' goods and light, complex machine parts were natural results of geographical and historical forces.

The degree of regional economic homogeneity is sometimes overstressed. Despite similarities, there are important and age-old differences in the economic structures of the several States.

Emphasis upon the manufacture of nondurable goods as a principal source of employment has lessened. The two factors which contributed most to this changing balance are the growth in the production of durable goods, particularly since 1939, and the long-term decline in textiles.

Employment trends in the manufacture of non-durable goods, apart from textiles and, to a lesser extent, shoes and leather products, have been strong. Realistic analysis of the region's economy calls for consideration of the textile industry apart from other manufacturing in order to avoid distortion of nontextile trends.

The nonmanufacturing industries of New England are growing impressively in absolute numbers of workers and are gaining in relative importance as sources of employment.

There is little to suggest that New England could prosper in the absence of national prosperity. Much of the region's manufacture is consumed or

incorporated into end products beyond its borders. Similarly, a large part of New England's non-manufacturing employment advance stems from high levels of national income which have stimulated expenditures in recreation, finance, education, research, medical, and kindred services offered to the Nation. By the same token, apart from the textile situation, there is little to suggest that regional industries are worse off than their national counterparts. Since the rising tide lifts all boats, the economic fortunes of the New England region, and consequently the level of its employment, will rise or fall with those of the country as a whole.

The British commander in the American Revolution] managed well, but not quite well enough. It is difficult to keep military secrets in the midst of an attentive people, and by the people themselves the discovery was made. Paul Revere had some thirty mechanics organized to watch and report the movements of the British, and these men now became convinced that an expedition was on foot, and one of a serious character. The movement of troops and boats told the story to watchers, with keen eyes and ears, who believed that their rights were in peril. They were soon satisfied that the expedition was intended for Lexington and Concord, to seize the leaders and the stores; and acting promptly on this belief they gave notice to their chiefs in Boston and determined to thwart the enemy's plans by warning and rousing the country.

—Henry Cabot Lodge, *The Story of the Revolution*, New York, Charles Scribner's Sons, 1903 (pp. 31–32).

Labor-Management Relations

Labor and management in New England are faced with problems arising from economic pressures and the transition to more diversified economy.

A. HOWARD MYERS

LIKE ITS ECONOMIC ACTIVITY, New England's industrial relations cannot be easily distinguished from the national pattern. Interregional standards, centralized authority, and nationwide policy-making have influenced both labor and management organizations. Uniform Federal legislation also has affected local labor conditions and relationships, making the distinctive elements stand out less clearly with the passing of time since its introduction. Some distinguishable features continue nonetheless.

Anything peculiar to the New England scene will be a reflection of the people and their economic activity. The conservatism and respect for the past that is generally characteristic of the local population has found expression in their social and economic conduct, with little inclination for innovation or rapid change and less dynamic drive than in some other areas of the Nation.

Industrial Transition and Labor Relations

Manufacturing activity of the region developed early in the Nation's history and generally was limited to a few industries. In recent years, however, the economic pattern has been moving away from industrial homogeneity. Unlike the prewar dominance of textile manufacturing, no single major industry and no predominant labor organization stands out conspicuously in any of the six States. To describe the developing trends and characteristics of labor relations, it will be wise to note the diverse directions in which business and employment have been moving.

The outstanding factor is negative—the lack of any uniform trend of business or industrial relations. There has been a transition from an important textile industry to increasingly mixed industrial activity. While total manufacturing employment in this region fell 9 percent from 1947 to 1955, a decline of 129,000 jobs in postwar textile manufacturing accounted for over 90 percent of the net decline of 141,000 manufacturing jobs.¹

Other major industries in which employment had fallen are machinery manufacturing (except electrical) and fabricated metal products, which accounted, respectively, for 18 percent and 13 percent fewer jobs in 1955 than in 1947. In another major manufacturing activity, leather and leather products, no significant change occurred in total employment. The other manufacturing industry employing over 100,000 workers, electrical equipment, provided 11 percent more employment over the 8-year period, while appreciable gains also occurred in transportation equipment and in apparel manufacturing.

A substantial drop in New England's manufacturing employment as a proportion of total nonagricultural employment contrasts with the relatively stable national situation in recent years. Also, the increasing volume of service industry jobs, particularly in Massachusetts and Rhode Island, and of white-collar employment in trade and finance has not kept pace with national trends.² The degree of unionization of white-

¹ William H. Miernyk, Unemployment in New England Textile Communities, Monthly Labor Review, June 1955 (p. 645).

² Seymour L. Wolfbein, Changing Patterns of Industrial Employment 1919-55, Monthly Labor Review, March 1956 (p. 250).

collar employees has not been as great as that of workers in the manufacturing and other industries employing manual workers.

Many of these employment changes resulted in large part from labor relations and labor cost difficulties, and in turn had a serious impact on the local problems of unions and management. Industry, labor, and public officials in many urban communities have been faced with employment shifts and changes in job skills that were caused by the liquidation of the older plants.

With many of the displaced workers from the nonexpanding industries in the older age groups, serious problems of adjustment have been posed for management and labor representatives in many local areas. Shifts in production and employment to diverse industrial activities have occurred in or around cities such as Brockton, Lynn, and Worcester in Massachusetts and Nashua and Manchester in New Hampshire. Textile centers such as Fall River, New Bedford, Salem, Lowell, and Lawrence in Massachusetts; Woonsocket and Providence in Rhode Island; and Sanford and Waterville in Maine have become the locations for garment, electronic, machinery, or plastics plants. Labor relations have become unstable because of periods of unemployment pending shifts to new employment, and because the new plants often prefer to employ younger people.

Extent of Unionization

The organization of New England's shoe workers, leather workers, and textile workers predated the unionization of mass-production industry, and although collective bargaining has a long history in the region, recent unemployment, job shifts, and the developing trend from factory to more white-collar employment seem to have slowed down the growth of unionization. It is difficult to give accurate estimates of trends in recent years since no continuing figures are available on labor union membership by State. The National Planning Association estimated that in

1951 union membership included 29.3 percent of the Nation's nonagricultural labor force, with a New England regional membership of 29.6 percent. The high figure for the 6 States was 33.2 percent for Massachusetts, while the low was 22.7 percent for Connecticut.³ There is some later evidence that unionization in New England may be lagging, if not declining absolutely, in net growth as a result of increasing white-collar employment and transitional unemployment.⁴ Normally, union activity will be of small interest to those out of work and usually will take some time to develop among those employed in a new plant.

Competing unions have been active in some of the major New England manufacturing industries for many years, with keen rivalry between unions formerly affiliated with the American Federation of Labor and with the Congress of Industrial Organizations, respectively, as well as between these and independent unions. The textile, leather tanning, shoe, and electrical equipment industries have been subject to this competitive unionism. Although the AFL-CIO unification may eventually reduce rivalry among affiliated unions, the region's independent unions will probably continue their dual union campaigning. The United Mine Workers, District 50, the International Longshoremens' Association, and the United Electrical, Radio and Machine Workers of America each represents New England employees exclusively in some industry or shares representation in others in conjunction with AFL-CIO unions.

It is also pertinent to note the extent of local independent union bargaining of long standing. In the shoe manufacturing centers in and around Brockton and Marlborough, Mass., Nashua and Manchester, N. H., and in Lewiston and Auburn, Maine, multiplant unaffiliated shoe workers' unions compete with the national organizations. Another multicompany local organization of primarily textile workers bargains with management in Woonsocket, R. I., plants. In addition, some employees in the electric power industry have independent representation, local or national.

Factors Shaping Management Policy

The major industrial relations problems of the region have been caused by economic factors rather than by poor personnel practices or anti-

³ Report on the Economic State of New England, National Planning Association, published by New England Council, 1954 (p. 370).

⁴ In the writer's judgment, a fair index of recent local trends, with the possible exception of Connecticut, is the Commonwealth of Massachusetts, Department of Labor and Industries estimates. Total union membership in the State as reported in its Annual Directory of Labor Organizations, was as follows: 1951, 598,000; 1953, 614,000; 1954, 589,000; 1955, 565,000.

labor attitudes.⁵ The highly competitive markets in which New England consumers' goods manufacturers often sell have usually been affected by low-cost, nonunion competition, either domestic or foreign. In bargaining and handling of grievances over work assignments and piece rates, management has frequently been under severe economic pressure.

In a few industries, employers bargain collectively on a multiplant basis through employer associations. In some localities, this type of organization has helped in getting union leaders to consider management's problems and needs at the same time that wages, hours, and working conditions are negotiated. Such employer labor relations associations bargain in building construction, printing and publishing, trucking operations, shoe manufacturing, leather tanning, worsted textile manufacturing, and the fishing industry. The formation of these multiemployer groups has been directed toward a better balance of bargaining power, and toward joint efforts at getting the union to consider the competitive problems of companies with limited economic capacity.

In the cotton-textile industry of Maine and Massachusetts, multicompany bargaining disappeared after the liquidation of the majority of those mills that were operating on that basis. The remaining companies negotiate on a single-company basis, usually with one agreement for the unionized plants of the employer both inside and outside of the region.

Major manufacturing agreements, covering at least 1,000 workers each, were estimated in January 1956 to number 139 in the 6-State area, with a total coverage of 369,000 employees.⁶ Those industry groups in which larger bargaining units occurred most frequently were textile-mill products, 17 agreements; paper and allied products, 7; leather and leather products, 8; primary metals, 6; fabricated metal products, 8; machinery (except electrical), 21; electrical machinery, 9; transportation equipment, 8; and construction, 15.

A few of the larger New England plants have their terms of employment determined largely by centralized bargaining at locations outside of the region. In such situations, national patterns apply to New England operations. Industries in which this type of bargaining occurs include food products, automobile assembly, and rubber in eastern Massachusetts; chemical and electrical equipment

in western and eastern Massachusetts; and shipyards and steel wire fabrication in Connecticut and Massachusetts.

A number of smaller and some large manufacturing plants remain unorganized, even in urban manufacturing centers like Boston and Worcester. Moreover, many of the large employers in the finance and distribution industries continue to administer personnel policy and personnel relations without union participation. Except for organization of the industrial insurance agents in some New England cities, the insurance company employees are not generally unionized.

Bargaining and Economics

The shifts in industrial activity and employment have been influenced primarily by cost considerations. In this regard, the employees have frequently been on the defensive, and their unions have often offered arguments based more on morality than on economics. Justice and efficiency unfortunately do not always coincide.

Efforts to move from a plane of conflict to one of more cooperative bargaining and better operating results have been usually motivated by the need for survival. The liquidation or the exodus of textile mills, of shoe factories, and of leather tanneries has often been the cumulative result of industrial relations difficulties, coupled with other economic factors.

Some of the difficulties of collective bargaining are reflected by the record of strike activity. With about 7 percent of the Nation's nonagricultural workers, New England accounted for 2.5 percent of all workers involved and 8.5 percent of the man-days of idleness caused by work stoppages during 1955. A lengthy textile strike resulted in the larger figure for man-days lost.

The statistics of prior years give evidence of less time lost through stoppages here than might be expected. New England's percentage of total strike idleness has exceeded its present share of the Nation's nonfarm employees in only 2 years from 1935 to 1954, namely, 1942 and 1951. (See table.) These years were more comparable to the

⁵ Recent reports of the National Labor Relations Board show that unfair labor practice charges against employers in New England run from 5 to 6 percent of national totals. By comparison, New England accounted for about 7 percent of total nonagricultural employment in 1955.

⁶ See Characteristics of Major Union Contracts, Monthly Labor Review, July 1956 (p. 808).

late 1920's and early 1930's, when organizing as well as economic causes accounted for an exceptionally high regional share of total time lost.

The principal cause of stoppages in the region, wage issues in the textile and shoe industries, has diminished in importance in recent years, notwithstanding the 1955 textile strike, through better economic understanding in those situations where negotiations continue.

A number of situations could be cited in which the top management of smaller companies in the textile, metal products, and paper products industries have been able to direct the plant's labor relations into more cooperative efforts. In these situations, help from both the union representatives and the employees have lowered labor costs and increased employee earnings. Group incentive systems which are successfully operating in some New England plants⁷ are examples of such cooperative efforts. Flexibly higher machine assignments, varying according to product requirements, have been worked out in some textile cases to the mutual advantage of the company, the employees, and the union. There are woolen mills operating profitably in Vermont and in New Hampshire, which were threatening liquidation a few years ago.

Regularly scheduled labor-management meetings for discussion of whatever problems may be bothering workers or management have replaced grievance procedures in many plants. Cooperative attitudes have replaced aggressive conflict in local paper, textile, and metal products mills which the writer has had the opportunity to observe at first-hand. While these programs improve the administration of bargaining relations, of course, they do not eliminate all disputes over wage adjustments.

Private arbitration of contract terms is not uncommon in New England, particularly in the needle trades and the leather and textile industries. A no-wage-increase award in the 1949 arbitration between the Fall River Textile Manufacturers Association, the New Bedford Cotton Manufacturers Association, and the Textile Workers Union of America was followed by a number of subsequent cotton and rayon arbitrations, some allowing wage reductions and some denying increases.

⁷ Two such cases are reported in the National Planning Association study, *Causes of Industrial Peace*, New York, Harper & Brothers, 1955 (Chs. 16 and 17, entitled "The Lapointe Machine Tool Co. and the Steelworkers (CIO)" and "American Velvet Co. and the Textile Workers (CIO)," respectively, pp. 257-295).

Work stoppages in New England, 1927-55

Year	Stoppages beginning in the year		Man-days idle during year (all stoppages)	
	Number	Workers involved	Number	Percent of United States total
1927.....	126	21,360	496,470	1.9
1928.....	119	53,350	4,106,270	32.6
1929.....	120	31,810	1,060,700	19.8
1930.....	77	8,360	107,300	3.2
1931.....	106	56,320	1,310,390	19.0
1932.....	111	15,960	223,580	2.1
1933.....	308	149,070	2,272,620	13.4
1934.....	201	222,010	2,488,800	12.7
1935.....	196	48,310	967,900	6.2
1936.....	198	51,450	769,410	5.5
1937.....	497	111,390	1,409,180	5.0
1938.....	206	30,750	403,800	4.4
1939.....	193	57,590	589,880	3.3
1940.....	170	34,010	360,040	5.4
1941.....	340	110,180	966,300	4.2
1942.....	246	109,300	534,100	12.8
1943.....	244	81,980	378,480	2.8
1944.....	322	110,840	635,290	7.3
1945.....	391	143,020	1,869,100	4.9
1946.....	449	200,240	6,837,900	5.9
1947.....	312	88,500	1,757,600	5.1
1948.....	241	59,100	1,429,300	4.2
1949.....	213	47,600	1,060,200	2.0
1950.....	350	81,900	995,800	2.6
1951.....	302	120,900	2,404,800	10.5
1952.....	311	74,510	2,097,400	3.5
1953.....	339	95,350	1,338,400	4.9
1954.....	251	55,750	943,600	4.2
1955.....	292	125,640	2,390,600	8.5

SOURCE: U. S. Department of Labor, Bureau of Labor Statistics, New England Regional Office.

Arbitrations have also been used to adjust costs to a more competitive basis by increasing work standards. Higher spindle and loom assignments frequently have been the subject matter of arbitrations, and these awards influenced other similar situations. Arbitration has had educational results leading to more accommodating attitudes in bargaining subsequently on similar problems. Although, in at least 1 woolen mill arbitration in New Hampshire and in 1 cotton-rayon mill in Massachusetts, weavers refused to undertake big increases in loom assignments and still refused after the proposals by management were allowed by arbitrators on the basis of time studies and engineering data, in most recent arbitrations the awards have been accepted promptly without serious resistances. In the past 6 months, the writer has participated in textile workload disputes in Maine and Massachusetts where weavers who objected to the management proposals finally accepted the arbitrator's award sustaining management's position. A substantial number of disputes over incentive rates have also been resolved in textile mills, shoe factories, garment, and metal products plants by arbitration of time-study data or production-standard proposals.

In many situations, the union officials are inclined to prefer that such disputes go to arbitration because of difficulty in getting the affected members to accept management's demands. Although not finding proposals inherently unreasonable, the union representatives may find it impossible to obtain assent. In such situations, the employer often initiates arbitration, or the union does so after a trial period.

Public and Neutral Influences

Labor legislation and local government policies influence management, labor, and industrial relations practices. In this respect, the three southern New England States have played an affirmative part. Each has enacted statutes covering insurance, factory legislation, and minimum wages for both men and women, all of which affect payroll taxes and costs. Each also has anti-injunction and fair employment practices laws.⁸

Massachusetts, Rhode Island, and Connecticut each has a labor relations act applicable to employees not subject to the Taft-Hartley law. No statutory restrictions on union security agreements exist in New England.⁹

State mediation and arbitration boards have been provided for by legislation in five States, Vermont being the sole exception. Massachusetts established the first such permanent board in the Nation in 1886. Connecticut also has a continuing tripartite organization with authority to intervene through mediation and to arbitrate differences when the disputing parties are willing to accept such services.

The Massachusetts board also has the statutory authority to investigate any important disputes on its own initiative and to publish a report when cooperation of the parties is not forthcoming. In addition, the legislature in 1947 enacted a bill authorizing the Governor to take several optional steps to prevent stoppages in industries furnishing essential services.¹⁰

Management Training

Collective bargaining and personnel work have developed to a professional level with emphasis on the job of management to handle labor relations effectively. Management training and labor relations programs, courses, and conferences,

offered in many local universities, make an important contribution to labor-management relations in New England and in the entire country. The availability of New England's outstanding labor economists has been an important influence on the evolution of mature attitudes within the area as well as beyond its borders.

While not confined to New England, the research and published materials in the labor relations and personnel field by those connected with the educational institutions of New England have had an impact on local thinking by reason of more direct contact and of the local publicity given to their ideas.

With the constant efforts at improving management performance, particularly in the direction of handling group relations and individuals affected by social situations, New England employers have been turning to the schools for trained personnel. Many companies not located here send their executives to New England universities for professional training or recruit management talent from students in the graduate or technical programs of New England schools.

Union Leadership

The competitive situation of New England producers presents problems for labor as well as for management. Many marginal situations exist, and continued employment opportunities often depend on lower labor costs. Therefore, bargaining has often required union members to make some difficult decisions. Labor representatives in many localities have learned from many harsh experiences their importance in influencing the decisions of union workers as well as in influencing management.

The impact of bargaining decisions on the industrial activity of a community can be serious

⁸ 12 States have enacted legislation on fair employment practices.

⁹ When the Federal act was revised in 1947, New Hampshire adopted legislation that made necessary the approval of two-thirds of the affected employees before a union membership agreement could be legally executed; it was repealed 2 years later.

As of 1954, an analysis of major agreements by the Bureau of Labor Statistics showed that 55 percent of the New England contracts provided for a union shop, 22 percent for maintenance of membership, 84 percent for dues checkoff, and 23 percent gave the union sole bargaining rights. (See Union Security Provisions in Agreements, 1954, Monthly Labor Review, June 1955, p. 654.)

¹⁰ Specifically food, fuel, water, electricity, gas, hospital, and medical facilities are covered; the law, generally acceptable to all groups, is popularly known as the Slichter act after Professor Sumner Slichter, of Harvard University, who was chairman of the recommending committee. (See Ch. 596 of the 1948 enactments.)

where competition precludes the passing on to consumers of higher costs. Management believes that one cause of New England's labor relations problems is the existence of too great a degree of union democracy. The main management criticism leveled at the union leaders comes from their failure to overcome membership resistance to needed changes, or membership insistence on non-competitive wage levels.

Educational programs have been undertaken by many of the New England universities in conjunction with union and management advisory groups. Most courses are directed toward the technical training of leaders, however, with little attention to business economics.

The Massachusetts Federation of Labor has introduced into the secondary schools labor essay contests for student scholarships; it also provides scholarships for assisting outstanding labor representatives to attend the Harvard Trade Union Fellowship Program, which is the only full-semester residence program tailored solely for labor leaders and conducted on the university campus. AFL-CIO unions formerly affiliated with the Congress of Industrial Organizations and some of New England's independent unions also sponsor conferences and support courses in conjunction with universities in the six New England States, as well as educational programs in their union halls with assistance from university teachers. The writer has participated in meetings directed to arbitration, legislation, and collective bargaining on wages, and helped plan a number of these undertakings in Massachusetts.

To draw upon the experience and competence of labor officials, local and national, can be extremely helpful to management in meeting the economic impact of industrial relations. As union officials can be an obstacle or an aid in the process of negotiating and administering agreements, they can be helpful to management in getting employee

cooperation, or they can be an adverse factor. In the judgment of the writer, management in New England has not done well in educating the union leaders as to management problems. Where the product is sold in a highly competitive market, improvement in understanding most often came only after harsh experience from a critical situation; sometimes this education has been useful only in other situations where the crisis may not have developed to a fatal stage.

Conclusion

New England, the oldest industrial section of the Nation, has been experiencing a substantial transition in labor relations and in economic activity. The capacity of management and of labor leaders has been severely tested in seeking to work out accommodations to the rapid economic changes. Inflexible attitudes have in some cases aggravated the impersonal economic forces underlying the difficulties. Labor unions and labor leaders today play significant roles along with industry's executives in determining the capacity of industry to meet the competition, and in influencing the job opportunities in New England communities. Situations in which poor labor-management relations have contributed to the liquidation or removal of plants are not uncommon, but costs, productive efficiency, and job security have been improved by mutual efforts in many other cases.

Generally improved labor relations and employment opportunities must come from more vision with less emphasis on the past. New England labor and management, to accomplish their common objectives to their mutual advantage, are faced with the need for working together to permit necessary changes. Industrial growth and better regional prospects can be enhanced by good management-labor relations, not only at the bargaining table but also in community affairs.

New England's wage levels are diversified, but in textiles the level in recent years has come closer to those of other regions.

Wages and Personal Income

PAUL MULKERN

THE ECONOMIC STATUS of any area may be measured by various yardsticks. Any of them, including employment, capital investment, productivity, and wages, to choose but a few, serve as useful tools in evaluating growth in a dynamic society. The present article is concerned primarily with wages of New England workers and how they compare with those elsewhere in the United States.

Wages, of course, mean many things to many people. To the employer, they represent the cost of hiring labor; to the market research analyst—potential purchasing power; to the sociologist—attainable levels in the standard of living; to the economist engaged in fiscal planning, they represent the largest single source of gross national income. To the worker, wages represent many of these things but principally the return for effort expended.

It is difficult to measure wage levels accurately for any broad geographic area. To a great extent, wages depend on the type of industry, skill of the worker, size of the firm, degree of unionization, and a host of other factors. As a result, wide differences within an area can and do exist.

Regional Wage and Income Levels

From the point of view of per capita personal income, New England compares very favorably with other areas of the United States. In 1955, per capita personal income for the 6 States was \$2,087 or approximately 13 percent above the national average. For the seven broad geographic areas of the country, the New England average was exceeded only by the States of the Far West (\$2,189) and the Middle East (\$2,100).¹

Within the six New England States, however, wide differences in income are apparent. Connecticut, the second highest State in the Nation in terms of per capita income, easily led the other States in the region in 1955 with \$2,499; followed by Massachusetts with \$2,097; Rhode Island, \$1,957; New Hampshire, \$1,732; Maine, \$1,593; and Vermont, \$1,535.

The excess of New England's per capita income over the national average has been steadily reduced from 25 percent in 1929 to 13 percent in 1955.² However, this same tendency to increase dollarwise, but at a decreasing rate, is noticeable in other industrialized areas. By contrast, regions with the lowest per capita income in past years, such as the Southeast, Southwest, and Northwest, have shown the greatest relative improvement.

Income from wages and salaries accounted for almost 70 percent of New England's income in 1954. The importance of manufacturing to the region is illustrated by the fact that almost a third of its personal income was derived from manufacturing, as compared with a fourth for the United States as a whole. Wholesale and retail trade accounted for a sizable but considerably smaller percentage, with slightly under one-eighth of the region's personal income attributable to this source.³

Although common historical bonds unite the six New England States, it would be a mistake to overemphasize the qualities which they have in

¹ Charles F. Schwartz and Robert E. Graham, Jr., Personal Income by States in 1955. (*In Survey of Current Business*, Washington, August 1956, pp. 8-10.)

² *Ibid.* (p. 8).

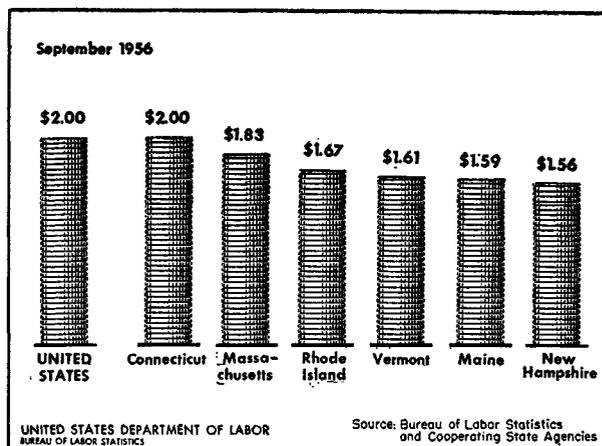
³ Charles F. Schwartz and Robert E. Graham, Jr., Personal Income by States, 1929-54. (*In Survey of Current Business*, Washington, September 1955, pp. 20-21.)

common, to the exclusion of important differences which exist. To use the obvious comparison, the economy of New Hampshire, with its dependence on shoes and textiles, is far different from the economy of Connecticut and its concentration on aircraft, brass, machinery, and other hard-goods industries.

In September 1956, gross average hourly earnings for production workers in manufacturing industries reached the \$2 mark for the first time in the Nation's history. Among the New England States, earnings varied by more than 20 percent, with Connecticut leading the other States with average earnings of \$2 an hour, followed by Massachusetts (\$1.83), Rhode Island (\$1.67), Vermont (\$1.61), Maine (\$1.59), and New Hampshire (\$1.56).⁴ (See chart.) State earnings varied considerably by area and by industry. Springfield, Vt., is a case in point where, because of the dominant machine-tool industry, gross average hourly earnings were only 4 cents behind the Connecticut statewide average. These statewide averages must be used cautiously, since they reflect, to a great extent, the industrial composition of the State and also the length of the work-week, since premium pay and shift differentials are included. During September 1956, average hours worked ranged from 39.4 in Rhode Island to 41.9 in Vermont.

Economically, there is strong justification for considering New England according to a north-south division. Earnings in Massachusetts, Connecticut, and Rhode Island are usually higher than in Vermont, Maine, and New Hampshire. The 1950 survey of Family Income, Expenditures, and Savings by the Bureau of Labor Statistics substantiated this general tendency. Annual money income of wage-earner and clerical-worker families for the eight New England cities included in the study ranged from \$4,689 in Middletown, Conn., to \$3,423 in Portland, Maine.⁵ Comparable income in the remaining cities was Hartford, Conn., \$4,246; Boston, Mass., \$3,886; Barre, Vt.,

Gross Average Hourly Earnings of Factory Production Workers



\$3,727; Providence, R. I., \$3,515; Bangor, Maine, \$3,513; and Laconia, N. H., \$3,485.

Wages in Soft-Goods Industries

Textiles. Important differentials between wage levels of textile plants in New England and those in the South have existed throughout the 20th century. As a result, many generalizations have been made leading to the erroneous conclusion that New England is a high-wage area. In the period 1922-26, New England mills maintained an average wage differential of 36 percent over southern plants.⁶ However, in ensuing years industrialization in the South gradually brought the two closer together. By 1939, the differential in the cotton-textile industry had been reduced to 20 percent and, at the time of the Bureau of Labor Statistics last occupational wage survey of that industry in November 1954, average straight-time hourly earnings⁷ of the industry's production workers in New England (\$1.32) were only 13 percent higher than the average (\$1.17) paid in the Southeast, where over 4 out of 5 workers in the industry were located.⁸

Probably a more meaningful comparison, however, can be made by type of product. New England mills have tended to concentrate on fine-combed cotton fabrics since, because of their skilled labor force and the lower proportion of raw material costs to total cost, they can operate more competitively with other areas. Workers in integrated mills or those performing the complete operation on fine-combed cottons averaged \$1.31

⁴ See table C-7, pp. 412-418 of this issue.

⁵ See Family Income, Expenditures, and Savings in 1950, BLS Bull. 1097 Revised, 1953 (pp. 17-41).

⁶ Report of the New England Textile Industry by Committee Appointed by the Conference of New England Governors, 1952 [Seymour E. Harris, chairman, Littauer Center], Cambridge, Mass. (p. 129).

⁷ Average straight-time hourly earnings exclude premium pay for overtime and for work on weekends, holidays, and late shifts and in this respect differ from gross average hourly earnings mentioned earlier.

⁸ See Earnings in Cotton Textiles, November 1954, Monthly Labor Review, May 1955 (p. 533).

an hour as compared with \$1.27 for similar operations in the Southeast. The differential for comparable products is obviously much less than that for all cotton-textile products, including carded yarn, duck cloth, and generally coarser fabrics which constitute the bulk of southern production.

North-South differentials also tend to vary by occupation. In November 1954, hourly wages for the more skilled occupations such as men loom fixers and weavers working on combed yarn fabrics in New England were \$1.67 and \$1.50, respectively, as compared with \$1.63 and \$1.44 in southeastern plants. In other occupations, however, in the unskilled and semiskilled categories, the differences were as high as 25 cents an hour.

In the manufacture of synthetic textiles, New England mills accounted for about 14 percent of the production workers employed in November 1954. Of the three major producing areas, highest hourly earnings of \$1.35 were reported in New England, with workers in mills in the Middle Atlantic States averaging \$1.32 and those in the Southeast, \$1.22 an hour.⁹

New England leads all other regions in the manufacture of woolen and worsted goods. In 1952, over 60 percent of all persons employed in the production of these goods worked in New England. Because of the greater skills required, their wages are generally higher than those in the cotton- and synthetic-textile industry. In the period April-May 1952, at the time of the latest occupational wage survey of the woolen and worsted goods industry made by the Bureau of Labor Statistics, average straight-time earnings for the entire industry were \$1.45 an hour as compared with \$1.50 an hour in New England mills. By comparison, average hourly earnings were slightly lower in the Middle Atlantic States (\$1.47) and considerably lower in the Southeast (\$1.19). These three areas combined accounted for over nine-tenths of the total employment in the industry.¹⁰

Footwear. New England traditionally leads other areas of the United States in the manufacture of footwear.¹¹ Since 1949, its share of the national output has been increasing, and currently over 37 percent of all footwear produced in the United States is manufactured in New England. In 1953, straight-time average hourly earnings in the New England and Middle Atlantic regions were

about 6 percent higher than in the Great Lakes area and 10 percent higher than in the Middle West.¹² The four areas represent the main shoe producing areas of the country.

The favorable ranking of New England was partly explained by the fact that about half of its shoe workers were engaged in the production of women's cement-process shoes, conventional lasted—the process for which wages were highest. Most of its remaining workers were producing men's Goodyear welt dress shoes, the next highest paid group.

Wages in Metalworking

Nonelectrical Machinery. In the latter part of 1946, machinery (except electrical), the largest major group within the metalworking industries, employed about 12 percent of all New England workers engaged in manufacturing. During the succeeding 10 years, there have been only slight variances from year to year. BLS studies illustrate very clearly the importance of this industry to New England. Average straight-time hourly earnings in 1956 for about half of all occupations studied in three major New England machinery centers—Boston, Worcester, and Hartford—were over \$2 an hour.¹³ Rates in Hartford were generally higher than in the other two cities and ranged from \$1.52 an hour for janitors to \$2.35 for tool and die makers. Boston rates, ranging from \$1.43 to \$2.24 for the same occupations, were slightly below those in Worcester.

Compared with machinery workers' earnings in other areas studied, those in New England cities lagged behind. Earnings in the industry were typically highest in the Detroit area, with high levels also characteristic of other cities in the Great Lakes region, Pittsburgh, and, for highly skilled jobs, St. Louis. A ranking of earnings for skilled machine-tool operators¹⁴ in 21 major ma-

⁹ See *Earnings in Synthetic-Textile Manufacturing*, November 1954 *Monthly Labor Review*, June 1955 (p. 659).

¹⁰ *Woolen and Worsted Textiles Earnings in April-May 1952*, *Monthly Labor Review*, October 1952 (p. 403).

¹¹ For a discussion of the region's footwear industry, see p. 310 of this issue.

¹² *Earnings of Shoe Workers*, March 1953, *Monthly Labor Review*, January 1954 (p. 40).

¹³ *Wage Structure: Machinery Manufacturing*, Winter 1955-56, BLS Report 107, 1956 (pp. 8-9).

¹⁴ This occupational classification includes production workers of a journeyman level of skill working on such machines as drill presses, engine lathes, milling machines, and similar types of machine tools. It represents the broadest classification with the largest number of employees for which comparison is possible.

chinery areas showed a wide dispersion—from \$2.89 in Detroit to \$1.89 in Dallas. Hartford ranked in 17th position, Worcester in 19th, and Boston in 20th place (See table 1.)

However, although New England did not rank among the wage leaders in the machinery manufacturing industry, it nonetheless has succeeded in maintaining its relative position. During the period 1945–56, wages in the 21 key machinery areas combined increased 98.3 percent. In this same period, the advance in Hartford (99.1 percent) was slightly above the overall average and that in Boston (96.4 percent) slightly lower. (The increase for Worcester, although included in the 21-area average, was not published separately.)

Other Metalworking Industries. The steady growth of transportation equipment and electrical machinery has also been of great importance in New England's progress. These industries have brought to New England manufacturing not only a highly desirable degree of diversification but also higher wages. During the past 6 years, for example, wages of Massachusetts production workers in electrical machinery increased from \$1.43 an hour in October 1950 to \$1.82 in October 1956, and in transportation equipment from \$1.66 to \$2.35 an hour during the same period.¹⁵ These industries represented 27 percent and 8 percent, respectively, of production workers employed in Massachusetts durable-goods manufacturing in October 1956.

Community Wage Levels

The community wage survey has proved a successful tool in measuring the general wage level of labor market areas and has made it possible to compare wages in various communities both within a region and among different regions. This type of survey covers a wide range of occupations common to a variety of industries: manufacturing; transportation and public utilities;

¹⁵ See Massachusetts Nonagricultural Employment, 1939–1953, and Manufacturing Hours and Earnings, 1950–1953, Massachusetts Department of Labor and Industries, 1954; also Total Manufacturing Employment and Earnings of Production Workers in Massachusetts, October 1956, Massachusetts Department of Labor.

¹⁶ Wage Differences Among 40 Labor Markets, Monthly Labor Review, December 1952 (p. 620).

¹⁷ Statistical Abstract of the United States: 1956 (77th ed.), U. S. Bureau of the Census, 1956 (p. 113).

TABLE 1.—*Employment and average straight-time hourly earnings for machine-tool operators, production, class A, in 21 cities, winter 1955–56*

City	Number of workers	Average straight-time hourly earnings
Detroit.....	10,731	\$2.89
St. Louis.....	959	2.49
Chicago.....	7,794	2.43
Pittsburgh.....	2,420	2.42
Milwaukee.....	2,607	2.41
Cleveland.....	5,470	2.40
Philadelphia.....	3,190	2.37
Denver.....	227	2.37
Los Angeles-Long Beach.....	3,769	2.32
San Francisco-Oakland.....	1,375	2.31
New York.....	2,539	2.30
Newark-Jersey City.....	2,528	2.28
Portland (Oreg.).....	351	2.26
Minneapolis-St. Paul.....	2,330	2.24
Houston.....	1,344	2.24
Buffalo.....	922	2.23
Hartford.....	1,348	2.19
Baltimore.....	622	2.18
Worcester.....	1,143	2.11
Boston.....	2,446	2.09
Dallas.....	429	1.89

SOURCE: Wage Structure: Machinery Manufacturing, Winter 1955–56 BLS Report 107, 1956 (pp. 8–9).

wholesale and retail trade; finance, insurance, and real estate; and selected service industries.

A study of 40 labor market areas in 1952 revealed basic and important differences among the areas. Generally, wages were highest in cities along the Pacific Coast and in the Great Lakes region, with cities in the Middle Atlantic area usually higher than in the South and in New England.¹⁶

This study indicated wide differences in the wage levels of office workers among New England cities, which ranked as follows: Hartford, 16th; Boston, 27th; Worcester, 32d; and Providence, 38th. Weekly salaries in the last-named city were less than 75 percent of those received by office workers in San Francisco and Detroit, the highest ranking of the 40 cities surveyed.

Several factors appear significant in explaining the relative position of New England office workers. Among these are the industrial composition of the area, wage levels in the various industries, and the supply of office workers relative to existing demand. Residents of the New England States have one of the highest educational levels in the United States; their average of 10.4 school years completed compares with a national average of 9.3 school years completed.¹⁷

In the 1952 study of 40 major labor market areas, intercity wage relationships for selected plant occupations were generally similar to those for office workers except that pay levels in southern

TABLE 2.—Average weekly salaries or average hourly earnings¹ for selected occupations in 3 New England cities, by sex, selected months, 1956

Occupation and sex	Law- rence	Provi- dence	Boston
	Febru- ary 1956	March 1956	Sep- tem- ber 1956
Average weekly salaries ¹			
Women office workers:			
Clerks, accounting, class A.....	\$59.50	\$58.50	\$65.50
Clerks, file, class B.....	40.50	42.50	44.50
Clerks, payroll.....	49.00	52.50	59.00
Secretaries.....	67.00	61.50	67.50
Stenographers, general.....	54.50	51.50	58.50
Average hourly earnings ¹			
Skilled men workers:			
Carpenters, maintenance.....	\$1.71	\$1.98	\$2.22
Electricians, maintenance.....	1.91	1.95	2.32
Machinists, maintenance.....	1.84	2.00	2.30
Pipefitters, maintenance.....	1.81	1.96	2.24
Tool and die makers.....	2.15	2.31	2.51
Men custodial and material movement workers:			
Janitors, porters, and cleaners.....	1.19	1.31	1.42
Laborers, material handling.....	1.32	1.50	1.61
Truckdrivers, medium (1½ to and including 4 tons).....	1.54	1.82	1.86

¹ Average weekly salaries are standard salaries paid for standard work schedules. Average hourly earnings are straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts.

SOURCE: Occupational Wage Surveys, Lawrence, Mass., Providence, R. I., and Boston, Mass., BLS Bulls. 1188-11, 1188-14, and 1202-4, respectively.

areas were considerably lower than in New England cities for custodial, warehousing, and shipping jobs, but for the skilled maintenance crafts they compared favorably. Within New England, pay levels for maintenance, custodial, warehousing, and shipping occupations were generally highest in Boston, followed by Hartford, Worcester, and Providence in that order.¹⁸

In the 1955-56 community wage surveys of 17 areas, pay levels in Providence (the only New England area included) ranked 16th for women office workers, 17th for skilled maintenance workers, and 13th for custodial and material movement employees.¹⁹

In recent years, largely because of the relocation and consolidation of textile plants, several New England labor markets have been plagued by a substantial labor surplus. Although there are some data on the economic and social effects of such conditions upon the labor force, little information has been available on their impact upon wages. In February 1956, at the urging of local community groups, the Bureau of Labor Statistics conducted a full-scale community wage survey of the Lawrence, Mass., area. Lawrence at one time was the center of the woolen and

worsted industry and, as recently as 1941, about 80 percent of its 37,000 manufacturing employees were engaged in the production of textile goods. By 1956, however, slightly less than 6,000 workers, or approximately one-fourth of its factory work force, were so employed.

Severe hardships resulted from the curtailment of textile production and, in 1949, an estimated 21,000 persons were unemployed. Although great improvement had taken place by the time of the BLS survey in 1956, an estimated 6,000 were still unemployed.

Table 2 shows comparative scales in Boston, Lawrence, and Providence, for all occupations for which comparison is possible. Although the Lawrence and Providence surveys were made 7 and 6 months, respectively, before the Boston study, several general conclusions can be drawn. Even if allowance had been made for the increases which probably occurred in Lawrence and Providence in the interim, wages would have varied considerably among the three cities although they are less than 70 miles apart. Rates were considerably higher in Boston than in the other two cities. Differences were most clearly apparent in the skilled maintenance trades, where Boston hourly rates ranged from 36 to 51 cents above those in Lawrence and from 20 to 37 cents more than in Providence.²⁰ In the office and custodial and material movement occupations, differentials also existed but not to such a marked degree.

Union Wage Scales

Rates paid in the building trades also serve as a useful barometer of a region's wage structure. In January 1957, bricklayers in nine New England cities studied quarterly by the Bureau of Labor Statistics earned \$3.25 an hour or higher. By contrast, the union scale for building laborers was slightly over \$2 an hour, except in Portland, Maine, where it was \$1.95.

Because of local bargaining patterns, wages in construction trades vary from city to city and from region to region. Data from the more comprehensive BLS annual survey of union scales in the building trades show that on July 1,

¹⁸ See Wage Differences Among 40 Labor Markets, op. cit. (p. 622).

¹⁹ See Earnings and Wage Differentials in 17 Labor Markets, 1955-56, Monthly Labor Review, September 1956 (p. 1045).

²⁰ Occupational Wage Surveys, Lawrence, Mass., Providence, R. I., and Boston, Mass., BLS Bulls. 1188-11, 1188-14, and 1202-4, respectively.

1956, for all building trades workers (journeymen, helpers, and laborers) in New England, average hourly wage rates were \$2.85 an hour.²¹ By contrast, the national average was \$3.04 an hour and the range for 9 major geographical regions was from \$3.31 in the Middle Atlantic States to \$2.56 in the Southeast (table 3).

Related Wage Practices

In recent years, considerable attention has been given to fringe benefits. Whether considered as a cost item to management or as a social gain to labor, there can be little question of the need to consider them when discussing wages.

Results of previous surveys in the cotton, synthetic, and woolen and worsted textile industry reveal that New England production workers were granted paid holidays to a greater degree than those in other areas. Approximately 9 out of 10 New England textile workers received 6 or more paid holidays in all 3 segments of the industry. In the Middle Atlantic States, paid holiday provisions were about the same except in synthetic textiles where only about half the plant production employees received 6 or more paid holidays. By contrast, in both cotton and synthetic textiles in the Southeast only about 1 out of 5 production workers received paid holidays, usually 1 or 2 holidays a year. In plants manufacturing woolen and worsted textiles in the Southeast, about 1 out of 10 production workers received 6 paid holidays a year, while about 8 out of 10 received no paid holidays.

In footwear, among the major producing areas, 3 out of 5 production workers in the New England and Middle Atlantic areas received 6 or more paid holidays, while the percentage was slightly higher in the Great Lakes region and considerably higher in the Middle West where slightly over 9 out of 10 plant workers received 6 or more paid holidays.

The 1955-56 series of machinery surveys in 21 areas of the United States reveals that in Boston and New York a majority of plant employees received 8 or more paid holidays and about a third of the workers received 9 or more paid holidays. In Worcester and Hartford, three-fourths of the plant employees in these areas received 7 or

TABLE 3.—Average union hourly wage rates in the building trades by region, July 1, 1956

Region	Average hourly rate
All building trades.....	\$3.04
Middle Atlantic.....	3.31
Great Lakes.....	3.15
Pacific.....	3.00
Middle West.....	2.97
New England.....	2.85
Border States.....	2.82
Mountain.....	2.74
Southwest.....	2.73
Southeast.....	2.56

SOURCE: Union Wages and Hours: Building Trades, July 1, 1956, BLS Bull. 1205, 1957.

more paid holidays. By contrast, the predominant practice in 10 of the 21 areas was to grant 6 paid holidays during the year.

In the footwear industry, the majority of New England shoe workers in 1953 received 1 week's vacation after 1 year of employment and 2 weeks after 5 years. When the 4 principal shoe-producing areas are ranked according to the percentage of workers receiving 2 weeks after 5 years' service, the Middle West area leads, followed by the Great Lakes, New England, and Middle Atlantic areas in that order.

Paid vacation policies applying to New England production workers in the textile industry were generally superior to other sections of the United States. In cotton and synthetic textiles, New England plant employees typically received vacation benefits based on a percentage of the individual's annual earnings; namely, 2 percent after 1 year, 3 percent after 3 years, and 4 percent after 5 years. Provisions in the Middle Atlantic States were not as extensive as in New England but more liberal than in the Southeast where less than 1 in 10 plant employees received additional vacation provisions after 3 years of service. In woolen and worsted textile mills also, New England vacation provisions for plant employees were usually more liberal than those in the Southeast and slightly higher than those applying to plant employees in woolen and worsted mills in the Middle Atlantic States.

In the broad area of health and insurance plans, New England textile workers also received benefits to a greater degree than in the Middle Atlantic and Southeast areas. However, in both textiles and footwear, coverage under pension plans was extremely limited both on a national and regional basis. About 10 percent of New England plant

²¹ Union Wages and Hours: Building Trades, July 1, 1956, BLS Bull. 1205, 1957.

employees were covered under pension programs; but in footwear coverage was even more limited, with only 2 percent of the area's shoe workers covered under a pension program.

However, in contrast to the relatively low proportion of plant workers covered by pension plans, over three-fourths of all New England production workers in cotton and about one-half of those in synthetic textiles were covered by retirement severance pay plans calling for stated amounts for each year of service.

This emphasis on retirement severance plans as opposed to pension programs is due to a number of factors, but primarily to the contracting nature of employment and relative instability of the industry, plus the cost of a pension program.

Comparative Living Costs

One final standard can be used in evaluating the relative position of New England wage earners. Wage statistics have considerably more meaning when considered in relationship to prices. Although current statistics are not available on intercity comparisons of the cost of living, the 1951 City Worker's Family Budget can be used to advantage.²² This budget is defined as "the annual cost of a modest but adequate level of living" for a four-person urban family. The cost of this budget, at October 1951 prices, in 34 major cities ranged from \$3,812 in New Orleans to \$4,454 in Washington, D. C. Boston ranked in the top third, with an estimated budget of \$4,217, which was exceeded in such cities as Milwaukee, Richmond, and Los Angeles. New York and Philadelphia had budgets considerably below the Boston figure—\$4,083 and \$4,078, respectively. The estimated cost of this same level of living in Manchester, N. H., was \$4,090 and in Portland, Maine, \$4,021.

This budget has not been recomputed since 1951. However, some measure of price change is available in the Consumer Price Index which in October 1956 was 117.7 (1947-49=100) or 5 percent above October 1951 for the United States as a whole. The index for Boston had risen to 119.3, or 7.1 percent over its level for the earlier period.

²² City Worker's Family Budget for October 1951, *Monthly Labor Review*, May 1952 (p. 520).

Summary

Wages and income in New England generally advance and decline in the same manner as they do in other sections of the United States. The principal exception to this tendency is found in the textile industry where wages are usually set by bargaining taking place within the region. Within New England, wages and income vary by area, industry, and level of skill. Wages and income are generally higher in the southern half of New England and particularly in Connecticut. Furthermore, within the States themselves important wage differences exist. In Massachusetts, for example, occupational wage differences are clearly evident for comparable jobs in the Lawrence and Boston areas. The substantial unemployment problem that has existed in Lawrence in recent years appears to be one of the important factors contributing to this difference in wages.

In two principal soft-goods industries—shoes and textiles—wages in New England are higher than those in other regions, although the differential has been narrowing in recent years in the case of textiles. In relation to other areas of the United States, wage levels in New England cities generally rank below cities of the Pacific Coast, Middle West, and Middle Atlantic States. On the other hand, pay levels of office workers in southern cities and in New England correspond closely, while plant workers on indirect jobs (maintenance, custodial, warehousing, and shipping) in New England generally have higher pay levels than their counterparts in the South.

The most noticeable trend in recent years has been for light-weight metal fabricating and assembly companies to locate in New England. Existing wage rates and an industrialized work force have offered a fertile field for manufacturers of electronic equipment. This has been especially noticeable in Massachusetts. In a similar manner, the machine-tool industry in Connecticut has added new firms because of a wage differential favorable in relation to other areas. In many cases, these newly arrived manufacturers of durables pay higher wages than the soft-goods industries which in former times set the pace for the New England economy. At the same time, the new industries mean increasing diversification of the New England economic scene.

Improvement has taken place in those New England areas which have been stricken by severe unemployment, but some difficult problems remain to be solved.

The Problem of Depressed Areas

WILLIAM H. MIERNYK

THE IMPACT of the recession of 1947-49 was unusually severe in New England. In addition to the cyclical rise in unemployment, certain structural changes were taking place in the regional economy which added to total unemployment. Industrial activity declined from 1947 through 1949. Insured unemployment in New England passed the 350,000 mark during the second quarter of 1949.¹ Total unemployment was in excess of this, since some workers had exhausted their unemployment compensation benefit rights, and others were not covered by unemployment insurance.² In Massachusetts and Rhode Island, the unemployment compensation reserve funds were threatened with depletion.³

In July 1949, the trend was reversed. Production and employment began to increase; and by the outbreak of the Korean conflict, in June 1950, the revival was well under way. During the hostilities, employment and production remained at high levels. The recession had ended, but it left behind a serious problem of localized unemployment. While the region as a whole enjoyed prosperity, it was dotted with a number of seriously depressed areas.

During the recession, employment had declined in all industries. But following a brief revival in 1950 and 1951, employment in the New England textile industries resumed the secular decline which had been halted during World War II and the immediate postwar period. At that time, the textile industry group was still the largest employer of industrial labor in the region.

The consequences of the decline in textiles could have been disastrous for the entire region. But during the revival of late 1949, the communications equipment industry began to expand rapidly in New England, and to many observers it appeared that this transition in industrial structure, while producing temporary problems, was actually strengthening the regional economy.⁴ Concern over the decline in textile employment was mitigated by the growth of employment in electronics. And as this growth proceeded, there was an increasing tendency in the region to view the transition optimistically.

In terms of aggregate employment, production, and incomes, New England's recovery from the recession appeared to be progressing satisfactorily. But the rate of unemployment in New England remained well above the national average. It soon became evident that new industry was not growing in the same areas in which old industry was declining. Also, while some of the workers who had been displaced by the closing of textile mills were finding jobs in the communications equipment and other growth industries, this

¹ The Economic State of New England, New Haven, Yale University Press, 1954 (p. 310).

² See Employment and Unemployment Statistics, Hearings before the Subcommittee on Economic Statistics, Joint Committee on the Economic Report (84th Cong., 1st sess.), Nov. 7, 1955 (pp. 33-35).

³ A contributing factor in Massachusetts was the inadequate unemployment compensation tax policy which failed to provide an adequate reserve fund. See Report on Unemployment Compensation Benefit Costs in Massachusetts, Massachusetts Department of Labor and Industries, Division of Employment Security, Boston, August 1950 (p. 6); and Benefit Financing and Solvency of the Employment Security Fund in Rhode Island, Rhode Island Department of Employment Security, Providence, November 1950 (p. 33, ff.).

⁴ The Economic State of New England, op. cit. (pp. 14-17).

shift in employment was not as widespread as many believed. The level of unemployment remained high in the textile towns, hard hit by the liquidation or outmigration of mills. Thus, when the minor recession of 1953-54 occurred, there was a sharp rise in unemployment in many of these communities. Since then, conditions have slowly improved, but the problem of localized unemployment has not been solved yet in all of the region's depressed areas.

Failure to Adapt to Change

Some depressed areas in New England rebounded quickly from the loss of textile jobs. New manufacturing establishments moved into these communities to take up the slack. To some extent, the quick recovery of these areas was due to effective local redevelopment activities.

In Nashua, N. H., for example, an announcement in 1948 of a proposed liquidation of a large mill formerly operated by Textron, Inc., produced a strong public reaction. The Textile Workers Union of America and other groups protested the liquidation so vigorously that a congressional investigation was held.⁵ The publicity, among other things, led the company to initiate and support an effective redevelopment program. Portions of the mill building were occupied by new and smaller establishments, and the economic base of the community became somewhat more diversified. In many ways, however, the experience of Nashua is a special case. Manchester, N. H., likewise became a surplus labor area owing to the loss of textile jobs, and there has been a similar growth of new and more diversified manufacturing establishments in this community. But recovery in Manchester proceeded far more slowly than it had in Nashua.

Redevelopment activities in other communities have been less successful. The communities of Lawrence, Lowell, Fall River, and New Bedford in Massachusetts, and Providence, R. I., were classified as surplus labor areas for a major part of the past 8 years.⁶ While the employment situation in all of these areas has improved since 1954, Lawrence, Lowell, and Providence have not fully recovered from the shock of the recession of 1948-49. And it was not until late in 1956 that

Fall River and New Bedford were removed from the labor surplus category.

For a number of reasons, these communities adapted to change only slowly and with considerable difficulty. The liquidation of textile mills provided a vast amount of vacant factory space, but this was often unsuitable for other types of manufacturing operations. Until recently, these areas were largely bypassed by the growth industries, some of which expanded in smaller, less industrialized communities, while others located in or near the Boston Metropolitan Area, where a large cluster of electronics establishments has appeared.

A further explanation of the slow adaptation to change is to be found in the characteristics of the workers displaced by the outmigration of textile mills. A substantial proportion of these workers were well past middle age; and while they may have had many years of textile employment ahead of them, they became marginal workers with the loss of their jobs. The more mobile, younger displaced workers frequently migrated to jobs in other areas. New establishments which located in these areas usually chose the younger members of the labor force, and some employed a large proportion of women. Thus, the average age of the unemployed workers remaining in the depressed communities was raised. The older, male workers in the community were not easily reemployed.

Initially, redevelopment activities in these communities relied heavily upon advertising the availability of labor and vacant plant space. Only in recent years have local redevelopment agencies taken positive steps, such as the development of industrial parks and the construction of modern plant buildings, in an effort to attract new types of industry.

⁵ Investigation of Closing of Nashua, N. H., Mills and Operations of Textron, Inc., Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce, U. S. Senate (80th Cong., 2d sess.), Pt. 1, 1948.

⁶ The Bureau of Employment Security classifies areas, according to relative adequacy of labor supply, into six major categories designated by letters ranging from A to F. Group A reflects the relatively greatest labor scarcity; group C denotes a rate of unemployment about in line with the national average; and D, E, and F are designated as areas of substantial labor surplus, with F denoting the relatively greatest surplus. A more comprehensive definition of area classifications appears in the Bimonthly Summary of Labor Market Developments in Major Areas, Bureau of Employment Security, U. S. Department of Labor.

Magnitude of the Problem

It is difficult to make an accurate estimate of the number of chronically unemployed in a depressed area. Theoretically, it is possible to make adjustments for unemployment due to seasonal and cyclical causes and to allow for frictional unemployment. In practice, however, it is difficult to make accurate estimates of the number of workers unemployed owing to secular or structural change. Moreover, there are other problems involving the definition of an unemployed worker. Only those workers in a labor market area who are without jobs and actively seeking work are counted as unemployed. However, there are persons in the depressed areas of New England who are available and interested in further employment, but who have given up an active search for a job. These are often older women, with long records of employment in textile mills. After the loss of their textile jobs, some continued to register at the local employment office for 2 or 3 years. But eventually, failing to find work, they discontinued an active search for a job, although they continued to desire further employment.

If the labor force of a community is defined as estimated total employment⁷ plus the unemployed, the following tabulation, presenting unemployment as a percent of the labor force, provides a measure of the problem in the 5 New England labor market areas in which chronic unemployment has been most serious during the past 8 years.

	<i>Unemployment as a percent of the labor force¹ (annual averages²)</i>				
	1952	1953	1954	1955	1956
Lawrence, Mass.-----	23.1	19.0	24.1	16.4	10.2
Lowell, Mass.-----	7.6	6.5	10.5	8.8	6.8
Fall River, Mass.-----	11.2	5.4	9.3	6.1	6.3
New Bedford, Mass.---	6.9	5.7	11.3	8.6	6.1
Providence, R. I.-----	8.4	6.1	12.3	8.7	8.0

¹ Total estimated employment plus unemployed.

² Averages based on bimonthly data (January, March, May, July, September, and November).

SOURCE: Unpublished data provided by Bureau of Employment Security, U. S. Department of Labor, as reported by the Massachusetts Division of Employment Security except for Providence.

⁷ Total employment includes nonagricultural wage and salaried workers, nonagricultural domestic, self-employed, and unpaid family workers, and agricultural workers.

⁸ In July 1952, for example, there was an arbitrated wage cut of 6½ percent in the northern cotton-rayon textile industry.

The preceding tabulation illustrates the effect upon depressed areas of a cyclical rise in unemployment from a high base of chronic localized unemployment. Between 1952 and 1953, there was a decline in unemployment in all of the selected areas. But the recession that began in late 1953 sent unemployment figures upward again in all the selected areas, and except for Fall River, they were higher in 1954 than they had been in 1952. Since 1954, the number of unemployed has declined in all of the areas listed in the tabulation. By the end of 1956, Fall River and New Bedford had been reclassified as group C, or moderate labor surplus areas, but Fall River was again reclassified in January 1957 to the group D substantial labor surplus category. Further contraction of textile employment, whether cyclical or secular, could again create some of the problems these communities have faced in the past.

Effects upon the Community

The existence of a substantial pool of unemployed in a community tends to exert downward pressure upon the general wage structure of the community. Wages of unionized workers covered by national or regional agreements in nondepressed industries will not be affected. But it is difficult for unions in depressed industries to negotiate increases in the general wage level. At times, indeed, workers in these industries have been forced to accept wage reductions in the face of a rising general wage level.⁸ In addition, the availability of a substantial number of unemployed workers tends to attract certain types of low-wage establishments such as textile jobbing shops, certain types of garment factories, and other small establishments seeking to obtain workers at the lowest possible wages. Some of the displaced workers, long unemployed, have balked at the low wages, but others have been forced by necessity to accept them.

Labor-management relations likewise may become strained. Establishments which continue to operate in these communities may resist wage increases or even seek to impose wage cuts. These are strenuously resisted by unions, reluctant to give up gains achieved after a long and, at times, costly struggle.

The local economy, of course, suffers. Trade and service establishments curtail the level of their operations. Secondary unemployment occurs, induced by the decline in local manufacturing employment. If local business conditions are bad, the community may not be able to properly maintain its social capital. Streets, sewer systems, schools, etc., will not receive proper maintenance. If, in addition, there is substantial outmigration of population from the community, some facilities will not be fully used. Consequently, there is a waste of social capital in addition to its deterioration.

State and Local Community Remedial Efforts

Until quite recently, the redevelopment of depressed communities was considered to be essentially a local matter and in practice depended upon local initiative and activity. Some local development programs have been successful in encouraging sound local growth, as in the case of Nashua, N. H. But others have been able to do little to improve local conditions. Some local development organizations, in their anxiety to provide work for the unemployed, have encouraged the location of manufacturing establishments in their communities which later proved to be unstable. Because there is a rapid turnover of such establishments, they do little to reduce the level of unemployment.

In New England, development activities within communities have not been coordinated by state-wide agencies. Each community agency has sought to solve local problems by its own means. Some have attempted to fill vacant factory space with new establishments. Others have developed industrial parks and constructed modern plant buildings, hoping thus to induce manufacturers from outside to locate in their areas. There is no evidence that development credit corporations, the new type of financial institution pioneered in New England and designed to encourage the development of indigenous businesses, have made a significant contribution to the redevelopment of depressed areas.⁹ Probably to a greater extent than elsewhere, the problem of rehabilitating depressed areas in New England has been narrowly conceived and efforts to solve the problem have been largely restricted to local activities. State agencies have, of course, assisted local development groups. But

with few exceptions, State development organizations have been unable to concentrate upon the redevelopment of specific communities.¹⁰

By way of contrast, Pennsylvania now has a State agency to deal with this problem.¹¹ And in southern Illinois, localized unemployment is viewed, to some extent at least, as an area rather than a local problem, and is being attacked at the area level.

At the present time, conditions in New England are reasonably good. The secular, downward drift in textile employment has slowed down, and there has been a rise in employment in other industries. Moreover, there has been improvement in the employment situation in the depressed areas. But with a cyclical downturn in employment, the situation in those depressed areas which are not yet fully rehabilitated would again worsen. As in the past, they would enter a recession with relatively high levels of unemployment.

Proposed Federal Legislation

In their report of January 1956, the Council of Economic Advisers recognized that "the fate of distressed communities is a matter of national as well as local concern."¹² Congressmen, as well, have recognized that the long-run solution of this problem would depend upon a concerted attack. Several bills to provide assistance to depressed areas were introduced into the 84th Congress. One bill, bearing administration approval, was introduced by Senator H. Alexander Smith of New Jersey. A bill on this subject was also introduced by Senator Paul H. Douglas of Illinois.

Both bills would have provided loans and technical assistance to depressed areas. In addition, the Douglas bill would have provided supplementary compensation to workers who had exhausted their unemployment benefit rights, while the latter were undergoing training for new jobs. The Smith bill did not come to the floor of the Senate for debate. In the final days of the 84th Congress, a modified version of the Douglas

⁹ See *New England Development Credit Corporations* (*in* Monthly Review, Federal Reserve Bank of Boston, July 1954 (pp. 1-8), and August 1954 (pp. 1-8); especially, Purpose of Loans).

¹⁰ Rhode Island is a notable exception. Since Providence is the only major labor market area in this State, the State development commission has devoted considerable attention to its redevelopment.

¹¹ In 1956, Pennsylvania enacted an Industrial Development Authority Act which provides loan funds to depressed areas in that State.

¹² Economic Report of the President, January 1956 (p. 61).

bill was passed in the Senate by a vote of 60 to 30. It did not come to a vote in the House of Representatives, however, and thus did not become law. There is still, however, much support for Federal assistance, both in Congress and among various private organizations. In his 1957 Economic Report, President Eisenhower proposed the establishment of an Area Assistance Administration Program in the Department of Commerce to revitalize areas with long-standing unemployment.

Some private organizations, however, including a few which are engaged in development or promotional activities, have opposed Federal aid to depressed areas. At a meeting of the New England Council devoted to the problem of depressed areas, held in February 1956, a resolution was passed opposing Federal aid. And at the 1956 meeting of the Association of State Planning and Development Agencies, representatives of some New England States voiced strong opposition to Federal assistance.¹³

Conclusions

Local development organizations in New England are continuing their efforts to create new jobs for the substantial number of unemployed in depressed areas. But because of the improvement in most of these areas during the past 2 years,

interest in the problem of area redevelopment has waned outside the affected communities. Past experience suggests, however, that even a relatively mild recession such as that of 1953-54 will reveal that much remains to be done before the problem of depressed areas is solved. And while the decline of textile employment in New England has slowed down, it has not been halted. Periodically, there is an upsurge in unemployment in one of the depressed areas as still another mill is closed.

There is a strong conviction in some quarters that the problem of localized unemployment is a matter of national rather than local concern. And an excellent case has recently been made for spending substantial sums to reemploy displaced workers on the grounds that the savings in unemployment compensation would more than offset the direct and social costs involved.¹⁴ There has been some support for such a program in New England; but at the same time, some of the most articulate groups in the region have voiced strong opposition to Federal aid. A Federal program of area redevelopment remains a distinct possibility, however, and if enacted will benefit the region in spite of this opposition.

¹³ Proceedings, 11th Annual Convention, Association of State Planning and Development Agencies, Boston, 1956 (pp. 30-31).

¹⁴ Arnold C. Harberger, The Economics of the President's Economic Report, *Journal of the American Statistical Association*, September 1956 (p. 458).

Only those [workers] who managed to accumulate a little property were allowed to vote; and everywhere the brand of inferiority was stamped upon them. When the son of a Boston bricklayer was elected to the office of justice of the peace in 1759, the right to the office was attacked on the ground of his low social origins; and his defense was not the dignity of his calling but a reply that the charges were false.

—Charles A. and Mary R. Beard, *The Rise of American Civilization*, New York, Macmillan Co., 1927, Vol. I (p. 131).

Labor Turnover in Textile Mills

With many young workers taking jobs in New England's cotton and synthetic textile mills, management faces the challenging task of retaining and training them.

LEONARD ARNOLD

MANY INVESTIGATIONS have been conducted and much has been written in recent years of the plight of New England's textile industry, its losses, and the impact of these losses on the New England economy. The barrage of material calling attention to the decline of the industry has emphasized the negative aspects and has overlooked certain positive features.

One of these positive features is the fact that younger workers are taking jobs in New England's textile mills and compose a high proportion of new hires. This fact, combined with the fact that there are a substantial proportion of younger persons among job applicants tends to indicate the erroneousness of the popular belief that people are not attracted to work in New England textile mills.

These facts and other data available for the first time are the results of a study by the Northern Textile Association of labor turnover in New England cotton and synthetic textile mills.¹ The period selected for study was the first half of 1953—a period of stability at a relatively high level in both the New England cotton and synthetic textile industry and the New England economy generally. It is, therefore, a particularly useful period for the purpose of studying labor turnover.

In brief, the study showed that although a majority of the work force in New England cotton and synthetic textile mills was 40 years of age or over, with an average age of 43, employees with less than a year's service had an average age of 33, and 48 percent of them were under 30. In addition, 44 percent of job applicants were also under 30 years.

The separation rate in New England cotton and synthetic textile mills was significantly lower than in all-manufacturing industries in various local labor markets and was also below the average for the national cotton and synthetic textile industry. While a high proportion of total separations for the New England industry was composed of quits, the majority of persons quitting were employees with less than a year's service who were apparently shopping for what would be their permanent jobs.

The existence of this situation, however, presents a very real challenge to textile mill managements. Time, effort, and study should be devoted to solving the problem of retaining the younger workers who comprise such a large proportion of the new employees.

Composition of the Work Force

The work force of the New England cotton and synthetic textile industry was almost evenly divided between men and women, with men comprising 52 percent of all production and related workers. The average age of men was 43.6 years and of women, 42.7 years. The proportions of the work force at various age levels were as follows:

	<i>Percentage of the work force</i>
Under 30 years.....	19
Under 35 years.....	28
Under 40 years.....	40
40 years and over.....	60
45 years and over.....	48
50 years and over.....	36

¹ The sample consisted of 20 cotton and synthetic textile mills, employing 15,429 production and related workers, selected to be representative of the New England industry's locality, product, and size of mill.

The high proportion of older workers in the work force poses some rather specialized problems for New England's textile mills. What impact does an aging work force have on productivity and the competitive position of the New England mills? Do the factors of experience and skill offset or even outweigh the physical advantages of youth? Are the advantages of stability and maturity—characteristics of an older work force—an offset to the greater responsiveness to change usually considered more typical of younger workers? These are just some of the many questions which arise from the fact that almost half of the workers in New England cotton and synthetic textile mills are 45 years of age and over. In any event, a greater leavening of younger workers would be desirable if just from the point of view of replacing persons on the verge of retirement age.

The age distribution of employees in each of nine major departments was quite similar to the age distribution of the employees in all the plants combined. While the proportion of employees in various age brackets differed from one department to another, no particular concentration of either younger or older workers was found in any one department. Compared with the 60 percent of all workers who were 40 years of age and over, the proportions in this age group in the various departments ranged from 55.5 percent in the clothroom to 66.5 percent in the carding department. With respect to younger workers, 9.4 percent of all workers were under 25; departmental ratios ranged from 8.3 percent in the clothroom and the carding department to 12.9 percent in the yarn preparation department. Similar situations were found with respect to other age brackets.

A distribution of the work force in nine major departments shows that the largest number of workers, by far, was employed in the weaving department, as shown in the following tabulation. The sex composition of the employees within each department indicates a matching of the different work skills and experience, as well as physical

qualifications, with job requirements in the various departments.

Department	Percentage distribution of total employment by department	Percentage distribution of departmental employment by sex	
		Men	Women
Carding.....	15	62	38
Spinning.....	22	42	58
Yarn preparation....	6	23	77
Filling and winding...	4	30	70
Twisting.....	2	41	59
Slashing.....	2	95	5
Drawing-in and tying-in.....	3	58	42
Weaving.....	37	63	37
Clothroom.....	9	30	70

Total Separations

The average monthly separation rate of the New England cotton and synthetic textile industry during the first half of 1953 was 33 per 1,000 employees, or 6 percent less than the separation rate of 35 per 1,000 employees in the national cotton and synthetic textile industry during the same period.² Moreover, it was, as shown in the following tabulation, consistently below the separation rates of all manufacturing industries in certain local labor market areas in the first half of 1953.³

	Separation rate per 1,000 employees for manufacturing
Average, all areas.....	50
Fall River, Mass.....	42
Lowell, Mass.....	72
Manchester, N. H.....	39
New Bedford, Mass.....	49
Providence, R. I.....	62
Springfield-Holyoke, Mass.....	36

During the period when the New England cotton and synthetic textile separation rate was 33 per 1,000 employees, the accession rate was 28 per 1,000 employees, with a consequent net loss in the industry's total work force.⁴ In the same period, the accession rate in the national industry was identical with the separation rate—35 per 1,000 employees—indicating stable employment. Also, quits accounted for a smaller proportion of total separations in the national cotton and synthetic textile industry, 63 percent, than in the New England mills, 73 percent. To complete the analysis, 12 percent of the separations in the New England industry were discharges; 9 percent were layoffs; 3 percent were military separations; and 3 percent were retirements.

² United States data from monthly turnover series published by the Bureau of Labor Statistics.

³ Unpublished study conducted by the Northern Textile Association from data which were available from the State employment security agencies. Although the 6 areas studied had moderate or substantial labor surpluses in the spring of 1953, they had experienced a gradual buildup in employment during the previous year, and two of the areas had been shifted in the direction of a tighter labor market situation in the first half of 1953.

⁴ These rates apply only to the mills included in the sample and, therefore, do not measure any separations which may have resulted from mill closings.

Quit Rates

By Department. With a quit rate of 24 per 1,000 employees for all employees in all plants studied, the rates in individual departments varied widely—from 10 in the drawing-in and tying-in department to 34 in the twisting department, as shown in the following tabulation:

<i>Department</i>	<i>Quit rates per 1,000 employees</i>	<i>Percent of total quits</i>
Total employees, all plants.....	24	100.0
Carding.....	25	17.1
Spinning.....	19	19.6
Yarn preparation.....	17	4.4
Filling and winding.....	22	3.5
Twisting.....	34	3.1
Slashing.....	12	1.3
Drawing-in and tying-in.....	10	1.4
Weaving.....	25	44.0
Clothroom.....	13	5.6

By Shift. The largest concentration of quits was from the second shift. The high proportion of quits from that shift—42.6 percent of the total—is accounted for principally by two factors: (1) The second shift is generally found to be the most undesirable from a family and social point of view; and (2) no premium pay was provided for second-shift work, but a 7-cent hourly premium was paid to workers on the third shift.

Since it is generally thought that first-shift work is more desirable than employment on the third shift, it was surprising to find that the proportion of total quits from the first shift was almost as high as from the third shift, 28.3 and 29.1 percent, respectively.

By Age. The largest cluster of quits was composed of employees in the age group under 30 (45 percent of total quits). As would be expected, the percentage of total quits by age groups declined as the age increased.

By Sex and Length of Service. As is the case in most industries, the majority of quits were by new employees: of all persons who quit their mill jobs, 72 percent had less than 1 year of service. Seventeen percent of the quits were by employees with more than 3 years of service, while only 11 percent were employees with from 1 to 3 years of employment.

Although the work force was almost evenly divided between men and women, as previously indicated, 62 percent of total quits were made by

men. Of the men who quit, 77 percent had less than 1 year of service, while 65 percent of the women who quit their jobs were in this category. The proportion of employees who quit after 3 years of work was considerably higher among women than among men—23 percent and 13 percent, respectively.

New Employees

By far the most interesting findings with respect to the new employees, i. e., workers in the employ of a mill for less than a year, were that a large number of them were young and a relatively high proportion had no previous textile experience. Of the 2,948 employees hired during the period studied, 48 percent were under 30 years of age and 30 percent were under 25 years. Of new male employees, 55 percent were below age 30 and 37 percent were under 25. In contrast, only 38 percent of new female employees were below 30 years and 21 percent were below 25. The fairly even balance between men and women in mill employment was not found among new hires; men comprised 60 percent of the hires.

As would be expected, with the high proportion of quits from the second shift, a high proportion (46 percent) of new employees were hired as replacements for that shift. The proportion of hires exceeded that of quits for both the second and third shifts, with 31 percent of new hires going on the third shift. However, replacements on the first shift—24 percent of new hires—were below the quit level for that shift.

A comparison of new hires by departments shows that most departments had about the same proportion of total hires and total quits. The two major exceptions were the spinning department, where hires were greater (22 percent of hires and 20 percent of quits), and the weaving department, where the reverse was true (44 percent of quits as against 39 percent of hires).

With respect to the work experience of new employees, 58 percent had previous textile experience, 24 percent had other manufacturing experience, and 18 percent had no previous manufacturing experience of any kind. The proportion of new employees with previous textile experience was much higher among women (71 percent) than among men (49 percent).

In this connection, information concerning training programs was requested. It appeared that specific well-formulated training programs were carried on by only a minority of the mills, and the information received was inadequate.

Job Applicants

More than 4,000 job applicants were studied to determine the age, sex, and previous experience of potential cotton and synthetic textile employees. The proportion of younger applicants was high, with 44 percent under 30 years of age and 30 percent below the age of 25.

More women applied for work than men. While 53 percent of total applicants were women, they represented only 40 percent of the new hires. Like the new employees, less than half (44 percent) of the job applicants had had no previous textile experience.

Reasons for Quits

It was not possible to gather adequate data permitting valid observations concerning the reasons why employees voluntarily left the employ of the mills covered in this study.

Although exit interviews were conducted by 5 mills employing 22 percent of the workers, actual exit interviews were held with only 18 percent of the total number of quits. The largest proportion of workers interviewed (42 percent of the 448 interviewed) gave no reason for quitting.

Principal Conclusions

Perhaps the most significant conclusion which can be drawn from this study of labor turnover is that the age levels of new employees and applicants for work tend to disprove the popular belief that younger workers are not attracted to the New England textile industry.

The extremely high proportion of persons quitting their jobs after less than 1 year of service, however, indicates that mill management must meet the challenge of retaining their younger workers. Moreover, the lack of adequate data on reasons for quits suggests that management has not been particularly concerned with ascertaining why workers leave the employ of the mills. This is an area which deserves more thought and consideration than it evidently has received.

Finally, the scarcity of training programs at the time of the study can be attributed in part to the availability of experienced workers and in some measure to management's lack of interest in developing such programs. The fairly large proportions of new employees and of applicants for work without either previous textile experience or manufacturing experience of any kind apparently focused management attention on the increasing need for training programs in New England cotton and synthetic textile mills. It is encouraging to note that evidence gathered since the date of the study shows that many additional training programs have been inaugurated and mill managements appear to be cognizant of this need.

[At a meeting in 1846 of the New England Workingmen's Association in Peterboro, N. H., a resolution was adopted condemning work before sunrise. The resolution read] "*Resolved*, That although the evening and the morning is spoken of in the Scripture, yet in that book no mention is made of an evening in the morning. We therefore conclude that the practice of lighting up our factories in the morning, and thereby making two evenings in every twenty-four hours, is not only oppressive but unscriptural."

—George E. McNeill, *The Labor Movement*, Boston, A. M. Bridgman & Co., 1887 (p. 107).

Collective Bargaining and Competitive Cost in the Shoe Industry

Collective bargaining in New England shoe factories has adapted reasonably well in the postwar period to the highly competitive and partially organized footwear industry.

E. R. LIVERNASH

NEW ENGLAND has been maintaining its share in national shoe production since 1925, except during the years 1947-49, after many years of severe decline following the Civil War.¹ And, since 1953, it has shown evidence of enlarging its share. Within the region, production in Maine has increased in importance relative to Massachusetts and New Hampshire, but this is only a minor qualification with respect to an encouraging competitive performance by all three States.

Looking more closely at the New England production record,² we find the following: In the years 1925-29, inclusive, census data³ showed an average share of total national production of 33.8 percent. There was a decline in 1947, 1948, and 1949. The years 1950-53, inclusive, again averaged 33.8 percent. (A revision of the sample in 1950 precludes close comparison with the years of decline, but probably improves the comparison with the predepression base.) In 1954, 1955, and the first 8 months of 1956, the average share has been 37.3 percent—higher than in any of the years of the period since 1924.

Can this production record be related in any significant way to the results of collective bargaining in the postwar years? This is not an easy question to which dogmatic answers may be found. This much may be said: Assisted by the Federal minimum wage, restraint in negotiating general wage increases, compared with most manufacturing industries, seems to have held the increase in earnings in unionized plants to about the same

amount as the average for the industry as a whole. The presumed differential between union and non-union earnings does not appear to have increased. Moreover, some regional earnings differentials, unfavorable to New England, appear to have narrowed. This may in part be the result of collective bargaining, although data demonstrating the impact of bargaining are not available.

Wage and earnings changes, both general and regional, affect the competitive union-nonunion situation, of course, but do not go to its heart.⁴ Whether union plants frequently have a serious labor-cost disadvantage remains an unanswered question. In a piece-rate industry, high average earnings do not necessarily indicate high labor cost. Generally, the traditional shoe centers, including those in New England, have relatively high earnings and are heavily unionized, and manufacturers in these centers appear to feel that they have a disadvantageous labor-cost position. Union spokesmen can reply, however, that if there were a labor-cost disadvantage equal to the earnings differential, these shoe centers would have long since disappeared.

¹ The New England Economy, A Report to the President Transmitting a Study Initiated by the U. S. Council of Economic Advisers and Prepared by its Committee on the New England Economy, July 1951, Washington, 1951 (pp. 173-183).

² The Federal Reserve Bank of Boston, in cooperation with the New England Shoe and Leather Association, has made several studies of New England's share. See *Monthly Review*, Federal Reserve Bank of Boston, November 1948, October 1950, and November 1953.

³ *Facts for Industry: Shoes and Slippers*, Series M68A (monthly reports on output), U. S. Bureau of the Census.

⁴ They are also of interest with respect to New England's production record, though they by no means explain that performance.

The Importance of Labor Cost in Competition

Labor cost is of crucial importance in the shoe manufacturing industry. Marketing channels, market analysis and finesse, and product competition in all its varied aspects are also of great importance; their effects on business success divide firms into dynamically changing groups. But these phases of competition are bounded by and immersed into cost competition.

The shoe industry meets the ordinary criteria associated with a highly competitive industry. Without delving into statistical description, the number of firms is large, the average firm is small in size, the degree of concentration of production in larger firms does not insulate them from competition with each other and with smaller firms, and entry to and exit from the industry are relatively easy. Production is widely dispersed geographically, partly in response to the search for low labor costs. Internal Revenue Service figures for the industry indicate that, in 1929, 711 establishments showed gains and 547 reported losses; in 1932, 298 reported gains and 829 losses; in 1946, 1,029 showed gains and 296 losses; and in 1950, 673 were profitable and 344 were not.⁵

Price competition in the shoe industry is keen though difficult to measure. Substantial quantities of shoes are bought on very detailed specifications, with firms gaining or losing business because of small differences in cost. While prices at retail appear orderly, with fairly commonly accepted price lines and reasonably parallel movement of these lines, there is great underlying change. Competition intensifies as marketing opportunities appear to shift among price lines. An indication of this change is the greater variation in average factory price compared with a price index based on a fixed product composition. If average factory value moves sharply within a few months, the probability is that shoes are being repriced through upgrading or downgrading among price lines rather than that there is a pure change in product mix. At all times there is strong competition to produce a better shoe at a given price.

⁵ These figures, along with others demonstrating the general description in the paragraph, may be found in *Facts and Figures on Footwear*, 10th Edition, New York, National Shoe Manufacturers Association, 1956.

⁶ George P. Shultz, in *Pressures on Wage Decisions* (New York, The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1951), has ably demonstrated this basic point, particularly in his discussion of the Brockton grade system.

Accepting as fact a high degree of price and product competition, there remains the question as to why labor cost is of particular significance. While the shoe industry's proportion of labor cost to manufacturing selling price (about 25 percent) is not low, neither is it outstandingly high in comparison with other manufacturing industries.

The answer to our query is to be found, first, in the absence of technological competition. Technology is almost identical from factory to factory for similar constructions and types of shoes. Also, technology is neither controlled nor developed by shoe manufacturers. Meaningful competitive advantage of even a temporary nature cannot be obtained by superior basic methods and processes. This is in sharp contrast to many industries where the technology of product and process is the major focus of competition.

In the second place, the price of the basic raw material, leather, derives from an auction market in hides and, subject to modest qualification for quantity purchasing and speculative intuition, does not provide a competitive advantage for particular firms. If the qualification were of particular importance, it is most doubtful that the figures on concentration for the largest 50 firms (or for smaller numbers) would show, as they do, that the proportion of production of the larger firms declined from 1939 to 1954.

Two major areas thus remain as possible sources of cost advantage; these are labor cost and merchandising and marketing. Superior performance in the latter area, as for example anticipation of shifts in the market or in consumer tastes, may indirectly lower overhead per pair by so broadening the sales base as to permit better organization and consequently increased efficiency of production.

Lower labor cost can yield a similar advantage and is thus a strategic competitive factor. As shoe manufacturing is a piece-rate industry, labor cost is the sum of a list of piece prices plus the cost of "fringe" benefits. Competition in selling price (and product) becomes and is competition in piece prices. Collective bargaining in this decentralized industry of many firms, only partially organized, has never been able to "remove wages from competition." Rather, collective bargaining has its primary focus upon labor cost within this competitive struggle for favorable price position.⁶

Union-Nonunion Changes in Earnings Level

The United Shoe Workers (formerly CIO), the Boot and Shoe Workers (formerly AFL), and independent unions represent little more than half of the industry's production workers. The 1953 wage survey of the industry by the Bureau of Labor Statistics of the U. S. Department of Labor estimated that 50 to 60 percent of the workers were covered by labor-management agreements.⁷ Clearly a most substantial segment of the industry is not organized, including some large multiplant firms that are either entirely or partially unorganized.

Still, it is not appropriate to describe the industry in very many regions as "nonunion," although in the South, the Border States, and Pennsylvania, it is heavily nonunion. But the West,⁸ which in the period of New England's heavy decline (before 1925) was poorly organized, is now probably almost as heavily organized as New England. Unionism, while weak in terms of potential membership, has had a more pervasive influence upon wage movements in World War II and the postwar period than in the prewar era.

The shoe industry is a low-wage industry and, as compared with all-manufacturing, has lost ground in the postwar period. In 1946, average hourly earnings in the shoe industry were 14 percent below the average in manufacturing (\$0.93 compared with \$1.08), according to the hours and earnings series of the Bureau of Labor Statistics. By 1949, with wartime wage controls lifted and the labor market not so tight, earnings in the industry (\$1.10) were 21 percent below average earnings in manufacturing (\$1.40), and by 1955, this percentage had grown to 29 (\$1.34 compared with \$1.88). The total increase in average hourly earnings from 1946 to 1955 was substantially less in the shoe industry than in all-manufacturing—41 cents compared with 80, or, in relative terms, 44 and 74 percent, respectively. Shoe manufacturing has thus been one of the minimum-increase manufacturing industries, lagging even in percentage terms in a period when most relative wage differentials were narrowing.

To estimate the typical impact upon average earnings of general wage increases in union plants, two wage chronologies published by the Bureau of Labor Statistics—for Massachusetts

Shoe Manufacturing and for the International Shoe Co.⁹—can be compared with the average earnings data. While the general wage changes listed in the chronologies are not directly comparable to changes in gross average earnings, such a comparison appears to be generally valid when the two major areas of noncomparability are considered. First, the general wage changes do not include adjustments in individual rates such as promotions and changes in individual job rates that do not have an immediate or noticeable effect on the average wage level and thus would not necessarily coincide with the change in straight-time average hourly earnings even in the situations covered. In the footwear industry, changes in individual piece rates could have an appreciable effect over a number of years. The other major difference stems from the fact that average earnings include premium payments for overtime, shift differentials, sick leave, holidays, vacations, and production bonuses, which are, of course, excluded from the general wage change data. As rough guides to the effect of these inclusions on the average earnings figures, it should be noted that in recent years average weekly hours of work have not exceeded 38 and late-shift work has not been common. With respect to paid holidays and vacations, only those occurring in the week ending nearest the 15th of the month would be included, since that is the date of reference for the earnings data.

General wage changes under the International Shoe Co.'s contracts with the Boot and Shoe Workers and the United Shoe Workers resulted in an increase of approximately 59 cents per hour from the end of World War II through October 1955, when the most recent wage adjustment became effective.¹⁰ When the Massachusetts wage chronology, based on agreements between the United Shoe Workers and a number of shoe companies in the Lynn-Haverhill-Boston area, is updated through January 1956, the date of the last general wage adjustment, the increase comes

⁷ See Wage Structure: Footwear, March 1953, BLS Report 46, 1953 (p. 2).

⁸ Loose New England shoe parlance for Missouri, Indiana, Ohio, Illinois, and Wisconsin.

⁹ Wage Chronology No. 20 and Supplement 1: Massachusetts Shoe Manufacturing, Monthly Labor Review, February 1952 (p. 169) and July 1953 (p. 751); and Wage Chronology No. 25 and Supplement 1: International Shoe Co., Monthly Labor Review, July 1952 (p. 30) and April 1953 (p. 403).

¹⁰ To the general wage changes shown in the published chronology, the author has added his estimate of the cents-per-hour equivalent of the approximately 5-percent increase effective October 3, 1955.

to 58 cents per hour.¹¹ (In Brockton, a second important Massachusetts shoe center, a rough personal estimate places the comparable increase at about 55 cents per hour.)

A rough estimate of changes in earnings in the nonunion segment of the industry can be made by comparing general wage changes in union plants with the 63-cent increase in the average earnings series for the comparable period of September 1945 to March 1956. In making such a comparison, which is of course subject to the qualifications previously mentioned, one must also assume that the average earnings data are based on reports from a sample of firms that is representative of the extent of unionization in the industry as a whole. While no information can be offered to validate this assumption, the fact that the sample firms employ about half of the workers in the industry suggests that it is reasonable. Thus, it can be said that nonunion earnings appear to have increased by almost the same amount as in union plants. But recognition must also be given to the effects of the two changes in the Federal minimum wage which took place during the period covered.

The minimum wage under the Fair Labor Standards Act was increased to 75 cents in January 1950, and average hourly earnings in the shoe industry increased between 2 and 3 cents per hour from 4 months prior to the change to 4 months after the change.¹² General increases were not given during this period. A comparison of earnings in 12 important shoe-producing States for the same period shows an increase of about 5 cents per hour in the lower paying States and about 2 cents in the higher paying States. Despite some deviations, this generalization appears reasonably sound.

In March 1956, the \$1 Federal minimum became effective. It is not desirable to use a 4-month before-and-after comparison in this situation, as late 1955, early 1956 was a period of general increases. Union firms were more willing to negotiate general increases in late 1955 and early 1956 because of the probability that the higher minimum would bring pay increases to a substantial

number of workers in the industry,¹³ and in addition, some important nonunion firms announced general wage increases in advance of negotiations in unionized firms, partly in anticipation of the higher minimum. Earnings in the industry were quite stable at \$1.34 to \$1.35 for the period April to October, 1955, and then increased gradually to \$1.41 in February 1956. This figure increased to \$1.45 in March and maintained this level until August. The only 1 of the 12 States which did not reflect this March increase had increased very substantially from December to January. The pattern of larger advances in low-paying States than in the United States average was a little less marked than in the case of the 75-cent minimum. A fair inference seems to be that the Federal minimum wage increased earnings about 4 cents per hour, with the earlier advances attributable to general increases.

These estimates indicate that the Federal minimum wage has been important in the shoe industry. The 2 increases have contributed at least 5 cents per hour to average earnings in the industry and more probably 7 cents.

Now a rough appraisal of the effects of general wage changes on average hourly earnings may be made. Deduction of the earnings increase that may be attributed to Federal minimum-wage changes from the total increase of 63 cents that occurred from September 1945 to March 1956 leaves an amount that is within the range of the general increases in union firms of 55 to 59 cents per hour shown by the wage chronologies. It would appear, therefore, that nonunion general increases were not too different in average magnitude from the increases in union centers.

Nothing approaching industry bargaining or precise wage patterns exists in the shoe industry, but the International Shoe Co., the largest producer, might be regarded as something of a benchmark. From the unions' point of view, International Shoe has no doubt been a hard bargainer well aware of the partial organization of the industry. New England firms, bargaining from a high earnings base, have about matched International Shoe and have held a constant relative position. The effect of these facts, plus the union awareness of the competitive character of the industry, has produced no general wage increase in various years when such increases were quite prevalent within manufacturing. The union sec-

¹¹ To the published chronology, the author has added the increase amounting to 5 percent of gross weekly earnings effective in January 1956, with a personal estimate of its cents-per-hour equivalent.

¹² Figures for the Federal minimum-wage comparisons are the Bureau of Labor Statistics data on gross average hourly earnings.

¹³ For a discussion of the effects of the \$1 minimum on wages in the southern footwear industry, see p. 323 of this issue.

tor of the shoe industry has negotiated general increases only when there was a good chance that nonunion firms would follow. This restraint, coupled with the effects of changes in the Federal minimum wage, appears to have held to a minimum any union-nonunion earnings differential.

Regional Earnings Levels

The best data on regional wage levels in the industry are two BLS wage structure surveys, one in 1945 and the other in 1953.¹⁴ Comparison of these two surveys shows the following changes in straight-time average hourly earnings:¹⁵

Region ¹	Straight-time hourly earnings		Increase	
	October 1945	March 1953	Cents per hour	Percent
United States.....	\$0. 83	\$1. 31	\$0. 48	58
Middle Atlantic.....	. 95	1. 37	. 42	44
New England.....	. 93	1. 37	. 44	47
Great Lakes.....	. 72	1. 29	. 57	79
Border States.....	. 69	1. 08	. 39	57
Middle West.....	. 66	1. 24	. 58	88
Southeast.....	. 65	1. 19	. 54	83

¹ Data for Pacific and Southwest regions are omitted because they accounted for only 3.2 percent of employment in the industry at the time of the 1953 survey.

The regions for which separate data are presented include: *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Great Lakes*—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; *Border States*—Delaware, District of Columbia, Kentucky, Maryland, Virginia, and West Virginia; *Middle West*—Iowa, Kansas, Missouri, Nebraska, North Dakota, and South Dakota; and *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee.

To reflect some of the differences within regions and to give a later terminal comparison, BLS data on gross average hourly earnings by States are shown in the following tabulation for December 1946 and March 1956.¹⁶ Again, it should be noted that the gross earnings figures include payments for overtime, shift differentials, etc., which are excluded from the regional wage data just presented.

¹⁴ Wage Structure: Footwear, 1945, Series 2, No. 23; and Wage Structure: Footwear, March 1953, BLS Report No. 46.

¹⁵ Excludes premium pay for overtime and shift differentials.

¹⁶ December 1946 is the earliest month for which State data are available on a basis fairly comparable with those for March 1956, which was chosen as the terminal month because the \$1 minimum went into effect then.

State	Average hourly earnings		Increase	
	December 1946 ¹	March 1956	Cents per hour	Percent
Massachusetts.....	\$1. 12	\$1. 56	\$0. 44	39
New York.....	1. 19	1. 55	. 36	30
New Hampshire.....	1. 10	1. 54	. 44	40
Wisconsin.....	. 92	1. 50	. 58	63
Illinois.....	. 95	1. 45	. 50	53
Ohio.....	. 94	1. 45	. 51	54
Maine.....	. 94	1. 44	. 50	53
Indiana.....	. 87	1. 42	. 55	63
Missouri.....	. 90	1. 39	. 49	54
Maryland.....	. 79	1. 28	. 49	62
Pennsylvania.....	. 85	1. 26	. 41	48
Virginia.....	. 75	1. 21	. 46	61

¹ Because of some changes in sample composition in this industry, data for December 1946 for a few States are not exactly comparable with the March 1956 averages.

These regional and State data on earnings in the shoe industry show a reduction in differentials that is favorable for New England. This is particularly true in percentage terms, which seems to be the most valid indicator of probable effect upon labor cost. Of course, the regions have their internal variations; for example, Pennsylvania lowers the Middle Atlantic average, and Maine lowers the New England average. But in the early postwar years, New England (particularly Massachusetts and New Hampshire) and the Middle Atlantic States (particularly New York) were well above the West and South. In the more recent years, significant improvement in New England's relative position, as measured by these indicators of labor cost, is indicated with respect to the West, less with respect to major southern competition.

Several reasons for the improvement can be advanced. The impact of the Federal minimum wage has had both a direct and indirect influence. The spreading union organization is important; particular areas in which wages are lowest are those remaining weakly organized. Growing industrialization in some areas where unionization, though stronger, is of relatively recent origin may also have helped to narrow certain differentials in this low-wage industry, but this is a limited conjecture.

Conclusions

If labor cost data were available, a more definitive analysis might be undertaken. If employment, hours worked, and average earnings data were broken down into union and nonunion categories by States and types of shoes, a much more satisfying description would be possible. But even from the data available, two tentative conclusions may be made.

Collective bargaining has adapted reasonably well to the highly competitive and partially organized character of the industry. If, in the period following World War II, union demands had been more forceful and effective, New England's production record might easily have been less favorable. From a union point of view, this degree of restraint has no doubt been most frustrating. When the union has been faced with the task of balancing a management bargaining

position that higher wages might bring reduced employment against the desires of its members for a wage increase, the preservation of union jobs must have appeared to be unreal and speculative. From a management point of view, it has been a thankless task to be a tough bargainer in order to retain or regain competitive position.

In the second place, some regional earnings differentials appear to have narrowed since the end of World War II. Prosperity, particularly in the immediate postwar period, the two increases in the Federal minimum wage, and the spread of unionism may all have contributed to this end. However, growth in the industry continues to favor low-earnings States where organization has had limited success; some significant firms in New England have ceased operations. Competitive difficulties remain, but collective bargaining in the postwar period does not appear to have intensified the problems.

[The Knights of St. Crispin were founded in 1867 by Newell Daniels, a boot-treer of Milford, Mass. Thousands of New England shoe workers in Lynn, Weymouth, Brockton, and other New England towns flocked to this craft organization. Protection of the craft was one of its basic elements. The constitution included a regulation that] "no member of this Order shall teach, or aid in teaching, any part or parts of boot or shoe-making unless the lodge shall give permission by a three-fourths vote of those present . . . *Provided*, this article shall not be so construed as to prevent a father from teaching his own son."

—George E. McNeill, *The Labor Movement*, Boston, A. M. Bridgman & Co., 1887 (p. 200).

New England's skilled work force has joined with management talent and engineering ability to establish a new high-wage industry with a promising future.

The Growth of the Aircraft Industry

DAVID PINSKY

AIRCRAFT is not the leading manufacturing employer in New England. Machinery, textiles, apparel, leather, electrical machinery, and fabricated metals all exceed it in employment. What then is its peculiar importance to the area?

First is its potential. Aircraft is a new and far from mature industry. It is basic to national defense, and its importance and use in this respect are likely to grow. But in the commercial field, its growth potential is much greater. Even today more passengers cross the ocean by aircraft than by surface ships. More coast-to-coast travel is by air than by surface vehicles. For short inter-city travel, the helicopter may become as common as buses and trains in the not too distant future; thus, it is important that New England maintain its basic foothold in the industry.

Second, during the past decade aircraft employment has been advancing at a time when employment in some leading New England industries has been stable or declining. This growth has enabled the area to maintain a skilled work force, an important key to its future growth.

Third, aircraft is a relatively high-paying industry. The level of wages paid to New England aircraft workers has been a significant factor in maintaining its economy at a high level.

Development of New England Aircraft Industry

In 1925, a young executive from Ohio in search of a location and money to realize his idea for an air-cooled airplane engine turned to New England,

where craftsmen of all sorts had their shops. Journeying to Hartford, he concluded an agreement with Pratt & Whitney, producer of precision tools and lathes, whereby that firm furnished him capital and working space. This young executive was Frederick B. Rentschler. The company he founded, first known as Pratt & Whitney Aircraft, eventually became the nucleus of the present United Aircraft Corp. Its engines have been highly successful from the start. They power about 75 percent of all the commercial aircraft outside of Russia flying today. With its licensees, Pratt & Whitney produced about 50 percent of all aircraft engines used by the combined Air Corps and Navy air arm in World War II. A large proportion of today's modern jet aircraft is powered by Pratt & Whitney Aircraft gas turbines.

Through his preeminence in aircraft, Rentschler soon attracted other leaders in the field. They included Igor Sikorsky and Chance Vought, both brilliant engineers and pioneer pilots, and William Boeing, financier and executive, pioneer pilot, and devoted aviation enthusiast. United Aircraft, formed in 1928 under the leadership of Rentschler and these 3 men, gave additional know-how and financing to 3 then small aircraft firms.

United Aircraft established a plant in Bridgeport for one of these, Sikorsky Aircraft, which was producing amphibious planes on Long Island. Bridgeport was selected because a seaport for the flying boats could be built there and the area could supply skilled workers. The plant has discontinued production of its flying boats and is now the world's leading producer of helicopters.

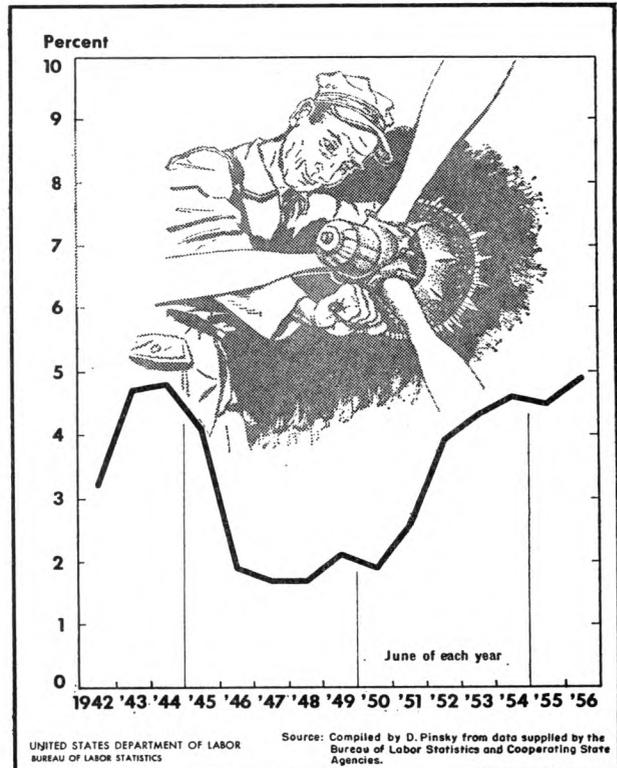
The Chance Vought airplane division of United Aircraft was moved from the environs of New York City to East Hartford and later to Stratford, Conn., largely because United Aircraft had found a good supply of trained workmen in both areas, which were nearer the parent corporation. This division was also highly successful and made a major contribution to the World War II effort with the production of its Corsair fighter planes. After the war, a number of factors caused the division to seek a new location. Principally, the speed of their planes had become too great for testing over the congested metropolitan area around Bridgeport, and the Navy was concerned over the concentration of fighter-plane production in the area with other major producers, Republic and Grumman, on Long Island. As a result, the division was moved to Texas where the flat, unpopulated areas and arid climate better suited jet testing. In 1954, Chance Vought was separated from United Aircraft.

The combination of engine and propeller production was a natural one, and in 1928, Hamilton Standard Propeller, then located in Milwaukee and Pittsburgh, became a part of United Aircraft and moved to the site of the engine plant in East Hartford. Hamilton propellers today are standard equipment on more than 90 percent of all commercial airliners flying in the Western World. With the change from piston engines to jets, the company in 1952 built a new plant to make accessories for jet planes and engines, at the large Bradley Field airport in Windsor Locks, 18 miles away from the Pratt & Whitney engine plant in East Hartford.

The other large airplane plant in Connecticut is Avco Manufacturing Corp.'s Lycoming plant in Stratford, which manufactures airplane and helicopter engines. This plant was established there because the removal of Chance Vought to Texas had left available a good supply of skilled workers, and the vacated plant itself was ideally suited for airplane engine production.

General Electric Co. has a large plant producing jet engines and accessories at Lynn, Mass. Dr. Sanford Moss, working for General Electric in Lynn, pioneered the development of the turbo-supercharger in the 1920's. The plant expanded greatly during World War II. Additional research developed the jet engines it is now producing.

Aircraft and Parts Employment as a Percent of Manufacturing Employment in New England, 1942-56



A smaller but promising company is Kaman Helicopter in Bloomfield, Conn., just outside of Hartford. Charles Kaman, its founder, was an engineer at Hamilton Standard during the war. He conceived the idea of a helicopter having twin rotors intermeshed like an eggbeater and spinning in opposite directions to eliminate the torque resulting from use of a single rotor.

But recital of the rise of these large firms tells only a part of the New England aircraft story. Because of the large amounts of precision parts required, aircraft plants traditionally contract out considerable work. The availability of many small precision metal shops in New England attracted the large producers in the first place. For example, United Aircraft alone purchases products from 2,000 suppliers in New England, employing an estimated 10,000 workers.

The standard airframe is not made in New England. The airplane engine, propellers, and the helicopter are the three principal products. Many New England plants contribute other parts or

subcontract work to aircraft manufacturers. Principal among these are instruments and communication equipment.

Employment and Earnings in Aircraft

Employment. Aircraft employment in New England hit an alltime peak of 85,000 in February 1944.¹ In 1938, employment totaled approximately 7,300. In June 1940, with fighting already started in Europe, aircraft employment reached about 14,700. By the time the bombs fell on Pearl Harbor in December 1941, the number of workers approximated 37,000.

The end of World War II in 1945 resulted in a drop of aircraft workers from the 85,000 peak of 1944 to 20,800 after V-J Day. Following this, the number moved up slowly to 27,400 by the outbreak of the Korean conflict in June 1950. (See accompanying chart.) Employment again moved up rapidly to a peak of 71,600 in December 1953, 3 months after the truce was signed.

Unlike the situation at the end of World War II, no large cutbacks were made in aircraft production following Korea. Aircraft and parts employment dropped in New England to 65,300 by June 1955, but has increased since then to 76,300, in September 1956.

Table 1 shows aircraft employment in New England and the United States for June of each year from 1942 through 1956. The 73,300 air-

TABLE 1.—Number and index of workers employed in the aircraft and parts industry in New England and the United States in June of 1942-56

Date	Employment			
	Number (in thousands)		Index (June 1942=100)	
	United States	New England	United States	New England
1942: June.....	787.4	51.5	100	100
1943: June.....	1,339.7	84.3	170	164
1944: June.....	1,300.6	80.0	165	155
1945: June.....	947.7	63.8	120	124
1946: June.....	229.7	28.4	29	55
1947: June.....	235.7	25.5	30	50
1948: June.....	226.1	25.2	29	49
1949: June.....	262.2	28.4	33	55
1950: June.....	262.5	27.4	33	53
1951: June.....	458.8	41.0	58	80
1952: June.....	651.7	58.7	83	114
1953: June.....	776.0	68.6	99	133
1954: June.....	762.4	66.1	97	128
1955: June.....	726.0	65.3	92	126
1956: June.....	790.4	73.3	100	142

SOURCE: New England data compiled by the author; national data by the U. S. Department of Labor's Bureau of Labor Statistics.

TABLE 2.—Employment in manufacturing and in the aircraft and parts industry by region, December 1955

Region	Employment			Ratio of aircraft and parts employment to all manufacturing
	All manufacturing (in thousands)	Aircraft and parts		
		Number (in thousands)	Percent	
United States.....	¹ 17,027.0	¹ 759.8	100.0	4.6
New England.....	1,504.5	69.6	9.0	4.6
Middle Atlantic.....	4,241.2	106.6	13.8	2.5
East North Central.....	4,962.5	124.5	16.1	2.5
West North Central.....	973.3	65.9	8.5	6.7
South Atlantic.....	1,908.5	52.9	6.8	2.8
East South Central.....	805.2	6.4	.8	.8
West South Central.....	788.8	45.8	5.9	5.8
Mountain.....	210.6	7.7	1.0	3.7
Pacific.....	1,446.8	293.5	38.1	20.3

¹ BLS estimate for United States adjusted to 1955 benchmarks; the States (and regional) series are unadjusted.

SOURCE: Regional estimates compiled by the author; national data by the U. S. Department of Labor's Bureau of Labor Statistics.

craft workers employed in New England in June 1956 represented a 42-percent increase over the 51,500 employed in June of 1942, the first year for which reliable data are available. For the country as a whole, the 790,400 aircraft and parts employment in June 1956 was about the same as in June 1942.

New England's 73,300 aircraft workers in June 1956 comprised 4.9 percent of her total factory employment. This percentage for New England was about the same as the proportion (4.5 percent) for the country as a whole.

Within New England, Connecticut's 59,600 aircraft workers of December 1955 comprised 13.7 percent of its manufacturing employment; in Massachusetts, the proportion was only 1.2 percent.

In numbers of aircraft workers, three regions exceeded New England. The largest employment appeared in the Pacific region, followed by the East North Central and the Middle Atlantic States. (See table 2.)

Worker Concentration in Connecticut. The largest concentration of aircraft workers in New England is in Connecticut, where 65,900 were employed in September 1956. Massachusetts employed a moderate 9,000 workers in this field, and fewer than 1,000 each were employed in Maine and Vermont.

¹ Data presented for New England and other States or regions were provided by the author. Corresponding estimates for the country as a whole are from the U. S. Department of Labor's Bureau of Labor Statistics. The most recent data in each case apply to the latest period for which the author had comparable data available when preparing the article in the early fall of 1956.

There is virtually no direct aircraft employment in New Hampshire and Rhode Island.

These figures do not, however, indicate the large numbers of former residents of other New England States who have moved into Connecticut to man the expanding Connecticut aircraft industry. The first wave hit Connecticut during World War II, when the moves were generally considered temporary. The northern New Englanders were supposedly going to Connecticut to work for "the duration" and then, after the war, presumably would take their hard-earned money back to their native towns. This did not transpire. They liked and became accustomed to their relatively high earnings and their new environment; so they remained in Connecticut in large numbers. The second wave hit during the expansion of the Korean conflict. Again large numbers of workers from the northern States came to Connecticut and found jobs in the aircraft industry. These workers have also generally remained.

Was this migration to Connecticut good or bad? For Connecticut, it permitted an expansion of high-wage aircraft employment and offset losses in other manufacturing industries. The aircraft wages paid within the State have enabled the economy to continue at a relatively high level and have helped make the State the most prosperous in New England. On the other side, the large numbers of migrants have created housing, school, and other social problems.

For the States which the workers left, the migration may have helped to relieve unemployment associated with declines in the textile and shoe industries. On the other hand, it is conceivable that greater industrial development would have occurred in some of those areas, had the labor pool remained available.

TABLE 3.—Hours and gross earnings of production workers in the New England aircraft and parts industry in June of 1947-56

Date	Average weekly earnings	Average weekly hours	Average hourly earnings
1947: June.....	\$54.22	39.8	\$1.36
1948: June.....	60.38	41.5	1.44
1949: June.....	61.28	40.1	1.53
1950: June.....	64.23	41.2	1.56
1951: June.....	85.40	46.6	1.84
1952: June.....	83.57	44.0	1.90
1953: June.....	84.01	43.1	1.94
1954: June.....	82.98	40.7	2.04
1955: June.....	86.86	41.1	2.11
1956: June.....	93.83	42.4	2.21

SOURCE: Estimates compiled by the author.

Labor Turnover. The New England aircraft and parts industry has had a lower separation rate for the past 5 years than manufacturing as a whole. In June 1956, the aircraft total separation and quit rates in New England were 1.7 and 1.4, respectively, per 100 workers employed (see tabulation), compared with a total separation rate of 3.9 and a quit rate of 2.0 for the same month for all manufacturing in Connecticut, where the bulk of aircraft workers are employed. The aircraft and parts accession rate in June 1956 was 5.8 in New England as compared with 4.2 for all manufacturing in Connecticut.

Turnover rates in the New England aircraft and parts industry (per 100 employees)

June of—	Accession rate	Total separation rate ¹	Quit rate
1952.....	3.7	1.9	1.6
1953.....	5.5	1.8	1.0
1954.....	1.6	1.6	1.0
1955.....	2.7	1.5	1.1
1956.....	5.8	1.7	1.4

¹ Includes quits, discharges, layoffs, and military and miscellaneous separations.

SOURCE: Estimates compiled by the author.

The aircraft and parts industry has shown lower turnover in New England than in the country as a whole. For example, in June 1956, the aircraft total separation and quit rates in New England of 1.7 and 1.4 compared with the national industry's total separation rate of 2.4 and quit rate of 1.7. The 5.8 accession rate in the New England aircraft and parts industry in June 1956 compared with 4.8 for the industry as a whole.

Earnings. Weekly wages paid in aircraft and parts are the highest of any industry group in New England. In June 1956, average weekly earnings in aircraft were \$93.83 as compared with an average of \$71.94 for all production workers in New England. (See table 3.) But the New England aircraft average earnings were below the \$94.66 for all aircraft and parts workers throughout the United States in June 1956. Nevertheless, the regional average was substantially above the \$54.22 in 1947. The rise was marked by a jump from \$64.23 in June 1950, to \$85.40 in 1951 as the Korean conflict flared, and a second jump from \$86.86 in June 1955 to the June 1956 figure.

Fringe benefits vary from plant to plant, but aircraft workers in New England generally enjoy 7 paid holidays; 1, 2, or 3 weeks of vacation, de-

pending on length of service; and life insurance, health and medical coverage, and pensions—all financed jointly by employer and worker.

Other Employment Characteristics. Nearly all the New England aircraft workers are represented by labor unions. The International Association of Machinists covers about two-thirds of Connecticut's aircraft workers, and the United Auto Workers, the remainder. In Massachusetts, the International Union of Electrical, Radio and Machine Workers represents nearly all of the aircraft workers. A few very small plants in that State have no unions.

The aircraft industry in the region has a good labor-management record; relatively few work stoppages resulting from labor-management disputes have occurred in New England. The post-war adjustment in 1946 saw several moderately long disputes. No stoppages occurred from 1946 until October 1951, when 1 work stoppage involving 2,000 aircraft workers lasted for 2 weeks. No stoppages have occurred since then.

The Outlook

The future of aircraft development in general is very promising and very complex. The aircraft industry is constantly changing and the location in New England of a substantial segment of the industry is, in itself, no guarantee that it will remain there in the future. However, the New England aircraft plants are blessed with progressive management and skilled labor, which bodes well. Also, they offer a considerable amount of training, ranging from on-the-job training for semiskilled workers to postgraduate courses for their professional workers.

Aircraft and engine designs are not static. Any aircraft company which did not perform constant research and development would soon be out of business. One promising sign is the new atomic engine research center being built in Middletown, Conn. The thousands of scientists and engineers who will be employed there will play a large part in determining which way New England's aircraft production will go.

[Six hundred Boston House Carpenters were involved in the first great strike for the 10-hour day in 1825. In opposing their demands, the master carpenters stated that they were] "fraught with numerous and pernicious evils" . . . and would expose the journeymen themselves "to many temptations and improvident practices" from which they were "happily secure" when working from sunrise to sunset. . . . Finally, they declared that they could not believe "this project to have originated with any of the faithful and industrious Sons of New England, but are compelled to consider it an evil of foreign growth, and one which we hope and trust will not take root in the favoured soil of Massachusetts."

—John R. Commons and Associates, *History of Labor in the United States*, New York, Macmillan Co., 1918, Vol. I, Pt. 1 (pp. 159-160).