# Data Origin

A picture containing table

Description automatically generatedTable

Description automatically generatedData was taken from the Massachusetts Department of Labor and Industries “Annual Report on the Statistics of Labor.” Separated into two sections, the “Annual Directory of Labor Organizations in Massachusetts” which list the names and addresses of all register labor organizations in the state, and the “Time Rates of Wages and Hours of Labor in Massachusetts” which includes tables on the wages, overtime rates, working schedule for individual occupations in many industries. Data reflects rates and information effective on July 1st of each listed year and assembled into a series of tables of 14+ tables based on industry. Organization of data is not in a computational uniform table dimension and an example is reflected in figure 1. The major portion of the data is reported to the Massachusetts Department of Labor and Industries by the representative labor organizations and supplemented by data from other sources. These wages are not specific or representative of an individual worker’s actual income as individual firms and their relationship with that worker and the workers billed time will vary. The tables can however be taken as representative of the general rates of the occupation for its location.

Figure 1  
Example of tables describing wages, overtime, tips, hours worked, and work schedule.

# Data Description

Data was taken for the years 1928 to 1933 across several professions classified by my best understanding of what is and is not trade-exposed occupations. The taken data was limited to the city of Boston to focus on a single location and minimize potential confounding effects. The assumption is that longshoremen will be most trade exposed, and other professions such as bakeries, builders, barbers and cooks are non-tradeable and manufacturing represents some middle ground between the two. Wages for the selected professions were pulled from the tables and normalized on hourly compensation. Some wages were presented in an hourly format, some wages by day, and some wages by week. To normalize for hourly compensation, any day or weekly format wages were divided by weekly total working hours. Some occupations exit the dataset during this period, such as Longshoremen Horse Fitters, and where this is the case, the values for all cells are kept as NaN. Other occupations either unionize or change the Table

Description automatically generatedstructure of union positions and thus create new occupational roles. So as not to introduce a specific bias against changing occupational roles, unionization, or other factors, no attempt was made to avoid these selections and when it is the case where values are not available, null values are inserted. An example of the digitized dataframe is seen in table 1.

Table 1  
An example of Longshoremen data set. Wages are in dollars, wage\_adj represents wages adjusted where weekly or daily wages were altered to reflect an hourly baseline. In this example, the occupation of cargo workers sugar, molasses, and refrigerated cargo was split into cargo workers sugar and molasses and cargo workers refrigerated cargo in 1932, and thus the data represents the split of this occupation with NaN values.

# Figures

The most trade exposed sector is assumed to be longshoremen, where the timeseries of longshoremen professions and wages can be seen in figure 2. Some longshoremen profession’s wages initially improve from 1928-1929 and then universally fall by 1933. It is important to note for this plot and all following Chart

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Figure 2 Boston Massachusetts Longshoremen wages in dollars per hour, 1928-1933

plots that data is set for July 1st of each year, and thus the improvement seen in 1929 would be before October 28th 1929’s Black Monday stock market crash. Wages hold at a higher level up to 1932 and by 1933 every longshoremen position sees a decline. Table

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Figure 3 Boston Massachusetts Clothing Manufacturing base wages 1928-1933 for hats and fur garments production.

To examine a moderately trade exposed industry, I chose to look at clothing manufacturing in the city of Boston. Unexpectedly, for the two sectors of clothing manufacturing chosen, no decline was seen, and in fact a slight gain was seen in fur garment finishers (second class) (female) while all other rates remained steady.

Chart, line chart

Description automatically generated Figure 4 Boston Massachusetts Bakeries and Cooks base wages 1928-1933

Three professions assumed to be very trade insulated were also chosen from the city of Boston, food service, specifically bakeries and cooks, builders, and the classic example of barbers. Hebrew bakeries (figure 4) have by a wide margin the highest base wages among the food service industry. Among the Hebrew bakeries there is some occupational shift where wages increased in 1930 shortly followed by a reorganization of occupations, splitting the role of jobbers into hierarchies and a wage adjustment among other roles. With the exception of Hebrew bakery role restructuring in 1931, wages for all other roles remain constant.

Base wages for builders experienced significant changes during the 1928-1933 timeframe, contrary to expectations as seen in figure 5. Interestingly, wages continued to increase and remain steady up until 1931 and then fall precipitously. A somewhat similar effect can be seen with barbers, though with barbers, this is attributed to an increase in working hours for the same pay, rather than an actual drop in wages. Barbers went from a standard 56 hour week to a standard 59 hour week in 1932.

Chart, line chart

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Figure 5 Boston Massachusetts builders based wages 1928-1933

Chart, line chart

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Figure 6 Boston Massachusetts barbers base wages 1928-1933

When looking at the total percentage change of wages from 1928 to 1933, we again see longshoremen and builders as the standouts for losses. Table 2 was creating by computing the percentage change of wages year to year and summing across all years as a measure of total fluctuation from ’28-‘33. Most professions suffered a drop in wages percentage wise, as can be viewed in the above figures as well, though some including the moderately trade exposed manufacturing role of female fur garment finishers (second class) actually achieved wage gains.

% Change in Wages by Occupation 1928-33

Asphalt workers -0.166667

Bricklayers -0.061905

Cement finishers -0.094203

Compositions and mastic floor workers -0.166667

Marble setters -0.061905

Plasterers -0.066708

Stone masons -0.061905

Terrazzo workers -0.079710

Tile layers -0.084740

cargo refrigerated cargoes -0.095238

cargo workers bulk cargo -0.111111

cargo workers cement in bags -0.111111

cargo workers coal -0.111111

cargo workers coffee -0.173203

cargo workers general cargo -0.117647

cargo workers grain -0.095238

cargo workers sugar molasses -0.058824

cargo workers sugar, molasses, and refrigerated cargoes 0.000000

cargo workers wet hides -0.100000

freight handlers dock beltmen 0.089510

freight handlers dock checkers -0.092308

freight handlers dock coopers -0.090909

freight handlers dock freight handlers -0.090909

freight handlers dock grain shovelers 0.089510

freight handlers dock oilers 0.089510

freight handlers dock sealers -0.090909

freight handlers dock sweepers -0.088889

freight handlers dock watchmen -0.113636

freight handlers railroad dock -0.270909

freight tally clerks -0.038230

horse cattle and grain fitters 0.011111

Cloth hats and caps blockers 0.000000

Cloth hats and caps cutters 0.000000

Cloth hats and caps finishers 0.000000

Cloth hats and caps lining makers 0.000000

Cloth hats and caps operators 0.000000

Cloth hats and caps trimmers 0.000000

Fur garments cutters 0.000000

Fur garments finishers (all-round) 0.000000

Fur garments finishers (second class) (female) 0.037037

Fur garments finishers (second class) (male) 0.000000

Fur garments nailers and ironers 0.000000

Fur garments operators (men) 0.000000

Fur garments operators (women) 0.000000

American bakeries foremen 0.000000

American bakeries foremen jobbers 0.000000

American bakeries helpers 0.000000

American bakeries jobbers 0.000000

American bakeries second hands 0.000000

American bakeries third hands 0.000000

Hebrew bakeries foremen 0.000000

Hebrew bakeries foremen jobbbers 0.007576

Hebrew bakeries jobbers 0.100000

Hebrew bakeries jobbers second hand 0.000000

Hebrew bakeries jobbers third hands 0.000000

Hebrew bakeries second hands 0.000000

Hebrew bakeries third hands 0.000000

Hotel and restaurant cooks female all-round 0.000000

Hotel and restaurant cooks female first 0.000000

Hotel and restaurant cooks female short-order 0.000000

Barbers -0.066666

When finding the mean values of the various industries, to determine whether trade exposed industries did indeed have the steepest declines in wages, we actually find that builders suffered a slightly larger percentage decline in wages than longshoremen. Less trade exposed industries did have overall a smaller decline in wages in comparison with longshoremen, the most trade exposed industry, when considering the aggregate outcomes, but individual pockets of non-trade exposed industries did suffer as much or more than did longshoremen.

# Relation to Trade

Table 2 Percent change in wages 1928-1933

When considering a trade related topic, I assumed the Smoot Hawley Act of 1930 would make for a clear example of a trade shock on labor outcomes. In the data I was able to collect, I think that is partially borne out. We can see that longshoremen wages declined, and in aggregate more-so than industries that were less trade exposed, but not in a clean definitive way. This data is imprecise as it doesn’t actually show the earnings of these occupations but only the generally prevailing wage of each occupation. A better method to tease this out may be to get access to individual tax records or union rolls from the time period. This is only an extremely rough look at the phenomenon. It isn’t fully comprehensive in its digitation of these records either. A fully comprehensive look at the data might show a cleaner picture. Unfortunately, the tables themselves change in how and what they display between years, in addition to the shifting nature of how it classifies occupation and this all in addition to any changes in the labor market itself this publication is attempting to catalog. All of this makes for a somewhat difficult digitization process.

Table 3 Mean % Change in Wages by Industry 1928-33

Mean % Change in Wages by Industry 1928-33

Clothing manufacturing 0.000569

Building trades -0.018764

Longshoremen -0.016531

Food and Bakeries 0.001494

Barbers -0.013333