

BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM

# Office Correspondence

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To Chairman Eccles

Subject: Union and Nonunion Wages

From Kenneth B. Williams

Oddly enough, comprehensive data on relative wages of union and nonunion workers have never been collected, and, in so far as I have been able to find out in checking with the Assistant Commissioner of Labor Statistics and others, no one has attempted an over-all estimate of this type.

The reason is that many factors in addition to unionization influence wage differentials. For example, substantial wage differentials are associated with such things as degree of skill, age, sex, color, and efficiency of the worker, and type and size of industry, regional location, size of community and profitability of the employer. Differentials arising from these and other factors as well as those associated with unionization cut across each other and make measurement of the amount of differential attributable to any one influence extremely difficult.

Obviously, what is needed to measure the effect of unionization alone is to rule out the other major factors influencing wage differentials. As a minimum, this would require data showing union and nonunion wages separately in each industry, and desirably, showing the same data broken down by region and size of community. Although numerous scattered one-time studies have been made distinguishing union and nonunion wages in selected occupations in certain industry segments, these surveys are too limited in scope and coverage to be of much help in constructing over-all estimates for industry or for the economy as a whole.

The only wage data which are at all comprehensive (and they are incomplete and deficient) are reported in terms of a single average hourly earnings figure, which is not differentiated as between union and nonunion, for each industry. There are, in addition, some rough estimates of union membership as a percentage of the total employment in selected industries. These two sets of data are about all there is to work with in constructing an over-all estimate of the differential between union and nonunion wages.

A very rough idea of the difference between union and non-union wages can be obtained by averaging wages by industries taking into account in the averaging process the volume of union and nonunion employment in each industry. To do this, we set up two columns of figures, one headed union, the other nonunion. Since we have only the one average hourly earnings figure for each industry, we entered this figure in both the union and the nonunion columns for each industry. We then averaged separately the earnings in the union column and in the nonunion column, weighting the earnings figures in the union column by estimated employment of union members and in the nonunion column by estimated employment of nonunion members.

This procedure, although dictated by the statistics available, is not satisfactory. It results in some understatement of the wage differential between union and nonunion workers since no specific account is taken of such differences within an industry. Offsetting this source of understatement, however, is the fact that the full amount of the difference in average earnings among industries is attributed to the union-nonunion differential. Some of the difference, assigned in this procedure to unionization, however, is not properly attributable to unionization. It results merely from the tendency of unionization to be concentrated in heavy industries located in large cities in the North and West--areas in which wages are customarily higher than in light industries and service activities located in smaller cities and in the South. This type of difference is found even when there is little or no unionization, as for example, was the case generally before the middle 1930's.

The regularly reported series on average hourly earnings included in January 1947 less than 24 million workers. We prepared one set of estimates using this series alone. In addition, we prepared a set of estimates in which we used this series as far as it went and for the remainder of the wage and salary work force supplemented it by what estimates of hourly earnings we could derive from more comprehensive employment and income data. Our second set of estimates covered over 45 million wage and salary workers in January 1947, and except for farm operators, self-employed persons in nonagricultural activities and unpaid family workers, it represented total employment in the economy. Specifically included are hired

farm workers, domestic service workers, all government employees, nonproduction (white collar) workers in manufacturing, and all salaried employees as well as wage earners. These latter groups are rarely organized and for some purposes they ought to be excluded. However, for the purpose of estimating the distribution of total wage income among workers of all kinds to see who has gained or lost as a result of war and post-war inflation, these groups ought to be included.

On the basis of our all-inclusive estimates, we found that average hourly earnings in January 1947 were \$1.10 for all employees, with union workers receiving \$1.21 and nonunion workers \$1.07. Thus, union workers received 14 cents or over 13 per cent more than nonunion workers on the average. In 1939, average hourly earnings of all employees were 62 cents, with union workers receiving 70 cents and nonunion employees receiving 59 cents. The difference in favor of union workers in 1939 was 11 cents or nearly 19 per cent. The table on the next page summarizes the results of the wage calculation for all employees shown separately for union and nonunion for two categories of manufacturing and for nonmanufacturing workers. The higher rate shown for nonunion than union manufacturing workers is due to the inclusion of 95 per cent of the white collar workers in the nonunion group.

The over-all results are not significantly different when the calculation is carried through leaving out government workers, nonproduction workers in manufacturing, and hired farm workers although the level of earnings of both union and nonunion workers is reduced slightly in 1939 and January 1947 and the differential in favor of unions is increased a bit in the latter period. Similarly, the results are practically the same when 1940 rather than 1939 is used since average earnings in 1940 were only slightly higher--less than 2 cents an hour--than in 1939.

The less inclusive series, which is broken down into fairly small industry groups, indicated that year-round hotels at 65 cents in January 1947 had the lowest average hourly earnings of any industry group in the series. They were followed by power laundries at 75 cents, and cleaning and dyeing establishments at 87 cents--all largely nonunion. The highest wage reported was for anthracite mining at \$1.59, followed by construction at \$1.55, bituminous mining at \$1.49 and automobile manufacturing at \$1.39--all highly organized. However, in between the situation was mixed. Wholesale trade and electric power and light which are mostly nonunion paid \$1.20 and \$1.31 respectively, while apparel and tobacco manufacturing which are highly organized paid \$1.04 and 94 cents respectively.

Relative Wages of Union and Nonunion Employees

All Employees <sup>1/</sup>	Manufacturing		Nonmanu- facturing <sup>4/</sup>
	Total <sup>2/</sup>	Production Workers <sup>3/</sup>	

January 1947

Estimated employment (millions)	45.6	15.4	12.5	30.2
Per cent in unions	34	54	66	23

Average Hourly Earnings

All employees	\$1.10	\$1.25	\$1.16	\$1.03
Organized	1.21	1.19	1.18	1.24
Unorganized	1.07	1.32	1.11	.99

Average for 1939

Estimated employment (millions)	35.1	10.1	8.2	25.0
Per cent in unions	24	42	50	17

Average Hourly Earnings

All employees	\$ .62	\$ .71	\$ .63	\$ .58
Organized	.70	.67	.66	.73
Unorganized	.59	.74	.61	.55

Wage Increases 1939 to January 1947

All Employees <sup>1/</sup>	Manufacturing		Nonmanu- facturing <sup>4/</sup>
	Total <sup>2/</sup>	Production Workers <sup>3/</sup>	

In Cents Per Hour

All employees	48	54	53	45
Organized	51	52	52	51
Unorganized	48	58	50	44

In Percentages

All Employees	77	76	84	78
Organized	73	78	79	70
Unorganized	81	78	82	80

- 1/ Includes all persons employed, except farm operators, unpaid family workers, and self-employed persons in nonagricultural activities.
- 2/ Includes nonproduction (largely white collar) workers, whose average earnings are high.
- 3/ Excludes nonproduction workers.
- 4/ Includes Government employees (whose average earnings are about the same as manufacturing employees), hired farm workers and domestic servants (whose earnings are very low), as well as all wage and salaried workers in trade, finance, service, transportation, public utilities, mining, and construction.

It should be noted again that the estimates of relative union and nonunion wages presented here and the more detailed estimates upon which they are based are at best rough approximations derived from industry averages and are hence subject to very serious qualifications both as to the level of earnings shown and the size of the union-nonunion differential. Some general observations about the variety and character of wage differentials may be worth noting at this point as an indication of the problems involved. These observations are based upon examination of many of the one-time scattered surveys of particular industries and occupations, upon the extensive but older material I used in establishing the WPA wage scales with their numerous skill, regional and city-size differentials, and upon the industry type of data utilized in the above estimates. In summary, it may be said that:

1. Wages in the West are higher than in the North generally and those in the North are substantially higher than in the South. Thus, a study of the basic lumber industry in August 1944 showed average straight-time hourly earnings of 72 cents for the United States, of \$1.18 for the West, of 73 cents for the North, and of 52 cents for the South.

2. Wages tend to be higher, the larger the size of the community. For example, stationary engineers in power laundries on the Pacific Coast in July 1945 received \$1.21 an hour in communities of 100,000 and over, \$1.05 in communities between 25,000 and 100,000 population, and 93 cents in communities under 25,000 population. Further variation probably would have been shown if the study had contained additional size breakdowns.

3. Skilled workers usually receive substantially more than semi-skilled and unskilled workers but the size of the differential is not constant among regions or over time, even for the same occupations in the same industries. For example, in Atlanta, the differential between the unskilled building laborer rate and the bricklayer rate is \$1.25; in Chicago, the differential is only 70 cents. Unskilled workers in some industries and areas receive higher wages than skilled workers in other industries and areas. A skilled carpenter in York, Pennsylvania receives \$1.30 an hour while an unskilled building laborer in Chicago receives \$1.30 and in Newark \$1.55.

4. Women are paid substantially less than men. This is typically so when women work on types of jobs largely held by women but it is also likely to be true when women do the same work as men.

5. Union workers typically receive higher wages than nonunion workers, but sometimes nonunion plants pay higher wages in order to forestall organization or for other reasons. Several studies indicate higher nonunion than union rates in New England for the same job and industry even though in the other regions of the country union rates are above nonunion rates.

6. Wages tend to be higher in firms in which profits are high than in less profitable firms.

7. Wages tend to be higher in large firms than in small ones.

8. Wages tend to be higher for workers paid on a piece or incentive basis than for workers paid on a time basis.

9. Wages tend to be higher in industries in which labor cost is a small proportion of total cost than in industries in which labor cost is a high proportion of total cost. Saying it another way, there is a tendency for wages to be higher in highly mechanized industries than in less mechanized ones. Typically, this means wages tend to be higher in durable and heavy goods lines than in light or nondurable goods production.

10. Wages tend to be higher in industries characterized by monopolistic conditions or price administration than in industries in which product prices reflect more closely short-run supply and demand influences.

11. There is some tendency for wages to be higher in industries characterized by wide cyclical or seasonal fluctuations than in industries in which employment is more stable.

12. The general structure of wage differentials among industries, in which textile workers are typically toward the bottom of the wage scale and printing workers are near the top with other industries in between ranged in some rough relation to durability of product, seems to be about the same here as in other countries for which studies have been made, namely, Canada, Great Britain, and Sweden.

These generalizations are not entirely consistent with each other and substantial exceptions can be cited to prove the contrary of nearly every statement. An additional point may be mentioned, namely, that the average reported industry wage may not be the typical wage in any sense. Thus a study of plant workers in sheet-metal establishments

in January 1945, showed average straight-time hourly earnings of \$1.06. Yet only 2.1 per cent of the workers received earnings in the group between \$1.05 and \$1.09.9. Wage classes containing significant proportions of total employment ranged from under 50 cents to over \$1.80 with the percentages spread fairly evenly at 5 cent intervals in between.

In general, union leaders long have claimed that the differential between union and nonunion wages is great and is attributable to unionization. Economists have tended to minimize the ability of unions to increase wages much above that which would result from the operation of normal economic influences, except of course, in those instances in which unions have established a tight monopoly over some particular skill or skills in an individual labor market. In my opinion, unions unquestionably have tended to raise the wages of their members somewhat above those paid to nonunion workers in the same area and industry and at times of inflation to push their wages and wages generally up farther than they would otherwise go. There is also little doubt but that unions have held their wages higher in periods of depression than they otherwise would be. What effect this may have had on nonunion wages or upon economic conditions generally is not entirely clear.