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## Wages and Hours under the Codes of Fair Competition

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LEO WOLMAN

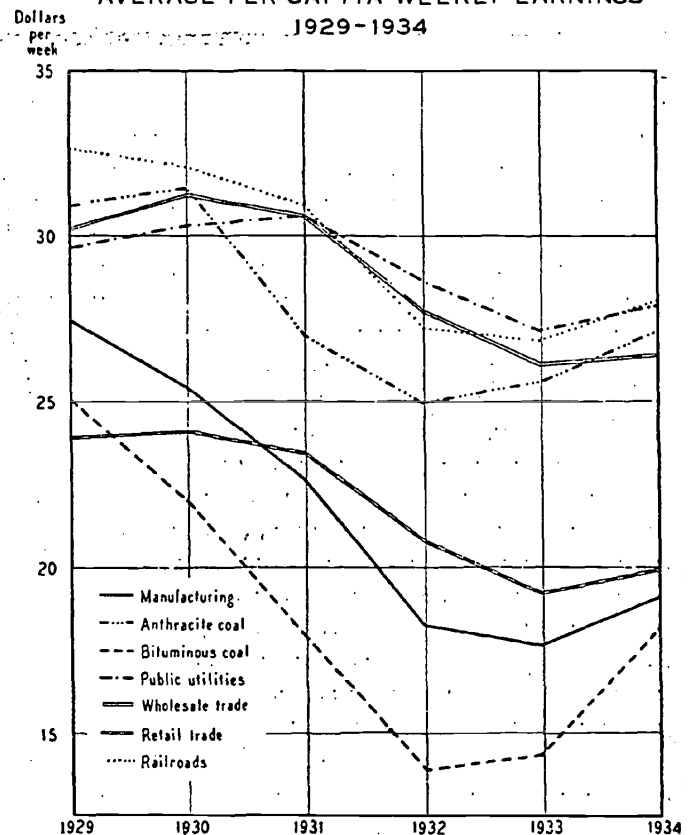
MORE than ordinary interest attaches to the movement of wages and hours in the United States during the past several years. In any analysis of the contemporary business situation, the degree to which wages have recovered from the prolonged decline beginning in 1930 is of fundamental importance. In addition, the entire range of new problems related to the effects of widespread government control over both wages and hours must now be taken into consideration. The nature and magnitude of the recovery reflect not only the customary forces of the market but also the influence of schedules of wages and hours fixed by public regulatory agencies.

Control over wages and hours began with the passage of the National Industrial Recovery Act on June 16, 1933. By means of the Codes of Fair Competition, negotiated by the National Recovery Administration with each industry, and the President's Reemployment Agreement (a temporary measure designed to raise wages and to lower hours in classes of employment not yet brought under codes) wages and hours in most of the major categories of employment were subject to some degree of regulation before the spring of 1934. At this writing wage and hour regulations apply to all manufacturing industries, to the extractive industries, to a large proportion of employment in wholesale and retail trade, to the public utilities, to transportation other than rail, and in lesser degree, to a variety of service occupations in many diverse fields of employment. In their totality these regulations over working conditions in American industry constitute an unprecedented phenomenon in this country, and they surpass in their scope similar legislative experiments in England, which only recently was far ahead of us in this area of social legislation.

The method of wage and hour regulation commonly used in the codes is to establish minimum rates of wages for unskilled and common labor, or for employees receiving the

lowest rates of pay, and schedules of maximum hours for various classes of employees in each industry or category of employment. In a very few instances, scales of wages are fixed for all classes of employees in a given industry; and in rather more instances, minimum rates within an industry are fixed, not only for the lowest paid, but for groups of employees higher in the wage scale as well. The great majority of the codes, however, include only a single mini-

Chart 1  
AVERAGE PER CAPITA WEEKLY EARNINGS  
1929-1934



imum, and that for the poorest paid. Whether specified in the code or not, it is the general understanding that prevailing wage differentials will be protected and that the relative position of more highly paid employees will not be impaired by the adoption of a minimum wage for common labor. In the regulation of hours of labor, likewise, there is a wide diversity of provision, but the net effect is to establish maximum weekly, and in some instances daily, hours beyond which no employer is allowed to work his men. The failure of many of the codes to make specific provision for wage differentials above the minima, and to strengthen hour regulations by imposing penalties for overtime, has aroused the suspicion that the labor terms of the codes are not generally enforced. Direct evidence on this point is clearly difficult to obtain, but the available measures of changes in wages and hours throw much light on the matter, if they do not finally settle it.

This American legislation differs from most of the European labor legislation, with which students of social history are familiar, not alone in its details, but more particularly in the economic theory on which it rests. The minimum wage and hour laws of modern times undertook simply to eradicate labor practices that can perhaps best be described as sweating. They aim, that is, to raise extraordinarily low wages and to prohibit excessively long hours. Even the advocates of such laws recognized their limitations. They saw the necessity for moderate and slow changes in conditions; and for establishing rates of wages and schedules of hours only after serious investigation and deliberation. They even admitted the possibility that the fixing of wages and hours might on occasion lead to the loss of jobs by the intended beneficiaries of the law. The present American conception, and hence practice, is radically different. It assumes, in part at any rate, that the wage rate is the key to the income of labor, and that, if wage rates are lifted, the earnings and income of labor will at the same time rise, and the income in the country increase proportionately. The goal of wage legislation, therefore, is to raise wages swiftly and substantially in the expectation that this will result in an expansion in the income of labor. The haste with which wages have been fixed and hours lowered since the summer of 1933 is a reflection of this faith in wage-fixing and work-sharing as a joint solution of the problem of unemployment. In view of this attitude, which now has a tenacious hold on the minds of many Americans, data on wage rates, hours and earnings assume an added significance, and their relationship may well be of critical importance in appraising the wisdom of current public policy.

The data essential to the study of wage movements during the period of business recovery exist now in much greater abundance than previously. The expansion of the facilities of the United States Bureau of Labor Statistics, the accumulation of data by the Division of Research and Planning of

the National Recovery Administration, and the materials collected by code authorities for the administration of their affairs make available a great wealth of information. The statistical samples are larger and more representative, the types of employment covered are more varied, and the opportunities of comparing wage rates with earnings are greater for the period since 1932 than for the first years of the depression. In this *Bulletin* the attempt is made to trace the major movements of relevant series of wages through the observable phases of the depression and recovery. In dealing with phenomena so complicated as the economic processes of the past five years, the choice of turning points is difficult and must needs be to some extent arbitrary. Few periods of business recovery present a steady and uninterrupted ascent from the trough of the depression. In the current recovery there have been several reversals of the expected trend, but so far as the weekly earnings of employed labor are concerned, they have for some time been appreciably above the lows recorded in the accompanying tabulation. The difficulties of dating are still greater when the attempt is made to account for, and to measure the influence of, separate and independent economic forces. Thus the codification of industries under the NRA was spread over some nine months. Many industries anticipated the provisions of their codes by raising wages in advance. During the first phase of the NRA, wages were unquestionably affected by the speculative boom of the summer of 1933.

INDUSTRY	MONTH OF LOWEST WEEKLY EARNINGS
Manufacturing	March 1933
Extractive Industries	
Coal mining	
Anthracite	May 1933
Bituminous	April 1933
Other mining	
Metalliferous	July 1932
Non-metallic and quarrying	February 1933
Crude petroleum producing	September 1933
Public Utilities	
Telephone and telegraph	April 1933
Electric light and power and gas	September 1933
Electric railroads and motor buses	July 1933
Trade	
Wholesale	June 1933
Retail	December 1933
Class I Railroads	August 1932

Since the middle of 1932, moreover, evidences of economic recovery have been discernible in many parts of the world. The effects of these and of similar factors can often be detected in the data, but their true influence can be satisfactorily studied only by the methods of theoretical economic analysis.

The statistical measures of wages are, like those of many other economic series, samples and not total counts. In the expansion of wage materials during the past several

TABLE 1  
AVERAGE PER CAPITA WEEKLY EARNINGS<sup>1</sup>  
1929-1934

INDUSTRY	1929	1930	1931	1932	1933	1934
Manufacturing	\$27.36	\$25.39	\$22.51	\$18.18	\$17.60	\$19.12
Extractive Industries						
Coal mining						
Anthracite	30.85	31.41	26.89	24.86	25.61	27.09
Bituminous	25.00	21.93	17.74	13.78	14.29	18.10
Other mining						
Metalliferous	30.12	28.13	22.99	18.63	19.21	20.82
Non-metallic and quarrying	26.28	24.73	20.95	15.99	14.50	15.58
Public Utilities	29.56	30.31	30.58	28.55	27.07	27.88
Trade						
Wholesale	30.19	31.24	30.61	27.72	26.11	26.35
Retail	23.80	23.95	23.44	20.75	19.20	19.89
Class I Railroads	32.62	31.99	30.87	27.15	26.83	28.04 <sup>2</sup>

<sup>1</sup> Source: U. S. Bureau of Labor Statistics, except for Class I Railroads. The railroad statistics are based on data published by the Interstate Commerce Commission. The figures for public utilities are weighted averages computed by the National Bureau of Economic Research.

<sup>2</sup> First 11 months only.

years sample data for several classes of employment have proven to be less representative than for others and may well continue to be so until the samples taken are extended and improved. Comparison of these samples and the results of a census often disclose material disparities between the two sets of data. Thus, weekly earnings in wholesale trade, as measured by the current sample of the United States Bureau of Labor Statistics, show a decline from 1929 to 1933 of 13.5 per cent, while the census of wholesale trade, taken in 1933, would indicate a decline of 25.4 per cent. In retail trade the difference is between 19.3 per cent for the sample and 28.1 per cent for the census. In manufacturing, on the other hand, the differences are not so great. Weekly earnings, adjusted to the trend shown by the *Census of Manufactures for 1933*, were 34.0 per cent less in that year than in 1929, while measured by the sample, they were 35.7 per cent less.

It should be pointed out, finally, that the statistics of weekly earnings given in this *Bulletin* represent the income of employed labor. As such, they reflect changes in the amount of short-time and in the rate of wages, but not the loss in income suffered by those who are totally unemployed.

#### I WEEKLY EARNINGS

In comparison with the depression of 1921, actual per capita weekly earnings have, during this last depression, declined much more and over a considerably longer period. Whereas in the depression of 1921 the interval from the high to the low month in manufacturing industries was fifteen months, in the present depression the decline in weekly earnings in manufacturing industries lasted forty-seven months. Likewise the amount of the decline in the weekly earnings of manufacturing labor was 35 per cent then as against 44 per cent in the more recent period. A summary of per capita weekly earnings in specified cate-

gories of industry is presented, for each year from 1929 to 1934, in Table 1 and in Chart 1.

The most striking feature of Table 1 is the diversity of experience among the industries represented. Manufacturing, and the extractive industries, except anthracite coal, show drastic reductions in weekly earnings for the entire period, 1929-34, while the other industries show only a moderate decline. In general, weekly earnings in non-competitive industries and in industries in which wage rates were subject to some control have been, in view of the character of this depression, remarkably steady. In manufacturing industries the cutting of wage rates and the general use throughout the depression of the device of work-spreading largely account for the persistence of low levels of weekly earnings.

TABLE 2  
AVERAGE PER CAPITA WEEKLY EARNINGS  
PERCENTAGE CHANGES  
1929 to 1933, 1933 to 1934 and 1929 to 1934

INDUSTRY	1929	1933	1929
	to	to	to
	1933	1934	1934
Manufacturing	-35.7	+ 8.6	-30.1
Extractive Industries			
Coal mining			
Anthracite	-17.0	+ 5.8	-12.2
Bituminous	-42.8	+26.7	-27.6
Other mining			
Metalliferous	-36.2	+ 3.4	-30.9
Non-metallic and quarrying	-44.8	+ 7.4	-40.7
Public Utilities	- 8.4	+ 3.0	- 5.7
Trade			
Wholesale	-13.5	+ 0.9	-12.7
Retail	-19.3	+ 3.6	-16.4
Class I Railroads	-17.7	+ 4.5 <sup>1</sup>	-14.0 <sup>1</sup>

<sup>1</sup> First 11 months of 1934 only.

In spite of a substantial recovery in weekly earnings during 1934, the earnings of manufacturing employees and of labor in the extractive industries remained far below the weekly earnings of 1929. Earnings of employees of public utilities, in wholesale trade, anthracite coal mining, and on railroads were, on the other hand, only slightly below the levels of 1929. It is, moreover, significant that the weekly earnings of manufacturing employees were in 1923 only 11 per cent below those of 1920, whereas in 1934 they were 30 per cent below 1929 (see Table 2).

While per capita weekly earnings recorded the changes shown in Table 2, the volume of both employment and payrolls increased substantially from 1933 to 1934 for many of the important classes of employment. The data on payrolls and employment in Table 3 indicate the changes which were the result in part of the reduction in the length of the work-week and in part of the increase in the volume of business activity.

TABLE 3  
EMPLOYMENT AND PAYROLLS<sup>1</sup>  
PERCENTAGE CHANGES  
1933 to 1934

INDUSTRY	PAYROLLS	EMPLOYMENT
Manufacturing	+27.6	+14.2
Extractive Industries		
Coal mining		
Anthracite	+22.1	+15.3
Bituminous	+43.4	+13.7
Other mining		
Metalliferous	+29.6	+20.2
Non-metallic and quarrying	+19.8	+ 8.9
Crude petroleum producing	+29.0	+24.9
Public Utilities		
Telephone and telegraph	+ 4.8	- 0.1
Electric light and power and gas	+ 8.2	+ 6.3
Electric railroads and motor buses	+ 5.6	+ 2.9
Trade		
Wholesale	+10.9	+ 8.8
Retail	+10.3	+ 7.8
Service Industries		
Laundries	+ 8.9	+ 3.2
Cleaning and dyeing	+13.3	+ 3.8
Hotels	+19.7	+13.4
Class I Railroads <sup>2</sup>	+ 8.5	+ 4.4

<sup>1</sup> Computed from the indexes of the U. S. Bureau of Labor Statistics.

<sup>2</sup> First 11 months only.

The total volume of wage and salary disbursements, as estimated by the National Bureau of Economic Research, remained in 1934 far below 1929 for all classes of employment, and in construction they were in the later year only 17 per cent of their volume in 1929. Index numbers of wage and salary disbursements in 1934 are given in Table 4.

## II THE COST OF LIVING

Since 1914 there have been several great swings in the general level of prices, and hence, in the cost of living. Between 1914 and 1920 the cost of living roughly doubled.

TABLE 4  
WAGE AND SALARY DISBURSEMENTS IN 1934

INDUSTRY	INDEX NUMBER 1929=100
Manufacturing	56.7
Extractive industries	49.1
Construction (private)	17.4
Telephone and telegraph	71.5
Electric light and power and gas	77.9
Trade <sup>1</sup>	61.7
Transportation <sup>2</sup>	54.1

<sup>1</sup> Includes wholesale and retail trade.

<sup>2</sup> Includes electric railroad, steam railroad and motor bus transportation.

During the depression of 1921 it fell nearly 25 per cent, rose slightly after 1922, and from 1925 to 1929 remained at approximately 70 per cent above the pre-War level. In the latest depression, living costs again fell more than 25 per cent, increased about 10 per cent over the low of April 1933 and are now roughly 20 per cent below 1929, 33 per cent below 1920, and 37 per cent above 1913, as may be seen in Table 5.

TABLE 5  
INDEX NUMBERS OF THE COST OF LIVING<sup>1</sup>

YEAR	INDEX NUMBER 1913=100	INDEX NUMBER 1929=100
1929	170.8	100.0
1930	166.3	97.4
1931	151.8	88.9
1932	137.3	80.4
1933	130.9	76.6
1934	136.9	80.2

<sup>1</sup> Computed from the semi-annual indexes of the U. S. Bureau of Labor Statistics.

Among the items whose retail prices make up the index number of the cost of living, food and rent are now approximately at their 1913 level; clothing is one-third higher than it was in 1913; house furnishing goods are about 60 per cent above 1913; the fuel and light group, according to the classification of the United States Bureau of Labor Statistics, is also 60 per cent above the pre-War level, although within this group the average price of electric current for household use is below 1913 whereas the price of coal is much higher; and the miscellaneous group, including such items as carfare, fees for services and the like, is at practically double the pre-War level.

## III REAL EARNINGS

It is a statistical commonplace that changes in the material standards of living of a population are the resultant of movements in the cost of living as well as of money income. Particularly in periods of rapidly changing prices, indexes of money wages may yield a totally misleading picture of the actual course of events. It is thus clear that a great rise in money wages may be completely neutralized by an equivalent increase in the prices of the goods bought, and that a severe decline in money wages may be mitigated by an equivalent drop in the cost of living. These elements

of the economic situation are illustrated in Table 6, which shows the course of real weekly earnings, that is, actual earnings corrected for changes in the cost of living, from 1929 to 1934. While actual weekly earnings in manufacturing fell 30.1 per cent from 1929 to 1934, real weekly earnings declined only 12.8 per cent. The real earnings of public utility employees actually increased 17.6 per cent, although their actual earnings had in the same period declined by 5.7 per cent.

TABLE 6  
REAL AVERAGE PER CAPITA WEEKLY EARNINGS  
PERCENTAGE CHANGES

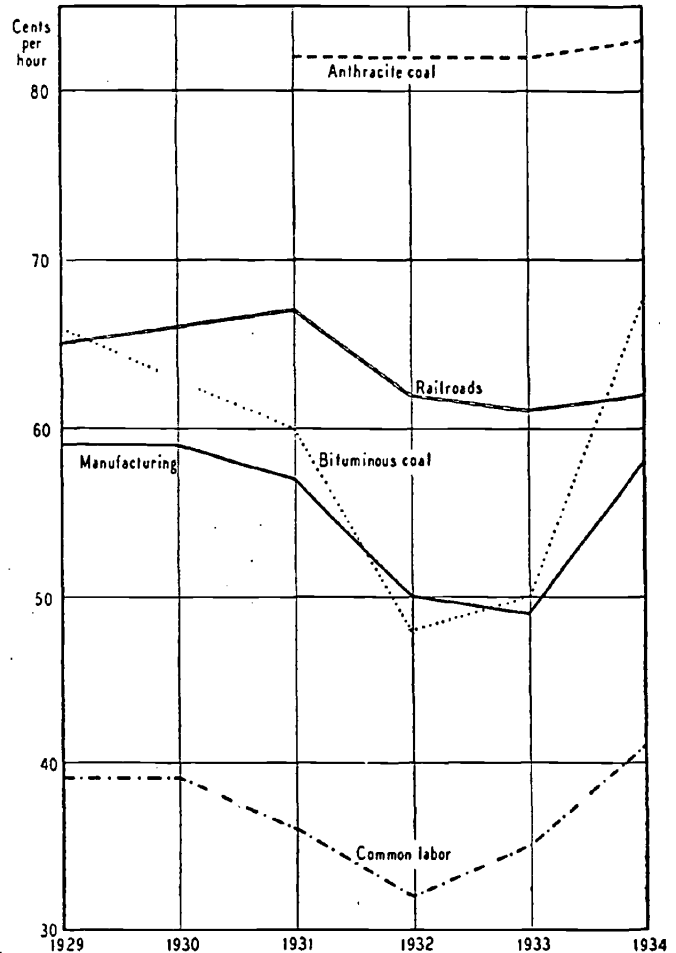
INDUSTRY	1929 to 1933, 1933 to 1934 and 1929 to 1934		
	1929 to 1933	1933 to 1934	1929 to 1934
Manufacturing	-16.1	+ 3.7	-12.8
Extractive Industries			
Coal mining			
Anthracite	+ 8.4	+ 1.1	+ 9.5
Bituminous	-25.3	+21.0	- 9.7
Other mining			
Metalliferous	-16.7	+ 3.5	-13.8
Non-metallic and quarrying	-27.9	+ 2.6	-26.1
Public Utilities	+19.6	- 1.6	+17.6
Trade			
Wholesale	+12.9	- 3.6	+ 8.9
Retail	+ 5.4	- 1.1	+ 4.2
Class I Railroads	+ 7.4	- 0.2 <sup>1</sup>	+ 7.2 <sup>1</sup>

<sup>1</sup> First 11 months of 1934 only.

IV HOURLY EARNINGS

Hourly earnings measure the earning power of labor. They indicate how much a worker earns when he is at work. They are at the same time a measure of the price of labor in the labor market. And if allowance is made for changes in the productivity of labor, they are a rough indicator of the prevailing level of labor cost. When the government, through one or another of its regulatory agencies, fixes wages, it sets the rate of hourly earnings. It does not fix weekly, monthly or annual earnings, but establishes the appropriate hourly earnings, presumably in the hope that they will yield labor the anticipated weekly, monthly and annual earnings. Fixing wages, then, is like fixing any price that is established at a specified level in the expectation that it will yield a specified income. Thus public utility rates are established at specified levels in the expectation that such a schedule of rates will yield a specified volume of business and hence a specified income. To the extent to which the actual volume of business and of income falls short of the estimated, the established schedule of rates may be said to represent an error in judgment. The same thing is roughly true of the fixing of wage rates. Much of the current confusion concerning the movement of wages rests upon the failure to distinguish between rates of wages and earnings.

Chart 2  
AVERAGE HOURLY EARNINGS  
1929-1934



Except for manufacturing, rail transportation, and a limited number of occupations, data on hourly earnings are available for only the past several years. From the high to the low of this depression, the hourly earnings of manufacturing labor apparently declined between 20 and 30 per cent. The recovery in hourly earnings has been rapid and great. Where it is possible to piece together the pertinent figures, they show that the losses in hourly earnings suf-

TABLE 7  
AVERAGE HOURLY EARNINGS, 1929-1934

INDUSTRY	1929	1930	1931	1932	1933	1934
Manufacturing <sup>1</sup>	\$.59	\$.59	\$.57	\$.50	\$.49	\$.58
Coal mining <sup>2</sup>						
Anthracite	....	....	.82	.82	.82	.83
Bituminous	.66	....	.60	.48	.50	.68
Class I Railroads <sup>3</sup>	.65	.66	.67	.62	.61	.62 <sup>4</sup>
Common Labor in Road Building <sup>5</sup>	.39	.39	.36	.32	.35	.41

<sup>1</sup> National Industrial Conference Board.

<sup>2</sup> U. S. Bureau of Labor Statistics.

<sup>3</sup> Computed by the National Bureau of Economic Research from data published by the Interstate Commerce Commission.

<sup>4</sup> First 11 months only.

<sup>5</sup> U. S. Department of Agriculture, Bureau of Public Roads.

TABLE 8  
ACTUAL AND REAL HOURLY EARNINGS<sup>1</sup>  
PERCENTAGE CHANGES  
JUNE 1933 TO LAST QUARTER OF 1934

INDUSTRY	PERCENTAGE CHANGES IN HOURLY EARNINGS	
	ACTUAL	REAL
Manufacturing	+33.0	+22.0
Extractive Industries		
Coal mining		
Anthracite	+ 0.7	- 7.6
Bituminous	+56.4	+43.5
Other mining		
Metalliferous	+24.3	+14.0
Non-metallic and quarrying	+27.7	+17.2
Crude petroleum producing	+23.2	+13.0
Public Utilities	+10.8	+ 1.7
Telephone and telegraph	+ 4.5	- 4.1
Electric light and power and gas	+23.8	+13.6
Electric railroads and motor buses	+ 7.8	- 1.1
Trade		
Wholesale	+19.7	+ 9.8
Retail	+23.2	+13.0
Class I Railroads <sup>2</sup>	+ 3.5	- 5.0
Common Labor in Road Building <sup>3</sup>	+24.2	+13.9

<sup>1</sup> Based on data published by the U. S. Bureau of Labor Statistics. The figures for public utilities are based on weighted averages computed by the National Bureau of Economic Research.

<sup>2</sup> Based on figures computed by the National Bureau of Economic Research from data published by the Interstate Commerce Commission. 1934 data are for October and November only.

<sup>3</sup> U. S. Department of Agriculture, Bureau of Public Roads.

ferred during the depression had by the close of 1934 been substantially made up, and that hourly earnings were then not far below the levels of 1929 (see Chart 2 and Table 7).

Since the NRA has been operative, from June 1933 to the end of 1934, both actual and real hourly earnings have increased very substantially in practically all categories of industry, and real hourly earnings have declined only in those industries in which rates of wages were already high and had not been reduced materially during the course of the depression (see Table 8). Thus the hourly earnings in anthracite coal mining have been above 80 cents an hour since 1929; they were not reduced during the depression and were not increased in the months of recovery. The hourly wages of telephone and telegraph workers were likewise high, 71 cents an hour in June 1933, and were consequently not greatly increased thereafter. The same is true of railroad wages, which were cut 10 per cent in February 1932 and are now approximately 4 per cent below 1929.

During the period when actual and real hourly earnings were changing at the indicated rates, both actual and real weekly earnings were advancing much more slowly. Table 9 compares the rates of change in these two related series. Furthermore, hourly earnings in manufacturing were, in the last quarter of 1934, as high as they were in 1929, whereas the actual weekly earnings of the same class of employees were 30 per cent below the level of 1929. Similarly the hourly rate of wages of railroad workers was, toward the end of 1934, 4 per cent below 1929, but actual weekly earnings were 12 per cent below. Again, soft-coal miners had a higher rate of hourly wages in the last quarter of 1934 than in 1929, but their weekly earnings were 25 per cent less.

TABLE 9  
COMPARISON OF PERCENTAGE CHANGES IN ACTUAL AND REAL HOURLY  
EARNINGS AND IN ACTUAL AND REAL WEEKLY EARNINGS<sup>1</sup>  
JUNE 1933 TO THE LAST QUARTER OF 1934

INDUSTRY	PERCENTAGE CHANGE			
	HOURLY EARNINGS		WEEKLY EARNINGS	
	ACTUAL	REAL	ACTUAL	REAL
Manufacturing	+33.0	+22.0	+ 6.6	- 2.2
Extractive Industries				
Coal mining				
Anthracite	+ 0.7	- 7.6	- 3.1	-11.1
Bituminous	+56.4	+43.5	+51.4	+38.9
Other mining				
Metalliferous	+24.3	+14.0	+13.5	+ 4.1
Non-metallic and quarrying	+27.7	+17.2	- 0.3	- 8.5
Crude petroleum producing	+23.2	+13.0	+ 1.4	- 7.0
Public Utilities	+10.8	+ 1.7	+ 5.4	- 3.3
Telephone and telegraph	+ 4.5	- 4.1	+ 6.6	- 2.2
Electric light and power and gas	+23.8	+13.6	+ 4.5	- 4.1
Electric railroads and motor buses	+ 7.8	- 1.1	+ 4.8	- 3.9
Trade				
Wholesale	+19.7	+ 9.8	+ 2.4	- 6.1
Retail	+23.2	+13.0	+ 4.5	- 4.1
Class I Railroads	+ 3.5	- 5.0	+ 5.1	- 3.6

<sup>1</sup> For sources, see Table 8.

On the whole such records as we have indicate that hourly earnings have returned to their pre-depression levels. In light of the decline in the cost of living, real hourly earnings are now substantially higher than they were in 1929, and even in 1920, for employees on the railroads, in manufacturing, for common labor, and, judged by the prevailing levels of hourly earnings at the end of 1934, probably for many other categories of industry as well (see Chart 3 and Table 10).

and women in manufacturing was narrower in 1934 than in any year of the period from 1920 to date.

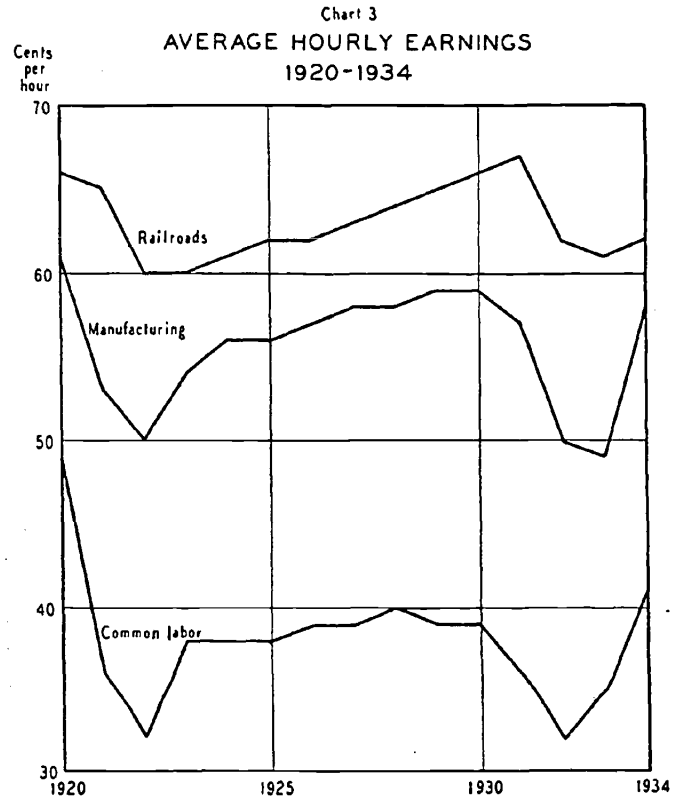
TABLE 10  
AVERAGE HOURLY EARNINGS, 1920-1934

YEAR	MANUFACTURING <sup>1</sup>	CLASS I RAILROADS <sup>2</sup>	COMMON LABOR IN ROAD BUILDING <sup>3</sup>
1920	\$.61	\$.66	\$.49
1921	.53	.65	.36
1922	.50	.60	.32
1923	.54	.60	.38
1924	.56	.61	.38
1925	.56	.62	.38
1926	.57	.62	.39
1927	.58	.63	.39
1928	.58	.64	.40
1929	.59	.65	.39
1930	.59	.66	.39
1931	.57	.67	.36
1932	.50	.62	.32
1933	.49	.61	.35
1934	.58	.62 <sup>4</sup>	.41

Percentage change in real hourly earnings,  
1920-34      +44.5      +42.7      +27.2

<sup>1</sup> National Industrial Conference Board.  
<sup>2</sup> Computed by the National Bureau of Economic Research from data published by the Interstate Commerce Commission.  
<sup>3</sup> U. S. Department of Agriculture, Bureau of Public Roads.  
<sup>4</sup> First 11 months only.

Major changes in wages and the cost of living, of the magnitude here recorded, clearly do not affect all industries and all occupations in the same way. The wide diversity of the movements in weekly and hourly earnings among important categories of industry has already been pointed out. Data which would throw light on the disparate movement of wages among workers of varying degrees of skill are sparse, and such as they are, are presumably less reliable than the figures so far used. Inadequate but interesting samples published by the National Industrial Conference Board indicate, however, that while the hourly wage rates of unskilled labor have increased somewhat more rapidly than the wages of the skilled, the disparity is not substantial enough to have disturbed the wage differentials characteristic of manufacturing industries in this country. For female labor in manufacturing the hourly wage rates increased much more substantially than those for male, with the consequence that the differential between the wages of men



V HOURS OF WORK

The hours of labor fixed in the Codes of Fair Competition are the full-time hours per week, or the maximum work-week. Such regulation of hours is effective, therefore, only when labor is fully employed and when the reduction in the maximum work-week spreads the available employment over a larger number than would otherwise have been employed. The most satisfactory record of changes in the full-time hours of work is to be had for the manufacturing industries. The available data show that the maximum work-week declined from 57.3 hours in 1909 to 51.2 hours in 1919; remained at practically that level from 1920 to 1929; and during the depression increased again to probably as much as an average of 55 hours for all manufacturing. The great majority of the codes provide a maximum work-week of 40 hours; a lesser number of 36 hours; and only a few of more than 40 hours. It may be estimated that the average full-time week in manufacturing is now between 40 and 44 hours. This represents a radical decline in the hours of labor and means that, under prevailing business conditions, there is considerable work-spreading and sharing of work with a consequent reduction in the average weekly earnings and annual earnings of those who are employed.

## VI CONCLUSIONS

Unquestionably the most striking feature of the statistics of wages and hours is the degree of recovery of hourly earnings and the reduction in the hours of work. Hourly earnings have now practically made up the losses suffered in the depression and are in general at their 1929 levels. It is, moreover, a fact of the utmost significance that hourly earnings in the important categories of employment are about where they were during the years of post-War prosperity from 1922 to 1929, and are, in many instances, not materially below recorded hourly earnings in 1920, the year of peak wages in this country. In the face of drastic declines in the price level, rates of wages, in so far as they are measured by hourly earnings, have apparently escaped readjustment of anything like the same amount.

The full-time hours of work have, in the past two years, been more radically reduced than in any similar period of which we have any record. The maximum work-week is now certainly five hours shorter than it was in 1929 and, in the judgment of the writer, the reduction may easily have been greater.

The average weekly earnings of employed labor have increased from 1933 to 1934 in all important categories of employment which are recorded in this *Bulletin*, but they have not increased by the same amount as hourly earnings. In some the increase was less than that in the cost of living. But in these classes of employment (public utilities, wholesale and retail trade, Class I railroads) the decline in weekly earnings throughout the depression was not so great as in the others, with the result that the real weekly earnings of employees in public utilities, wholesale and retail trade, and Class I railroads were higher in 1934 than in 1929.

In all important groups of industries, both the volume of employment and the volume of payrolls, as shown in Table 3, were materially higher in 1934 than in 1933. In all of these groups also, the total volume of wage and salary disbursements in 1934 was considerably below 1929 (see Table 4), the decline in that period ranging from 83 per cent in private construction to 32 per cent in the group of electric light and power and manufactured gas industries.

## COMMENTS AND NOTES ON THE FOREGOING ARTICLE

The following statement by N. I. Stone, a Director at Large of the National Bureau, is presented in accordance with the privilege afforded Directors by Section 5 of the rules that govern the publication of National Bureau reports.

A copy of any manuscript proposed for publication shall also be submitted to each member of the Board. If publication is approved each member is entitled to have published also a memorandum of any dissent or reservation he may express, together with a brief statement of his reasons. The publication of a volume does not, however, imply that each member of the Board of Directors has read the manuscript and passed upon its validity in every detail. (*Adopted October 25, 1926; revised February 6, 1933.*)

## COMMENTS ON DR. WOLMAN'S PAPER

BY N. I. STONE

The long paragraph in Dr. Wolman's paper beginning with the words "This American legislation differs from most of the European," in the first column of page 2, is written in the spirit of an opponent of the minimum wage policy of the NRA. Apart from the rather amusing circumstance that this opposition should come from the former Chairman of the Labor Advisory Board of the NRA which was largely responsible for that policy, the paragraph in question is neither fair nor accurate in its formulation of the theory of the advocates of that policy, particularly in the statement which represents them as assuming

"that the wage rate is the key to the income of labor, and that, if wage rates are lifted, the earnings and income of labor will at the same time rise and the income in the country increase proportionately."

Dr. Wolman fails to substantiate his statement by quotations from any authoritative writers on the subject. Contrary to his own apparent dissent, the wage rate is the key to the income of labor, which does not mean that it is the sole determinant of such income. All things being equal, "if wage rates are lifted, the earnings and income of labor will at the same time rise." That this income will be modified by the volume of employment, the rise in the cost of living, etc., goes without saying. But whether the rise in prices will offset the rise in wages in whole or in part is something that will depend on several circumstances which will affect the real wages in different ways depending upon too many circumstances to be discussed here.

The final sentence in the paragraph, reading:

"In view of this attitude, which now has a tenacious hold on the minds of many Americans, data on wage rates, hours and earnings assume an added significance, and their relationship may well be of critical importance in appraising the wisdom of current public policy"

carries the implication that the wage and earnings data submitted by Dr. Wolman prove the unwisdom of this "current public policy." Yet, after analyzing the statistical data presented in his study, Dr. Wolman admits that

"On the whole such records as we have indicate that hourly earnings have returned to their pre-depression levels. In light of the decline in the cost of living, real hourly earnings are now substantially higher than they were in 1929, and even in 1920, for employees on the railroads, in manufacturing, for common labor, and, judged by the prevailing levels of hourly earnings at the end of 1934, probably for many other categories of industry as well" (page 6).

It would thus seem that the attempt to regulate wages through governmental or cooperative action by the entire industry through the medium of codes has been instrumental in raising wages with the first improvement in industry. Moreover, and what is more important, not only have the money wages been raised but the "real hourly earnings are now substantially higher than they were in 1929, and even in 1920."

Furthermore, not only have the hourly earnings increased, but also the total earnings, as shown by Table 3 in Dr. Wolman's paper. It appears from that table that in manufacturing industries, payrolls in 1934 increased 27.6 per cent over 1933 although employment increased only 14.2 per cent. In other words, the percentage increase in earnings was nearly double that in employment. In bituminous mining, the increase in payrolls for the same period was 43.4 per cent as against only 13.7 per cent increase in employment. Throughout this table, without exception, there is a consistent increase of earnings in excess of increase in employment, showing that contrary to Dr. Wolman's doubt as to the efficacy of the wholesale minimum wage adjustments under code regulations, both the hourly rates and the weekly earnings, and even the real wages, after allowing for the increase in the cost of living, have increased.

But admitting that

"The average weekly earnings of employed labor have increased from 1933 to 1934 in all important categories of employment which are recorded in this *Bulletin*,"

Dr. Wolman still seems to find support for his opposition to the NRA wage policy in the fact that

"they have not increased by the same amount as hourly earnings" (page 8).

How could they with the hours drastically reduced? The NIRA did not go into effect until June 16, 1933. The first code did not take effect until July 17, 1933. Most of the codes did not go into effect until the latter part of 1933 or some time in 1934. The maximum number of hours which industrial workers were permitted to work were, therefore, greatly reduced from 1933 to 1934. It would, therefore, be a mathematical impossibility for their weekly earnings to increase to the same extent as their hourly earnings. On the other hand, they have increased, as we have seen, far in excess of the increase in employment.

To sum up: the wage data presented by Dr. Wolman in this *Bulletin* fail to support his critical reflections on the efficacy of the NRA wage-policy in raising the earnings of the workers.

#### EDITORIAL NOTE

It should be noted that Dr. Wolman does not present the facts in this *Bulletin* as constituting, in themselves, sufficient basis for judgment as to the wisdom of wage policy. The *Bulletin* does not contain, for instance, any information on changes in productivity, information that would be neces-

sary for conclusions as to the effect upon labor costs of increases in hourly wage rates. It does not contain information on changes in other elements of production costs, or on the course of profits. Other publications of the National Bureau have dealt and will deal with these matters, to the extent admitted of by available data. Dr. Wolman does not assume that the data presented establish a causal connection between increases in wage rates and changes in employment and in labor income. The present evidence does not yield conclusions as to whether payrolls would have been larger or smaller if wages had been increased by a smaller amount, or by a larger one. Many factors other than wage rates affect the volume of production and employment. But data on wage rates, hours and earnings have an obvious relation to all the points at issue in this field. They are presented in this *Bulletin* as facts bearing upon an important current question; facts to be used by readers in their own interpretation of economic changes.

*Dr. Leo Wolman returns with this article to active work on the staff of the National Bureau. During his leave of absence he served as Chairman of the Labor Advisory Board of the NRA, was a member of the National Labor Board and, for a time, acting chairman. He is now Chairman of the National Automobile Labor Board.*

*For the National Bureau Dr. Wolman is completing a monograph on Movements in Trade Union Membership since 1923 (the last year covered by his monograph, THE GROWTH OF AMERICAN TRADE UNIONS, Volume 6 of our series), and has started his comprehensive study of wage rates and working hours.*

#### THE BULLETIN FOR CLASSROOM USE

In response to requests from several teachers of economics in colleges we have decided to offer a special price of ten cents a copy on orders for ten or more copies of one issue of the *Bulletin* for classroom use.

#### CORPORATE PROFITS AS SHOWN BY AUDIT REPORTS

The study of *Corporate Profits as Shown by Audit Reports*, made by W. A. Paton, Professor of Accounting at the University of Michigan, with the aid of the American Institute of Accountants, is in galley proof.

The price of the book, Volume 28 in the National Bureau series, will be \$1 (125 pp., 10 tables, 5 charts). Orders are being filed now for delivery of copies in April.

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### ANNUAL MEETING

At their annual meeting on February 4 the Directors of the National Bureau of Economic Research welcomed Frederick M. Feiker from the American Engineering Council to succeed Robert B. Wolf, who had resigned because of absence in the Far West.

A resolution adopted by the American Statistical Association at its meeting on December 29, 1934, was read as follows:

Whereas this year marks the fifteenth anniversary of the National Bureau of Economic Research; and whereas during its fifteen years of existence the Bureau has made most notable contributions in the field of Statistics; and whereas during the entire period the American Statistical Association has been most ably represented by Colonel Malcolm C. Rorty acting as a Director of the Bureau:

Now, therefore, be it resolved that the members of the American Statistical Association assembled in annual convention convey to the National Bureau of Economic Research and to its representative, Colonel Rorty, our appreciation of their achievements.

The Annual Report of the Director of Research, Wesley C. Mitchell, was read and accepted and is now ready for distribution. Copies will gladly be sent on request.

### REVIEWS

#### BOOK-OF-THE-MONTH CLUB NEWS, FEBRUARY 1935

"A 'must' book for the serious-minded economics student is *Mechanization in Industry* (\$3.50), by Harry Jerome, one of the publications of the National Bureau of Economic Research. A book with that imprint needs no further bush for the increasing number of those who are seriously studying, in their spare time, how our economic wheels go round. As the title indicates the book is a detailed inquiry into the relation of the machine to contemporary economic life."

THE ANNALIST, February 22, 1935, wrote as follows of *Mechanization in Industry* (484 pp.):

"Whether the facts of our economic organization can be marshaled rapidly enough to catch up with the imaginings of false prophets is a serious question these days. It takes much longer, naturally, to expound the latest popular theory, so that there are not many grounds for hopefulness. Nevertheless some of our research organizations are making valiant efforts, and the present volume is one of them.

It is one of the virtues of recent publications of the National Bureau that the results of what is usually a comprehensive research project are summarized in the first chapter. In this case the findings may be still further summarized as follows:

1. A continuing increase in mechanization at at least a moderate pace may be expected.

The National Bureau of Economic Research was organized in 1920 in response to a growing demand for scientific determination and impartial interpretation of facts bearing upon economic and social problems. Freedom from bias is sought by the constitution of its Board of Directors without whose approval no report may be published. Rigid provisions guard the National Bureau from becoming a source of profit to its members, directors or officers, or from becoming an agency for propaganda.

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2. No more likely than a near cessation of mechanical progress is the danger of an uncontrollably rapid mechanization. It does not appear probable that in the near future conditions will be exceptionally favorable for rapid mechanization.

3. Changes in the rate of mechanization, although limited, are not negligible. The rate of change is relatively stable; but this means, not that there are no significant changes in the rate of mechanization but that rather that they are within limits that are to a reasonable degree predictable.

4. There are some ill effects requiring thoughtful consideration, but the rate and extent of mechanization are not beyond reasonable possibility of prediction and control, or at least the effects can be foreseen and ameliorated. Progress brings technological unemployment which, even in the case of changes representing a net gain to society, may bring losses to individual workers. There is also reason to suspect that mechanization may aggravate cyclical fluctuations through intensifying competition.

These conclusions may appear to the casual reader to throw little light on the problem; and it is doubtless true that the author discovered some difficulty in reaching any broad conclusions which would be valid throughout industry in general. But that very fact is significant in this age of dogmatism, and when we come to the situation in individual industries the book provides a careful and valuable analysis of the facts in each instance. Like so many economic problems, circumstances surrounding the individual industry alter entirely the problem of mechanization; and from this date forward, because of Dr. Jerome's research, it will be both possible and necessary to examine the facts in each case before engaging in the popular pastime of advancing a new 'plan' for the more abundant life."