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Wages During the Depression

LEO WOLMAN

THE wage history of the current depression is of exceptional interest not only because of the severity of the decline in wages since 1929 but also because of the complexity and importance of the economic problems associated with the course of wages during these past four years. In a period such as this, which is characterized by a drastic and prolonged decline in wholesale prices, the measurement of price disparities and of the behavior of various factors of cost is fundamental to an understanding of prevailing economic conditions. Although it is commonly believed in this country that, during the past several decades, there has been a universal displacement of labor by machinery, labor cost is still a material item in the cost of doing business in practically all of the important industries of the country. Consideration, therefore, of the whole question of price adjustment involves as comprehensive an analysis of wages as it is possible to make. From the standpoint of social history, as well as of economic theory, wage movements assume even greater significance. They reflect the changing standards of living of the most numerous section of our population. And they register the fluctuations in purchasing power which, in the judgment of some students of the present situation, determine the chances for business recovery and, hence, for fuller employment.

Exact answer to the many questions regarding wage movements is in the present state of the available data not possible. It is only in the past several years that current wage statistics have been collected for many of the most important categories of industry. The newer series are in most instances less reliable than the older, if for no other reason than that the samples are still too small to be representative. For so basic an industry as construction, the available indexes of wages are evidently far from the truth. There is considerable doubt, likewise, of the representative character of the wage data in the occupations of wholesale and retail trade. Figures of actual earnings, finally, are much superior to the statistics of wage rates and hourly earnings. But in spite of these difficulties it is possible, through the application of various tests of consistency among series of wages collected independently, to reach reasonably reliable conclusions concerning the general movement, during this depression, of both actual earnings and rates of wages.

No attempt is made in this *Bulletin* to allow, in the measurement of the earnings of labor, for the volume of total unemployment. The wage data here used reflect changes in the amount of short time but not of full unemployment. The statistics, therefore, of both weekly and hourly earnings given in this *Bulletin* represent the earnings of employed persons. The effect of unemployment on the incomes of wage and salaried workers is being estimated in the studies of national income now in progress at the National Bureau. Estimates are, likewise, being made of the fluctuations in the volume of unemployment in this country for each of the years since 1927. The results of both of these inquiries will appear in later issues of this series of *Bulletins*.

I. PER-CAPITA WEEKLY EARNINGS

The largest body of wage data available in the United States are the statistics, published monthly by the United States Bureau of Labor Statistics, of the total wages paid and the total number of persons employed in large samples of specific classes of industry. From these data it is possible to compute the average per-capita weekly earnings of employed persons for every month in the year. A summary of such per-capita earnings for the years 1929 and 1932 is given in Table 1.

Obviously, so far as the earnings of employed persons are concerned, the industries of the country fall into two distinct groups—the first marked by a very radical drop in earnings and the second by a relatively moderate decline during the period of this depression. In the manufacturing, soft coal and metalliferous mining industries the degree of the decline in earnings is the combined result of the reduction in the volume of employment and drastic revisions in the wage scales. In the remaining industries earnings have been maintained at relatively higher levels either because the

TABLE 1

AVERAGE PER-CAPITA WEEKLY EARNINGS, 1929 AND 1932[a]

Industry	*1929*	*1932*	*Percentage change, 1929 to 1932*
Manufacturing	$27.36	$18.18	−33.6
Bituminous Coal	25.00	13.78	−44.9
Anthracite Coal	30.85	24.86	−19.6
Metalliferous Mining	30.12	18.63	−38.2
Public Utilities	29.56	28.58	− 3.3
Trade, Retail and Wholesale	25.10	21.95	−12.6
Class I Railroads	32.62	27.15	−16.8

[a]It should be repeated that the samples from which these earnings are derived are of unequal value, so that much greater reliance can be placed on the figures for railroads and manufactures than, for example, on those for retail and wholesale trade.

drop in the volume of business has been less severe in these than in other industries, or because the employees have succeeded in protecting their wage scales. In the anthracite coal and railroad industries, the volume of business and, hence, of employment has fallen substantially, but the wage rates of the anthracite miners have so far remained unchanged, while a wage cut of 10 per cent went into effect in the railroad industry as late as February 1932. The moderate decrease in the earnings of the employees of public utilities and of firms engaged in retail and wholesale trade is due mainly to the maintenance of higher levels of business activity in these branches of industry, but partly also to the fact that wage rates have not been reduced as drastically as in the highly competitive manufacturing and soft coal industries.

Among these industries, moreover, it is noteworthy that by far the largest decline in earnings took place during 1932, the third year of the depression. The single exception is the anthracite coal industry, although the drop in 1931 was severe in both bituminous and metalliferous mining. But in the remaining industries, including manufacturing, it was not until 1932 that earnings began to fall at an unusual rate. In three of the industries, weekly earnings actually increased in 1930, and in one, the public utility industry, the increase continued through 1931. While, moreover, earnings declined in trade and rail transportation, the recorded drop in 1931 is surprisingly small. And even in the group of manufactures, the decrease by the end of 1931 appears in retrospect to be less than might have been expected in view of the magnitude of the forces of this depression.

TABLE 2

PERCENTAGE CHANGES IN PER-CAPITA WEEKLY EARNINGS FOR EACH YEAR, 1929-1932

Industry	*1929 to 1930*	*1930 to 1931*	*1931 to 1932*
Manufacturing	− 7.2	−11.3	−19.2
Bituminous Coal	−12.3	−19.1	−22.3
Anthracite Coal	+ 1.8	−14.4	− 7.6
Metalliferous Mining	− 6.6	−18.3	−19.0
Public Utilities	+ 2.2	+ 1.0	− 6.3
Trade	+ 1.3	− 2.8	−11.2
Class I Railroads	− 1.9	− 3.5	−12.1

COMPARISON WITH THE DEPRESSION OF 1920

Comparison between the course of weekly earnings in the depression of 1920 and in that of 1929 can be reliably made only for the group of manufacturing industries. Even in this case it is not clear that the series available for the years 1920 to 1922 is as representative as the much more comprehensive data for the present depression. But inspection of the two series leads to the conclusion that, while the 1920 data may slightly exaggerate the decline in earnings during the earlier depression, the downward bias is probably not great. Between the low and high years of the depression, actual weekly earnings of manufacturing workers declined from 1920 to 1922 by 21.2 per cent, and between 1929 and 1932 by 33.6 per cent. By this measure, therefore, this depression is of much greater severity than the earlier one.

TABLE 3

CHANGES IN ACTUAL WEEKLY EARNINGS IN MANUFACTURES, 1920 TO 1922 AND 1929 TO 1932

Earnings, 1920 to 1922		*Earnings, 1929 to 1932*	
1920	$29.48	1929	$27.36
1921	23.97	1930	25.39
1922	23.23	1931	22.51
		1932	18.18
Decline 1920 to 1922	21.2%	Decline 1929 to 1932	33.6%
High Month, Oct. 1920	$30.79	High Month, Apr. 1929	$28.21
Low Month, Jan. 1922	20.09	Low Month, Aug. 1932	16.93
Decline High to Low Month	34.8%	Decline High to Low Month	40%

Assuming that August 1932, the lowest month recorded by the end of 1932, represents approximately the low month in the weekly earnings of the employed in manufacturing industries, the decline from the high to the low month is not widely different in the two depressions, being 35 per cent in the earlier and 40 per cent in the later period.

The slow rate of decline in earnings, pointed out earlier in this *Bulletin,* is confirmed by this comparison between the movement of earnings in manufacturing in these two depressions. Almost the whole of the decrease in earnings from 1920 to 1922 took place in the first year, from 1920 to 1921. Although earnings were lower still in 1922, they were only slightly so. During the latest cycle, however, the fall in earnings during the first year of the depression was only 7 per cent; from 1929 to 1931, it was 18 per cent, still less than the drop from 1920 to 1921; while the radical adjustment was made in 1932 when, in comparison with

of Labor Statistics, in cases where both are available for the same period of time, disclose little radical difference between the Board and Bureau series.

According to the data published by the Board, hourly earnings reached their peak in the phase of business since 1929, at 59.3 cents, in August 1930. In December 1932, hourly earnings in the same series had declined to 46.7 cents, or 21.2 per cent. Hourly earnings in the Bureau series, on the other hand, stood in December 1932 at 43.3 cents. Among the industries making up the total of manufactures, the greatest discrepancy between the two series is in the cotton textile industry. In this industry, the Board reports wages only in the northern mills and records hourly earnings in December 1932 as 30.6 cents. The Bureau, covering both the South and the North, finds hourly earnings in the same month to be 22.3 cents. For the rest, the sample of the Bureau appears to be much more comprehensive than that of the Conference Board. If, therefore, hourly earnings in August 1930 are compared with the Bureau measure of earnings in December 1932, 43.3 cents an hour, the decline is found to be 27 per cent. It may then be fairly estimated that hourly earnings of manufacturing labor had declined from the prosperity of 1929 to the closing month of 1932 from 20 to 30 per cent. This decline compares with the drop in hourly earnings during the depression of 1920 of approximately 20 per cent.

Comparison between the hourly earnings of manufacturing labor in December 1932 and before the War can best be made with the figure for hourly earnings in July 1914, 24.7 cents, reported by the Conference Board. Hourly earnings thus stood in December 1932, at 43.3 cents, or 75.3 per cent higher than in July 1914.

THE COAL INDUSTRY

Hourly earnings in the two divisions of the coal industry have pursued quite a distinct course not only during this depression but also in the period since 1920. In anthracite coal hourly earnings were higher in 1932 than in 1920 and have not fallen since 1929:

1920	73.0 cents
1922	75.3 "
1924	85.7 "
1931	82.4 "
1932	82.1 "

In the soft coal industry, on the contrary, hourly wages have steadily declined since 1922, and the decline has continued at an accelerated rate in the past three years. The intensely competitive character of this industry, the substitution of other fuels for soft coal, and the uninterrupted decline since the middle 'twenties in the strength of the union of the soft coal miners, the United Mine Workers, have combined to reduce prevailing wages and other standards of labor. Between 1922 and 1932, the hourly earnings of soft coal miners fell 44 per cent, and between 1929 and 1932, 28 per cent:

1922	85.3 cents
1924	78.8 "
1926	76.3 "
1929	65.9 "
1931	59.8 "
1932	47.6 "

RAIL TRANSPORTATION

The course of hourly earnings of railroad employees illustrates the condition in an industry in which both prices and wages are in substantial measure under public control. This fact accounts largely for the maintenance of railroad wages in 1932 at a level 4.5 cents below the level reached in 1920. The reduction in railroad wages suffered in 1922

1917	30.0 cents	1925	61.8 cents
1918	44.0 "	1926	61.7 "
1919	55.0 "	1927	63.0 "
1920	66.0 "	1928	64.0 "
1921	65.0 "	1929	65.1 "
1922	60.0 "	1930	66.0 "
1923	59.8 "	1931	66.9 "
1924	61.0 "	1932	61.5 "

was made up in the following years of the post-War prosperity; and the rates so gained were maintained until the first cut in wages of this depression, 10 per cent, became effective, February 1, 1932.

COMMON LABOR

No single measure can be descriptive of the levels of wages for unskilled manual and common labor in the United States. The following tabulation of the hourly wage rates of common labor in road building, compiled by the Bureau of Public Roads, is perhaps as representative an index of the movement of the wages of this class of labor as can be had.

1915	20 cents	1924	38 cents
1916	23 "	1925	38 "
1917	28 "	1926	39 "
1918	36 "	1927	39 "
1919	41 "	1928	40 "
1920	49 "	1929	39 "
1921	36 "	1930	39 "
1922	32 "	1931	36 "
1923	38 "	1932	32 "

Thus the hourly rates of common labor in road building fell by 18 per cent from 1929 to 1932; they were in 1932 the same as in 1922; and they were in this latest year sixty per cent above the rate of 1915.

UNION WAGES

Satisfactory series of union rates of wages do not, in fact, exist in this country. There are at present several reasons for this condition. In the first place during the past decade the relative area of union control has steadily shrunk. Union rates, accordingly, even when they are accurate, have become less typical of the industries or occu-

the preceding year, earnings declined more than 19 per cent. Likewise, between the high and low month in the first cycle, a period of 14 months had elapsed, whereas in the present case, the period from the high to the low month amounted by December 1932 to 39 months, and may well be considerably longer.

REAL EARNINGS, 1929 TO 1932

In a period of rapidly changing prices, money earnings and income are affected by concomitant variations in the purchasing power of money. So far as earnings are concerned, it is the customary practice to compute their purchasing power by making allowance for the changes in retail prices contained in appropriate measures of the cost of living. Two indexes of the cost of living in this country, in the main constructed by independent statistical agencies, the United States Bureau of Labor Statistics and the National Industrial Conference Board, show practically the same decline of 22 per cent in the average annual cost of living from 1929 to 1932. Applying this figure to the percentage changes in earnings in the same period, real earnings, or the purchasing power of money earnings, in 1932 are shown in the following tabulation to be in some cases substantially below 1929, but in others appreciably higher.

Industry	*Percentage Change in Real Weekly Earnings 1929 to 1932*
Manufacturing	−14.9
Metalliferous Mining	−29.4
Anthracite Coal	+ 3.1
Bituminous Coal	−20.8
Public Utilities	+24.0
Trade	+12.1
Class I Railroads	+ 6.7

II. HOURLY EARNINGS AND WAGE RATES

How far the earning power of labor has changed is most accurately measured by recording the changes in the rates of wages paid—piece rates in the case of labor compensated in proportion to output, and hourly or daily rates for labor paid in proportion to time worked. While scattered series of changes in rates of wages are available, they are neither comprehensive nor accurate enough to justify using them. The closest approximation to changes in rates of wages are the movements in hourly earnings. Hourly earnings, to be sure, reflect the volume of employment and the productivity of labor as well as the established schedule of wage rates, but they are in this country as good an index of rate changes as can under the circumstances be obtained. Until recently, continuous series of hourly earnings were available only for a limited group of industries, but beginning in the last quarter of 1932, the United States Bureau of Labor Statistics undertook to publish monthly the hourly earnings of labor in practically the same group of industries for which it has for some years been reporting actual weekly earnings.

TABLE 4
HOURLY EARNINGS IN SPECIFIED INDUSTRIES, DECEMBER 1932

Industry	*Hourly Earnings*
Manufacturing	43.3 cents
Anthracite Coal	82.1 "
Bituminous Coal	47.6 "
Metalliferous Mining	46.6 "
Quarrying, etc.	42.5 "
Crude Petroleum Producing	63.6 "
Telephone & Telegraph	68.9 "
Power & Light	65.3 "
Electric Railways	59.2 "
Wholesale Trade	56.1 "
Retail Trade	41.3 "
Hotels	24.9 "

With respect to hourly earnings, the industries of the country fall into much the same categories as they do with respect to actual weekly earnings. Although the relative position of specific industries would be modified somewhat by the separation of the hourly earnings of male from those of female workers, the industries included in Table 4 would still fall into the two classes of those paying relatively low and those paying relatively high wages in December 1932. In the first group are the manufacturing and mining industries, excepting anthracite coal, and, in the second group are the public utilities, particularly telephone and power and light, anthracite coal, and crude petroleum producing industries. The industries, in other words, exposed to the unrestricted forces of competition show low wage rates; whereas the sheltered industries, which for one reason or another have been able to maintain higher levels of output, and industries in which labor has controlled the rate of wages show relatively high wage rates. The low levels of hourly earnings in retail trade and in the service of hotels are probably due to the dominance of women in these occupations, and in hotels also to the exclusion from earnings of payments in kind received by such employees.

MANUFACTURING INDUSTRIES

Since these series of hourly earnings only began in October 1932, tracing their movement since 1929 involves difficulties which can be solved only by the use of another series of hourly earnings independently prepared by the National Industrial Conference Board for the years since 1920 and for one month in 1914. Detailed comparisons between these figures of the Board and hourly earnings for the same industries collected by the United States Bureau

pations they are designed to represent. Where, also, union dominance has been maintained, as in the building trades, various devices of wage payment have produced a wide divergence between the rates of wages actually received by union members on the job and the scales of wages officially reported by the unions. In the face of so large and uncertain a factor of error, description of the movement of wages is altogether impossible.

III. CONCLUSIONS

Both actual weekly and hourly earnings in the manufacturing and mining industries have in this depression suffered a more severe decline than in the depression of 1920. But in a group of sheltered, controlled, and in part highly unionized industries, the reductions in the wages of employed workers have not been great and, where the comparable facts are ascertainable, seem to be less than those of 1920.

In nearly all cases the major portion of the decline took place in 1932; the drop in 1930 and in 1931, and particularly in the earlier year, was not substantial.

Rates of wages in all industries, as measured by hourly earnings, were by the close of 1932 far in excess of the pre-War rates, the excess running from 60 per cent to well above 100 per cent.

Where there has been the sharpest reduction in actual earnings, the decline has exceeded the drop in the cost of living since 1929. However, in those industries in which the wage reductions have been slight, real earnings have actually risen because wage reductions have lagged materially behind the fall in the cost of living.

In all industries, finally, the averages presented in this *Bulletin* conceal wide divergencies in prevailing weekly and hourly earnings, between different parts of the country and among single industries, and in the rates of decline in wages. During the year 1932 the hourly rate of common labor in road building varied from a low of 16 cents in the East South Central states to a high of 48 cents in the Pacific states. Among manufacturing industries, hourly earnings in December 1932 varied from 22 cents an hour in the cotton goods industry to 76 cents in newspaper printing. The entrance rates of common labor ran in 1932 all the way from five cents an hour to one dollar. There remains finally the strong probability that an increasing number of small new firms throughout the country are operating with abnormally low wage scales. Because of the difficulties of adjusting statistical samples to rapidly changing industrial conditions, it is a fair inference that such scales are not yet adequately represented in the series collected and published by our public statistical bureaus.

Dr. Wolman is the author of two National Bureau volumes: The Growth of American Trade Unions, 1880-1923, *and* Planning and Control of Public Works; *he has contributed chapters to two other National Bureau reports:* Business Cycles and Unemployment, *and* Recent Economic Changes. *At present he is engaged upon a study of the American labor market which will deal with wage movements, wage structure and labor cost in the United States since 1880. In addition, for publication in early autumn by the National Bureau, he plans to revise and carry forward the materials presented in his monograph on American trade unions.*

NEW SUBSCRIPTIONS

This is the third in a series of six *Bulletins* on various aspects of the depression. The fourth, featuring an article by Meredith B. Givens on Employment, will appear in June, and the last two, on Prices and Income, during the autumn. The previous issues are already out of print; therefore may we suggest that to ensure receipt of the remaining three, a subscription to the work of the National Bureau be made at once.

A contributing subscription of $25 or more includes also, of course, all books published by the National Bureau within twelve months. At this time we are making a special offer, as may be seen from the accompanying subscription blank. If you are already a subscriber, won't you please pass the blank on to someone who might be interested? Copies of the Annual Report, which describes current research and prospective publications, will be gladly sent upon request to those desiring more information concerning the activities of the National Bureau.

ECONOMIC TENDENCIES IN THE UNITED STATES

George Soule in *The New Republic,* April 12, 1933:

"Professor Mills' study is a first-class example of the modern scientific approach to economic problems. There is included in it an enormous amount of information which is as essential as most of it was hitherto unknown, not only to members of the public, but to many economists themselves. The statistics, moreover, are not piled up in a meaningless heap and cast *en masse* at the reader. They are arranged about significant lines of inquiry which are coming to be recognized as central in the quest for a solution of the disorders of our economy. It is imprudent for anyone to discuss this problem without first having a close look at what Mr. Mills has to show us."

George E. Barnett in *Journal of the American Statistical Association,* March, 1933:

" . . . It is not only that the author has discovered new points of attack on the problem of stability, but the statistical material available has been elaborated in a fashion never before equalled. For instance, in the section devoted to the growth of capital, there is the most successful attempt yet made to deal with the almost insuperable difficulties involved.

The author has produced an important book which will long be a source book for those who deal with that instability which is the curse of modern economic society. The National Bureau of Economic Research and the Committee on Recent Economic Changes deserve great credit for making its production possible."

WALTON H. HAMILTON ELECTED AS A DIRECTOR

We announce with pleasure the election of Walton H. Hamilton, Southmayd Professor of Law at Yale University, as a member of the National Bureau, and a Director by University Appointment to fill the unexpired term of the late T. S. Adams. Since Professor Adams had been re-elected to the Board of Directors only a few days before his death, Professor Hamilton's term of office runs until February 1938.

Professor Hamilton's experience has been wide. Previous to 1928, when he went to Yale, he was Professor of Economics at Robert Brookings Graduate School of Economics and Government and a member of the staff of the Institute of Economics. He has also been a member of the faculties of Amherst College, and of the Universities of Chicago and Michigan. During the World War he served on the staff of the War Labor Policies Board. He is author of *Current Economic Problems*, and co-author with Stacey May of *Control of Wages*, and with H. R. Wright of *A Way of Order for Bituminous Coal*.

Walton Hamilton brings to the Board not only the union of legal and economic training as applied to problems of research but also the special flair of one who is an outstanding representative of the institutional approach to economics.

SEASONAL VARIATIONS IN INDUSTRY AND TRADE

Seasonal Variations in Industry and Trade. Simon Kuznets, Vol. 22, of the National Bureau publications; 455 pp., 51 tables, 51 charts, $4.

The importance of seasonal variations is often overlooked because other fluctuations are more dramatic in their manifestations and because the causes of seasonal variations in most instances do not admit of control. But the impact of the uncontrollable seasonal factors upon the various economic elements such as production, trade, income and prices is subject to some degree of control, and the measurement of this impact is important in understanding economic changes and in planning how to meet them.

Moreover, as Dr. Kuznets indicates in one of his numerous tables (p. 334), the amplitude of seasonal variations has been increasing over the past decade. Two of the features that Dr. Mills, in *Economic Tendencies*, pointed out as characteristic of the decade of the 'twenties —the growing emphasis upon the output of durable goods, the increase in hand-to-mouth buying—as well as higher standards of living, contributed to this increase in seasonality. As the income of the average man increases, the amount he spends on necessities becomes relatively less. This means that the consumer's emphasis is placed upon those goods for which seasonal variations are most marked.

It has not been recognized that seasonal swings tend to increase in relative amplitude during periods of business depression, and hence their size has been under-estimated in recent years. The spring revivals of 1930, 1931 and 1932 were hailed successively as the turning points in the current depression, and only after the spring peak in demand for such commodities as automobiles had passed was it seen that we had been riding only on the crest of a short seasonal swing, not on the up-grade of the cycle.

Such significant observations constitute merely a part of Dr. Kuznets' volume. Other parts are concerned with ways of adjustment to the seasonal problem and with the cost to society of excess equipment, unemployment and surplus stocks. With its compilation of over 700 seasonal indexes and full bibliographical references to the corresponding monthly series, the book is a rich addition to statistical literature. As stated on the accompanying subscription blank, a copy is included in a subscription made at this time.