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TABLE 10  
MAJOR ITEMS IN THE COST OF LIVING, PERCENTAGE CHANGES, 1929-1936

PERIOD	ALL ITEMS	FOOD	CLOTHING	RENT	FUEL AND LIGHT	HOUSE-FURNISHING GOODS	MISCELLANEOUS
1929-1933	-23.8	-36.6	-23.9	-28.5	-11.0	-25.0	-5.7
1933-1936	+7.5	+23.7	+11.0	-5.6	0.0	+14.2	-0.7
1935-1936	+1.0	+2.0	+0.6	+1.5	+0.9	+1.1	-0.2
1929-1936	-18.1	-21.5	-15.5	-32.4	-11.0	-14.4	-6.4

SOURCE: Based on index numbers published by the U. S. Bureau of Labor Statistics; see Table 9, note 1.

substantially less. Real wages per week, therefore, were materially in excess of 1929 wages only where actual weekly earnings had reached pre-depression levels. Thus,

TABLE 11

REAL AVERAGE WEEKLY AND REAL AVERAGE HOURLY EARNINGS  
MANUFACTURING AND NON-MANUFACTURING INDUSTRIES  
PERCENTAGE CHANGES, 1933 TO 1936

INDUSTRY	Percentage Changes, 1933 to 1936 <sup>1</sup>	
	REAL AVERAGE WEEKLY EARNINGS	REAL AVERAGE HOURLY EARNINGS
Manufacturing	+18.1	+15.9
Extractive industries		
Coal mining	+24.3	+30.8
Anthracite	-8.4	-5.5
Bituminous	+41.7	+48.9
Other mining		
Metalliferous	+16.7	+10.6
Non-metallic and quarrying	+20.4	+7.0
Crude petroleum producing	-0.2	+10.7
Public utilities	+3.5	+5.3
Telephone and Telegraph	+3.8	+2.1
Electric light and power and gas	+2.1	+13.1
Electric railroads and motor buses	+4.7	+2.5
Trade	+1.1	+9.8
Wholesale	+1.1	+9.6
Retail	..... <sup>2</sup>	+9.6
Service industries		
Laundries	+1.2	-2.0
Dyeing and cleaning	+3.3	+3.6
Hotels	+1.5	+11.3
Class I railroads	+9.4	+2.6
Building construction (private)	+11.7	..... <sup>3</sup>

<sup>1</sup> Average of first 8 months only.

<sup>2</sup> The weekly earnings per employee in retail trade appear to be inconsistent with the statistics of hourly earnings and average hours worked per week in retailing, all reported by the U. S. Bureau of Labor Statistics. If weekly wages are computed by multiplying the hourly rate of wages in 1936, \$.523, by the number of hours worked per week in 1936, 43.4, wages per week are found to be \$22.70, instead of \$20.86, as reported by the Bureau in its monthly bulletin, *Employment and Payrolls*. In view of these discrepancies, no figure for the percentage change in real weekly earnings of employees in retail trade is included in this table.

<sup>3</sup> Not available.

in public utilities real weekly earnings in 1936 were 24.5 per cent above 1929; on the railroads, 18.1, and in wholesale trade, 14.8 per cent. In bituminous coal mining real weekly earnings were only 6.3 per cent higher than in 1929, while in manufacturing they just about equalled those of 1929.

DR. WOLMAN is at work on an analytical account of wages in the United States since 1914. He also plans to write a *Bulletin* next year on the membership of trade unions here and in England.

The first three issues of the *Bulletin* will be as previously announced: two on agriculture and one giving national income totals since 1919. The income totals will supplement and supercede those in *Bulletin 59*, which covered nine basic industries. Estimates of income originating in finance, government, the service industries and miscellaneous activities will be given. The fifth in the 1937 series will be on some topic of current interest such as productivity and employment or banking and credit.

*Ebb and Flow in Trade Unionism* BY LEO WOLMAN  
(251 pp., 48 tables, 5 charts, \$2.50)

From a review in *The Annalist*, November 20, 1936:

"This book supplements *The Growth of American Trade Unions, 1880-1923*. It gives current, authoritative and complete figures on trade union membership. It is a general discussion of developments in trade unionism during the N.R.A. and of the present division within the ranks of the American Federation of Labor. It takes up, in the light of their settings, many of the problems facing the labor movement in America.

Though well known for his sympathetic attitude toward trade unionism, Dr. Wolman succeeds admirably in maintaining the traditions of the National Bureau of Economic Research with respect to the scientific, detached viewpoint. In conclusion he refuses to be stampeded by the dramatic incidents of the last three months, but holds to the general principles that in the long run determine the trend of the labor movement."

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## The Recovery in Wages and Employment

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LEO WOLMAN

THE recovery in wages and employment, which for most groups began in the middle of 1933, has now continued more than three years. In its latest report, issued in October 1936, the United States Department of Labor estimates that the total number of employees, exclusive of those in agriculture, has increased six million since March 1933. In this rise all groups have shared, but in general the greatest increases have been in the most severely depressed industries.

Almost without exception, payrolls have increased more rapidly than employment. This is due to the very considerable rise in rates of wages since 1933 and to the shift from short- to full-time employment. The greatest percentage increases in aggregate wage payments, as in employment, were in industries most severely hit by the depression.

Both employment and payrolls in all major categories of industry remain substantially below 1929, or the average of 1923-25. In manufacturing, during the first nine months of 1936, employment was 14.1 per cent below 1929, 10.1 per cent below 1923-25; payrolls were 27.5 per cent below 1929, 20.9 per cent below 1923-25. The average number of manufacturing employees in the first nine months of 1936 is estimated to be 7,529,000, against 8,767,000 in 1929. Average weekly payrolls in manufacturing in 1936 and 1929 are estimated as approximately 161 and 222 million dollars respectively. Employment and payrolls in manufacturing industry during 1936 appear to have returned to the levels prevailing in October and November 1930.

The lag in recovery, as measured by changes in employment and payrolls, is greatest in the capital goods and construction industries, and in industries suffering from protracted depression, like anthracite coal mining. The gulf between 1929 and 1936 is widest in these industries in spite of the very considerable advances made by them since 1933.

Weekly wages per employee have increased substantially

since the turn in business in 1933. But they likewise remain far below 1929, mainly because of the general reduction in the work-week effected under the N.R.A. codes. Where the hours of work were not reduced under the N.R.A., the disparity between wages per week in 1936 and 1929 is not so great.

Increases in payrolls and in per capita wages during the recovery have exceeded the rise in the cost of living. According to official indexes, living costs in 1936 are still about 18 per cent below 1929. The gap between real wages is, therefore, much smaller than the gap between money wages from 1929 to 1936.

A series of decisions by the United States Supreme Court, beginning on May 27, 1935, the date of the Schechter decision, has brought to an end much of the governmental regulation of wages and hours undertaken by the N.R.A. and other federal agencies and by state governments. The limitations on the power of the federal government imposed by the decisions of the Court in this case and in the Guffey-Snyder case on May 18, 1936, and the restrictions on the authority of state governments to regulate wages indicated in the decision of the Court, June 1, 1936, relating to the constitutionality of the minimum wage act of New York State, have removed the formal regulations affecting wages and hours that had been applied for two years to the major classes of industry in this country. However, average wages and hours of work in the major groups of industries affected by these rulings do not appear to reflect the removal of control and the restoration of freer competitive conditions. There is some evidence that the reductions in wages and increases in the schedules of hours that probably took place in some industries and plants were offset by wage increases and lower schedules of hours in others.

The statistics of wages and employment used in this *Bulletin* are taken from reports of the United States government, except the series of hourly earnings and average

hours worked per week in manufacturing industries, 1929-36. Since official statistics for these series for years prior to 1932 are not available, we have used figures published by the National Industrial Conference Board. All are subject to margins of error of indeterminate amount. The older series seem on the whole to be more reliable than the more recent. Current indexes of employment and pay-

rolls are probably least trustworthy for classes—such as construction, services and trade—for which the available data are still incomplete and the samples therefore not sufficiently representative. The results of the Census of Business of 1935 should supply some of the material needed to correct current monthly indexes of employment and payrolls in these classes. The preliminary report of the 1935

TABLE 1  
INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS, MANUFACTURING AND NON-MANUFACTURING INDUSTRIES, 1933-1936  
(1929=100)

INDUSTRY	EMPLOYMENT				PAYROLLS			
	1933	1934	1935	1936 <sup>a</sup>	1933	1934	1935	1936 <sup>a</sup>
All manufacturing industries <sup>2</sup>	68.8	78.7	82.0	85.9	45.3	57.6	65.3	72.5
Selected manufacturing industries								
Cotton goods	89.3	94.8	91.2	94.5	66.7	78.4	79.6	85.5
Blast furnaces, steel works, rolling mills	68.9	82.1	86.8	96.8	37.0	51.4	64.8	82.7
Steam railroad repair shops	59.9	64.4	62.1	69.4	43.7	50.9	53.6	63.7
Foundry and machine shop products	49.0	63.3	69.3	79.4	29.7	44.9	53.9	68.2
Automobiles	54.4	84.8	99.1	99.0	34.4	61.3	80.4	85.9
Boots and shoes	92.8	96.2	95.2	94.3	63.9	74.5	73.6	70.9
Knit goods	91.0	95.8	100.1	101.7	62.7	75.9	83.3	83.9
Lumber, sawmills	45.2	52.6	54.3	58.4	26.8	35.8	40.5	48.9
Baking	90.8	101.6	100.7	102.9	71.6	82.7	83.9	89.8
Women's clothing	85.2	89.9	94.4	99.2	52.2	65.2	70.6	71.9
Men's clothing	92.8	97.1	105.1	108.1	57.3	70.1	85.6	87.3
Extractive industries								
Coal mining								
Anthracite	51.7	59.6	53.2	51.8	45.8	55.9	47.5	44.9
Bituminous	67.9	77.2	76.7	77.8	37.8	54.2	58.2	67.2
Other mining								
Metalliferous	34.6	41.6	47.3	59.1	20.6	26.7	33.9	46.1
Non-metallic and quarrying	44.9	48.9	46.0	48.5	24.7	29.6	30.7	37.5
Crude petroleum producing	62.2	77.7	74.9	72.8	44.1	56.9	57.9	58.0
Public utilities								
Telephone and telegraph	70.4	70.3	70.1	71.7	68.2	71.5	74.5	77.7
Electric light and power and gas	78.8	83.8	84.8	89.4	72.0	77.9	81.4	87.4
Electric railroads and motor buses	70.0	72.1	71.2	71.7	58.9	62.2	63.7	66.6
Trade								
Wholesale	76.1	82.8	84.0	85.6	56.8	63.0	65.6	68.4
Retail	76.1	82.1	82.3	83.3	55.2	60.9	62.1	64.5
Service industries								
Laundries	78.8	81.3	81.5	85.6	59.5	64.9	66.9	73.4
Dyeing and cleaning	74.3	77.1	77.5	81.0	49.5	56.1	57.9	61.8
Hotels	70.1	80.2	81.0	83.2	51.0	61.6	63.4	66.2
Class I railroads	58.3	60.6	59.7	63.2 <sup>b</sup>	47.9	52.0	56.3	62.4 <sup>b</sup>
Building construction (private)	31.9	35.1	39.0	45.7	20.0	23.2	32.0	40.2

SOURCES: U. S. Bureau of Labor Statistics, except for Class I railroads and construction. The railroad statistics are based on data published by the Interstate Commerce Commission. The building construction statistics for 1933-35 are based on data collected by the U. S. Department of Commerce for its study of national income; the indexes for 1936 are extrapolations based on percentage changes in employment and payrolls in private building construction reported by the U. S. Bureau of Labor Statistics.

<sup>a</sup> Average of first 9 months only.

<sup>b</sup> The U. S. Bureau of Labor Statistics indexes for all manufacturing industries combined and for individual manufacturing industries have been adjusted to the trend shown by the 1933 Census of Manufactures.

<sup>c</sup> Average of first 8 months only.

Census of Retail Trade suggests that the corrections may well be considerable (see end of Section 1).

### 1. EMPLOYMENT AND PAYROLLS

The course of employment and payrolls, 1933-36, is shown for major categories of industry in Table 1. All industries listed, except anthracite coal mining, show substantial and continuing increases in payrolls since 1933. Payrolls in metalliferous mining and private building construction have more than doubled. In the manufacturing, bituminous coal mining, and non-metallic mining and quarrying industries the increase is in excess of 50 per cent. In the production of crude petroleum and on the railroads payrolls have increased almost one-third; in the services more than one-fifth; and in trade and public utilities approximately one-sixth. The anthracite coal mining industry records no upturn at all, its payroll being lower in 1936 than in 1933; but the seasonal rise in production later in the year may improve the relative position of this industry.

In spite of the length of the period of recovery, now well in its fourth year, payrolls generally remain substantially under 1929. The best showing among non-manufacturing industries is made by the electric light and power and gas industry which is less than 15 per cent below 1929; the worst, by private building construction and non-metallic mining and quarrying whose total wage payments fall short of 1929 by 59.8 per cent in the one case and 62.5 per cent in the other. The payrolls of all manufacturing industries combined, the largest single source of employment and wage disbursements, are running more than one-quarter below 1929, but within the group there is a considerable diversity of experience. Thus among the eleven large manufacturing industries listed in Table 1, the payrolls of sawmills in 1936 were 51.1 per cent below 1929, and of baking establishments, only 10.2 per cent. Index numbers of employment and payrolls in selected industries for each month, 1929-36, are shown in Charts 1 and 2.

By and large the industries that were most depressed in 1933 have since had the greatest percentage increases in payrolls, and it was indeed to have been anticipated that index numbers of payrolls as low as 20 would on the rebound show the most striking relative improvement. But the figures at the same time show that where both the decline in payrolls and the subsequent recovery were greatest, the discrepancies between current wage disbursements and those in 1929 remain the widest. The payrolls illustrating this type of behavior are to be found mainly in the construction and construction materials industries and in the industries that produce capital equipment. Thus the industries of this class in which total wage payments are less than half those of 1929 are private building construction, mining other than coal, and many manufacturing industries producing capital equipment and construction materials (see

CHART 1  
INDEX NUMBERS OF EMPLOYMENT, 1929-1936  
1929=100

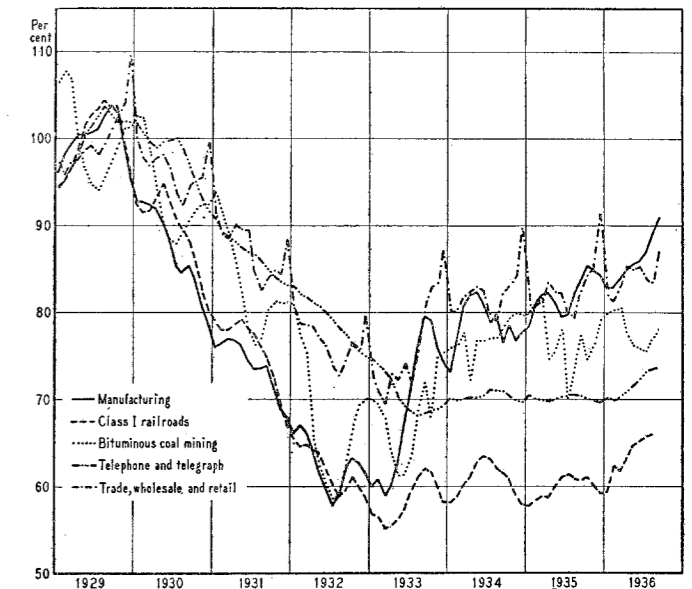


Table 3). Anthracite coal mining appears, also, to fall into this category, but the failure of employment and payrolls to recover in this industry probably reflects the continuance of a secular decline in its competitive position.

Through both depression and recovery there have been striking differences in the payroll and employment changes of industries manufacturing durable and non-durable goods, as shown in Table 2. In 1933 the industries producing durable goods were the more depressed, their payrolls being 65.6 per cent, and employment 45.1 per cent, below 1929. During the recovery their total wage payments doubled while payrolls in industries producing non-durable goods

CHART 2  
INDEX NUMBERS OF PAYROLLS, 1929-1936  
1929=100

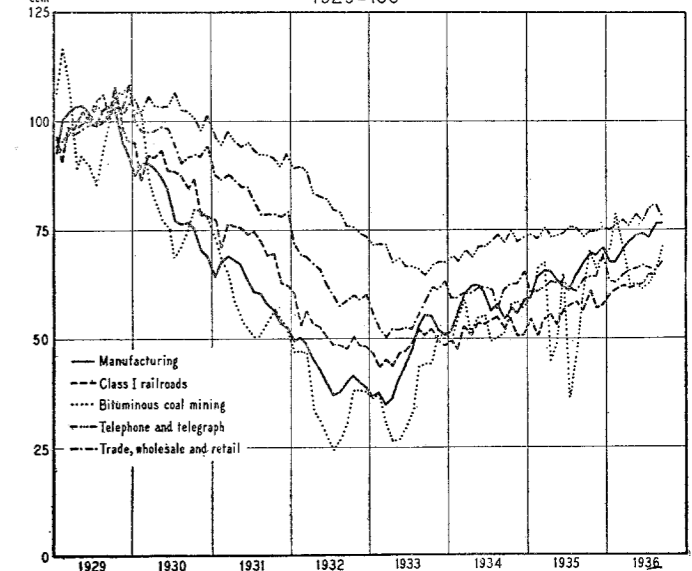


TABLE 2

INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS IN INDUSTRIES MANUFACTURING DURABLE AND NON-DURABLE GOODS, 1933-1936

	(1929=100)							
	EMPLOYMENT				PAYROLLS			
	1933	1934	1935	1936 <sup>1</sup>	1933	1934	1935	1936 <sup>1</sup>
Durable goods	54.9	67.7	73.4	80.1	34.4	48.2	58.3	68.3
Non-durable goods	85.0	91.9	93.0	93.7	60.5	71.9	77.0	78.4

SOURCE: U. S. Bureau of Labor Statistics indexes adjusted by the National Bureau of Economic Research to the trend shown by the 1933 Census of Manufactures.

<sup>1</sup> Average of first 9 months only.

increased only 30 per cent. Most of the total rise in manufacturing employment and payrolls during 1936 was in the durable goods industries. But in many of the industries that produce construction materials and capital goods payrolls continue to be consistently lower than in industries producing perishable goods and other articles intended for the ultimate consumer.

It is clear from Table 3 that the most powerful obstacle in the path of more complete business revival has so far been the retarded rate of recovery of the construction materials and capital goods industries. Several of the large consumers' goods industries have raised their payrolls almost to pre-depression levels. In many of the industries related to construction, however, wage disbursements in 1936 are about half those in 1929. The limited list of capital equipment industries shows somewhat the same features; for the relatively large increase in the payrolls of the iron and steel industry reflects mainly the expansion in the production of automobiles and of a great variety of small steel products, and during 1936, the revival of demand for such heavier products as rails, plates and structural shapes. The demand for structural steel began to make itself felt in 1936, and is reflected in the rise of payrolls in blast furnaces, steel works and rolling mills in that year to a point 17.3 per cent below 1929. The continued low level of payrolls in the electrical manufacturing industry probably reflects the lag in the demand for heavy machinery and equipment from the electric light and power industry.

Fluctuations in payrolls have been closely paralleled since 1933 by changes in the volume of employment. But the recovery is in general much greater if measured by the increase in wage payments than in the number employed. In manufacturing, for example, payrolls increased, between 1933 and 1936, 60 per cent, employment only 25 per cent; in private building construction the increases were 100 per cent and 43 per cent, respectively; and in most other industries there were equally wide divergencies. Compared, also, to the recovery from the depression of 1921, the difference between increases in wage disbursements and in number employed appears to be much more striking in this latest revival of business.

Many factors doubtless have contributed to this condition, but the most influential have been the degree to which work-sharing was practiced during the latest depression and the very considerable rise in wage rates since the turn in business in 1933. While it has been customary in all depressions for industry to retain a more or less permanent labor-force and to distribute the available work among all its members, there is every evidence that in the latest depression the number of employees entirely laid off was relatively smaller and the extent of work-sharing among those retained relatively greater than previously. Under the circumstances, the recovery in business has manifested itself in a disproportionate rise in wage payments and a lag in reemployment. When the employees already on payrolls begin to work full time under prevailing schedules of hours, we may expect relatively greater increases in the number employed. It may well be that business in this country is now close to that stage of recovery. Consequently, barring a general increase in the length of the work-week, which now seems quite unlikely, or unusually rapid and great increases in the productivity of labor, the next phases of business revival may witness substantial increases in total employment.

Measured in terms of payrolls and employment the recovery has pursued an uneven course. The greatest percentage increases were recorded in the first months of recovery when business vigorously rebounded from the exceptionally low levels of activity to which it had descended during the period of bank failures and of the bank holiday in 1932-33. Consequently both payrolls and employment in 1934 were for most industries far in excess of 1933. In the second half of 1934 the rate of advance had begun to slacken and the percentage increases in employment and payrolls from 1934 to 1935 were much less than in the preceding year. The rate of increase in manufacturing payrolls declined from 27.2 per cent, 1933-34, to 13.4 per cent, 1934-35; in bituminous coal mining from 43.4 to 7.4 per cent; in wholesale and retail trade from 9.7 to 3.1 per cent. In 1936, and for some industries in the second half of 1935, the rate of increase appears to have been again accelerated.

What the sequence in these stages of recovery has been

TABLE 3

INDEX NUMBERS OF PAYROLLS IN SELECTED MANUFACTURING INDUSTRIES, 1933-1936  
(1929=100)

INDUSTRY	1933	1934	1935	1936 <sup>1</sup>
Construction materials and allied products				
Lumber, sawmills	26.8	35.8	40.5	48.9
Lumber, millwork	22.4	26.8	37.9	49.1
Cast-iron pipe	25.8	36.4	37.2	50.7
Marble, granite, slate	26.6	24.9	23.0	29.8
Cement	28.4	39.1	41.1	50.0
Steam and hot water apparatus	33.1	37.5	45.5	57.2
Furniture	31.4	36.2	45.4	51.5
Capital equipment				
Electrical machinery, apparatus, supplies	29.5	41.9	51.7	60.2
Blast furnaces, steel works, rolling mills	37.0	51.4	64.8	82.7
Steam railroad repair shops	43.7	50.9	53.6	63.7
Locomotives	10.4	24.6	23.1	34.4
Hardware	39.8	51.8	51.6	55.8
Consumers' goods				
Baking	71.6	82.7	83.9	89.8
Slaughtering and meat packing	67.7	90.5	76.0	79.6
Cotton goods	66.7	78.4	79.6	85.5
Women's clothing	52.2	65.2	70.6	71.9
Automobiles	34.4	61.3	80.4	85.9
Petroleum refining	68.4	77.6	81.7	85.3

SOURCE: U. S. Bureau of Labor Statistics. The indexes have been adjusted by the National Bureau of Economic Research to conform to the trend shown by the 1933 Census of Manufactures.

<sup>1</sup> Average of first 9 months only.

is illustrated by the behavior of payrolls and employment in manufacturing. The level of employment remained, except for minor fluctuations, relatively stable from the middle of 1934 to the middle of 1935; then began the rise that is still in progress. Thus, from June 1934 to June 1935 employment in manufacturing decreased 2.1 per cent; from June 1935 to June 1936 it increased 8.2 per cent. In the five months since May 1936 employment has exceeded that in the same months of the preceding year by nearly 8 per cent. Variations in payrolls reflect somewhat similar trends. Comparisons of the movement of factory payrolls in the twelve-month periods, July to June, show the very considerable increase in the first year of the recovery, 1933-34, the retardation in the rate of increase in the second year, and the acceleration in 1935-36. Thus in the first year payrolls increased 43.4 per cent; in the second, 8.1 per cent, and in the third and latest year, 15.2 per cent. In the five months from May to September 1936 payrolls

TWELVE MONTHS ENDING JUNE 15	INDEX NUMBERS OF PAYROLLS (1929=100)
1932-33	38.7
1933-34	55.5
1934-35	60.0
1935-36	69.1

were 17 per cent greater than in the same months of the preceding year.

It should be observed that the basic data on which many of the foregoing conclusions rest are of unequal value. The field of governmental statistics relating to wages and employment has been enormously extended since 1929, and in the process of expansion established series have been improved and new ones introduced. Time and experiment are required for collecting data and for testing their adequacy and reliability. For some classes of employment this is easier than for others. The Class I railroad statistics may be accepted with a considerable measure of confidence because of the method of their collection and the scope of their coverage. The manufacturing statistics are reasonably reliable since they cover from 40 to 50 per cent of the estimated total number employed in factories and have been corrected to conform with the results of the 1933 biennial census of manufactures. The series for trade, services and construction stand, however, on a different footing. They are new and tentative and pertain to fields of employment in which as yet no frequent and regular censuses are taken. The first Census of Business, covering trade and various of the services, was taken for 1929. Since then additional censuses, not strictly comparable with the first or with one another, have been taken for 1933 and 1935. The results

of the 1935 census are now being published but preliminary totals are available for retail trade only. If the index numbers of employment and payrolls in retail trade, given in Table 1, are corrected by the preliminary results of this census, the index number of employment in 1935 is raised from 82.3 to 88.6 or more than 7 per cent, and the index number of payrolls from 62.1 to 68.8 or more than 10 per cent. These corrections suggest the possible margins of error in this and related series, but there is no way to take them into account until more complete census figures become

available and the current series themselves are further improved in adequacy and reliability.

## 2. WEEKLY EARNINGS AND HOURS WORKED

Per capita weekly earnings have steadily increased in almost all the major classes of employment in every year since 1933 (Table 4). In anthracite coal mining there was a substantial decline from 1934 to 1935, following a substantial increase in the preceding year, and in crude petroleum producing there was a nominal decline from 1933 to

TABLE 4

AVERAGE PER CAPITA WEEKLY EARNINGS, MANUFACTURING AND NON-MANUFACTURING INDUSTRIES, 1929-1936

	1929	1930	1931	1932	1933	1934	1935	1936 <sup>a</sup>
All manufacturing industries	\$27.36	\$25.39	\$22.51	\$18.18	\$17.60	\$19.12	\$21.03	\$22.36
Selected manufacturing industries								
Cotton goods	15.65	14.51	13.56	10.83	11.39	12.59	13.05	13.55
Blast furnaces, steel works, rolling mills	32.17	28.75	22.13	13.78	16.80	19.12	23.04	26.52
Steam railroad repair shops	31.20	29.48	26.94	22.50	22.74	24.14	26.53	28.23
Foundry and machine shop products	30.86	27.55	22.45	16.92	17.13	20.24	22.63	24.97
Automobiles	32.90	28.58	25.50	20.87	20.87	23.01	27.18	28.78
Boots and shoes	21.60	18.86	17.60	14.94	15.21	17.22	17.88	17.50
Knit goods	19.33	17.79	16.00	13.38	13.47	15.45	16.38	16.41
Lumber, sawmills	20.62	19.68	16.00	11.77	12.33	14.30	16.46	18.88
Baking	26.94	27.09	25.73	23.14	21.62	21.79	21.68	22.79
Women's clothing	24.24	25.34	23.34	18.19	16.84	18.51	18.63	18.72
Men's clothing	22.84	20.00	18.13	13.70	14.14	16.26	18.16	18.44
Extractive industries								
Coal mining	26.42	24.24	19.92	16.34	16.90	20.18	20.91	22.57
Anthracite	30.85	31.41	26.89	24.86	25.61	27.09	25.60	25.22
Bituminous	25.00	21.93	17.74	13.78	14.29	18.10	19.50	21.77
Other mining								
Metalliferous	30.12	28.13	22.99	18.63	19.21	20.82	22.73	24.08
Non-metallic and quarrying	26.28 <sup>1</sup>	24.73	20.95	15.99	14.50	15.58	16.59	18.76
Crude petroleum producing	.....	35.55 <sup>2</sup>	34.26	29.92	27.53	27.44	28.73	29.55
Public utilities	29.56 <sup>3</sup>	30.31 <sup>2</sup>	30.58	28.55	27.07	27.88	28.98	30.14
Telephone and telegraph	.....	28.68 <sup>2</sup>	29.27	27.52	26.12	27.10	28.30	29.15
Electric light and power and gas	.....	31.61 <sup>2</sup>	31.56	30.15	28.72	29.29	30.48	31.54
Electric railroads and motor buses	.....	31.45 <sup>2</sup>	31.43	28.41	26.78	27.58	28.47	30.16
Trade	25.65	26.06	25.46	22.72	21.15	21.71	22.09	22.98
Wholesale	30.19	31.24	30.61	27.72	26.11	26.35	26.94	28.37
Retail	23.80	23.95	23.44	20.75	19.20	19.89	20.19	20.86
Service industries								
Laundries	.....	19.86 <sup>4</sup>	18.54	16.26	14.74	15.02	15.55	16.04
Dyeing and cleaning	.....	23.84 <sup>4</sup>	22.09	18.85	16.73	17.82	18.24	18.58
Hotels	16.98	17.07	16.06	14.24	12.79	13.15	13.57	13.96
Class I railroads	32.62	31.99	30.87	27.15	26.83	28.05	30.82	32.20
Building construction (private)	.....	.....	30.36	25.44	21.58	22.79	24.16	25.91

SOURCES: 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 group averages for coal mining, public utilities and trade are weighted averages computed by the National Bureau of Economic Research.

<sup>1</sup> Average of the last 7 months only.

<sup>2</sup> Average of the last 9 months only.

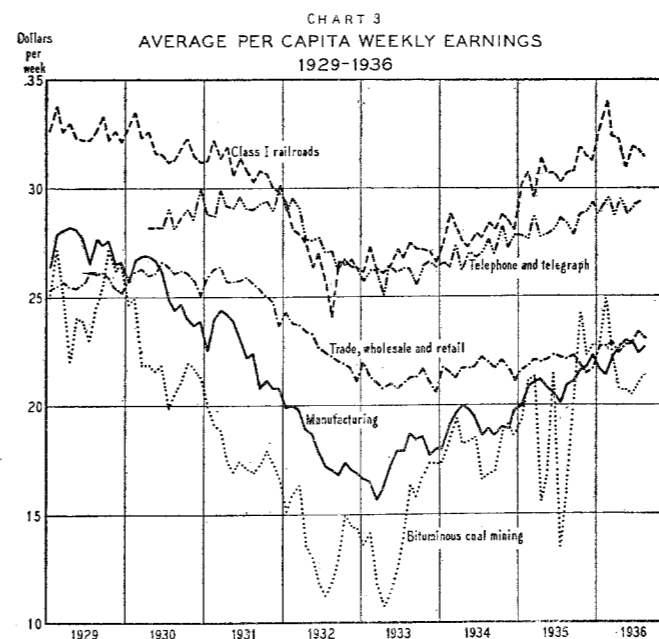
<sup>3</sup> Unweighted average published by the U. S. Bureau of Labor Statistics.

<sup>4</sup> Averages of the last 2 months only.

<sup>5</sup> Average of the first 8 months only.

1934. In all major industries except anthracite coal mining weekly earnings were higher in 1936 than in 1933, although in many the difference was not great. Among the major groups listed in Table 4 the greatest increase over the entire period of recovery, 1933-36, was in bituminous coal mining—52.3 per cent. In 1933 the earnings of wage earners in bituminous coal mines averaged only \$14.29 a week. The next largest increases—over 25 per cent—were in total manufacturing and in mining other than coal. But in several individual manufacturing industries the increase in per capita weekly wages equalled or exceeded that in bituminous coal mining. The earnings, for example, of employees in blast furnaces, steel works and rolling mills increased, 1933-36, from \$16.80 to \$26.52 a week, or 57.9 per cent, and of employees in sawmills from \$12.33 to \$18.88, or 53.1 per cent. The anthracite coal mining industry showed a slight decline. In public utilities and trade the rise was less than 15 per cent, but in both industries the decline during the depression was much less than in manufacturing and bituminous coal mining. In the service industries the recorded recovery in weekly wages has been slight, amounting only to 11 per cent in dyeing and cleaning, and to approximately 9 per cent in both hotels and laundries. It is only fair to say, however, that the statistics for these classes of employment are probably for many reasons the least reliable of all. Average per capita weekly earnings in selected industries, for each month, 1929-36, are shown in Chart 3.

The rise in per capita weekly wages since 1933 is the combined result of increases in wage rates and in the number of hours worked per week; but in most industries the increase in wage rates, and hence in hourly earnings, has been the decisive factor. Average hours worked per week



in each year, 1933-36, are shown in Table 5. In all industries except anthracite coal mining, telephone and telegraph, and Class I railroads the average hours worked per week, reflecting mainly the reduction of schedules of hours under the N.R.A., were fewer in 1934 than in 1933. Since 1934, average hours of work have tended to increase, but at a slower rate. In manufacturing they rose 5.5 per cent 1934-35, 5.2 per cent 1935-36, but were in the latest year, 1936, only 1.6 per cent higher than in 1933. Hours in bituminous coal mining declined in both 1934 and 1935, increased 4.9 per cent 1935-36, and in 1936 remained 6.1 per cent below 1933. In fact, among non-manufacturing industries, only in non-metallic mining and quarrying and in rail transportation were average hours worked per week in 1936 substantially in excess of 1933. Average hours worked per week in selected industries, 1933-36, are shown by months in Chart 4.

Weekly earnings in 1936 are considerably less than in 1929 in nearly all the industries included in Table 4. In public utilities they are slightly higher than in 1929 and in rail transportation the decline is less than 5 per cent. In

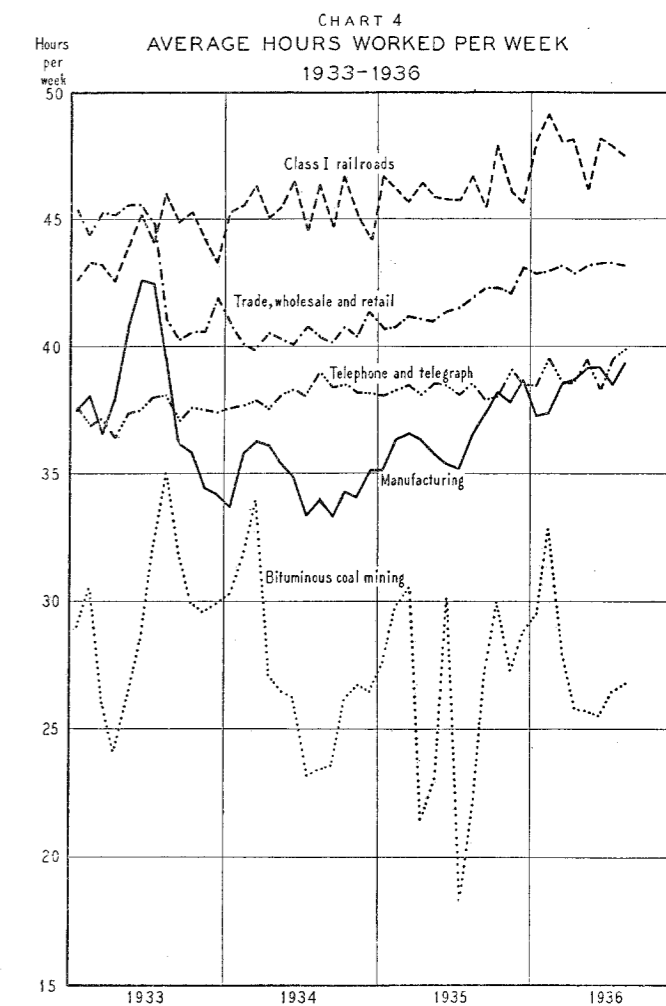


TABLE 5

AVERAGE HOURS WORKED PER WEEK, AND AVERAGE HOURLY EARNINGS, MANUFACTURING AND NON-MANUFACTURING INDUSTRIES, 1933-1936

	AVERAGE HOURS WORKED				AVERAGE HOURLY EARNINGS			
	1933	1934	1935	1936 <sup>1</sup>	1933	1934	1935	1936 <sup>2</sup>
All manufacturing industries	37.9	34.7	36.6	38.5	\$.460	\$.548	\$.568	\$.573
Selected manufacturing industries								
Cotton goods	41.8	33.2	34.6	37.0	.281	.378	.377	.366
Blast furnaces, steel works, rolling mills	31.9	30.4	34.8	39.9	.523	.632	.663	.664
Steam railroad repair shops	36.8	38.5	39.3	41.4	.628	.628	.675	.684
Foundry and machine shop products	32.3	34.7	37.8	41.7	.527	.586	.598	.597
Automobiles	34.6	33.1	37.0	37.6	.601	.697	.736	.765
Boots and shoes	.....	34.8	35.5	35.3	.....	.495	.513	.499
Knit goods	39.8	33.6	34.6	35.5	.364	.464	.479	.473
Lumber, sawmills	37.3	33.5	37.2	40.9	.333	.435	.447	.467
Baking	44.4	40.6	40.4	42.1	.460	.529	.534	.542
Women's clothing	.....	.....	31.8 <sup>2</sup>	33.8	.....	.....	.545 <sup>2</sup>	.513
Men's clothing	.....	28.0	30.3	32.0	.....	.575	.592	.563
Extractive industries								
Coal mining	29.8	28.4	27.4	28.2	.571	.712	.765	.803
Anthracite	31.2	32.8	31.1	30.3	.819	.826	.823	.832
Bituminous	29.4	27.1	26.3	27.6	.496	.678	.747	.794
Other mining								
Metalliferous	39.1	36.8	38.4	41.0	.491	.559	.585	.584
Non-metallic and quarrying	36.1	33.1	34.8	40.0	.408	.473	.475	.469
Crude petroleum producing	42.2	35.1	36.0	37.9	.647	.778	.779	.770
Public utilities	41.9	40.2	40.4	41.6	.650	.695	.722	.736
Telephone and telegraph	37.4	38.1	38.4	39.1	.705	.723	.760	.774
Electric light and power and gas	44.4	39.0	39.3	40.2	.644	.752	.775	.783
Electric railroads and motor buses	45.6	45.4	45.4	46.5	.578	.602	.617	.637
Trade	43.4	40.5	41.6	43.1	.478	.545	.556	.564
Wholesale	45.2	41.4	41.3	42.5	.566	.630	.648	.667
Retail	42.7	40.2	41.7	43.4	.444	.511	.520	.523
Service industries								
Laundries	40.7	39.3	40.7	42.4	.354	.377	.366	.373
Dyeing and cleaning	43.4	40.2	41.6	42.8	.394	.443	.437	.439
Hotels	50.7	47.3	47.8	48.4	.238	.271	.279	.285
Class I railroads	44.0	45.5	46.2	47.9	.609	.617	.667	.672
Building construction (private)	.....	28.7	29.9	31.8	.....	.793	.815	.814
Common labor in roadbuilding					.345	.409	.409	.400

SOURCES: U. S. Bureau of Labor Statistics except for Class I railroads and for common labor in roadbuilding. The former are based on data published by the Interstate Commerce Commission, the latter on data published by the Bureau of Public Roads. The group averages for coal mining, public utilities and trade are weighted averages computed by the National Bureau of Economic Research.

<sup>1</sup> Average of first 8 months only.

<sup>2</sup> Average of last 8 months only.

manufacturing the decline amounts to five dollars a week, or 18.3 per cent. Available data on the length of the average work-week in 25 manufacturing industries, 1929-36, indicate that the decline in weekly earnings is roughly equivalent to the reduction in the length of the work-week. According to the following series published by the National Industrial Conference Board, average hours worked per

AVERAGE HOURS WORKED PER WEEK IN MANUFACTURING								
1929	1930	1931	1932	1933	1934	1935	1936 (first 9 months)	
48.3	43.9	40.4	34.8	36.4	34.7	37.2	39.3	

week in manufacturing industries declined from 48.3 in 1929 to 39.3 in 1936, or 18.6 per cent.<sup>1</sup> In the same period weekly earnings in manufacturing, as reported by the Na-

<sup>1</sup> The statistics of average hours worked per week reported by the National Industrial Conference Board differ materially from those reported by the U. S. Bureau of Labor Statistics, although the trend is the same. The differences are due in the main to differences in the composition of the samples for manufacturing industries. The Board's sample is limited to 25 industries; the Bureau's covers 75-87. The Board's series of hours worked is used here because the Bureau's series is not available for any year prior to 1932.

tional Industrial Conference Board, declined from \$28.55 to \$24.16, or 15.4 per cent.

3. HOURLY EARNINGS

In view of the relatively small increases since 1933 in the average hours worked per week, it was to be expected that the movement of weekly wages would closely parallel that of hourly earnings. Weekly wages per worker, accordingly, increased most in the industries in which hourly earnings increased most. In all industries hourly earnings rose substantially from 1933 to 1936. Anthracite coal mining shows only a nominal increase because the rate in 1933, \$.819, was already relatively high. The largest increase among non-manufacturing industries, 60.1 per cent, was in bituminous coal; the second, over 20 per cent, in the electric light and power industry. The other increases ranged from 10 to 20 per cent, although wage rates in laundries appear to have increased only about 5 per cent. The wage rate of railroad labor increased 10.3 per cent as a result of the restoration of the wage cut accepted by the railroad unions during the depression. Although total manufacturing shows an increase in hourly earnings, 1933-36, of only 24.6 per cent, the percentage increases in the manufacture of cotton goods, boots and shoes and lumber are 30.2, 36.0 and 40.2 respectively. Average hourly earnings in selected industries, 1933-36, are shown by months in Chart 5.

It is clear from Table 5 that by far the greatest part of the advance in wages beginning in the second half of 1933 was made in the early stages of the recovery. Since then the general level of wage rates has remained relatively stable. Hourly earnings in manufacturing industries in-

creased 19.1 per cent from 1933 to 1934, 3.6 per cent from 1934 to 1935, and 0.9 per cent from 1935 to 1936. In bituminous coal mining the respective increases were 36.7, 10.2 and 6.3 per cent; in public utilities, 6.9, 3.9 and 1.9; and in trade 14.0, 2.0 and 1.4. Quite obviously the major advance in hourly earnings was in part a rebound from the low points of the depression and in part a response to the wage-fixing activities of the N.R.A. Hourly earnings in manufacturing, in fact, increased 25.6 per cent from June to December 1933. Thereafter the increases were very slight, and by August 1936 average hourly wages had advanced less than one cent over January 1935. But the wage increases announced by many large industries in November 1936 presage another general rise in the level of wage rates, particularly for manufacturing labor.

Hourly earnings in all manufacturing industries combined were apparently not much affected by the decision of the United States Supreme Court, May 27, 1935, that brought the operations of the N.R.A. to an end. Between May 1935 and August 1936 the average hourly earnings of factory labor remained practically stationary at \$.57. In some industries wages were reduced materially; in others they rose. But in no industry did the decline exceed 10 per cent. Average hourly earnings in selected manufacturing industries before and after the Schechter decision are shown in Table 6. Among these industries the largest decreases in average hourly earnings were in silk and rayon and shirts and collars, where the declines amounted to 7.6 and 9.1 per cent respectively. In cotton textiles the decrease was 5.0 per cent. The largest increase in average

CHART 5  
AVERAGE HOURLY EARNINGS  
1933-1936

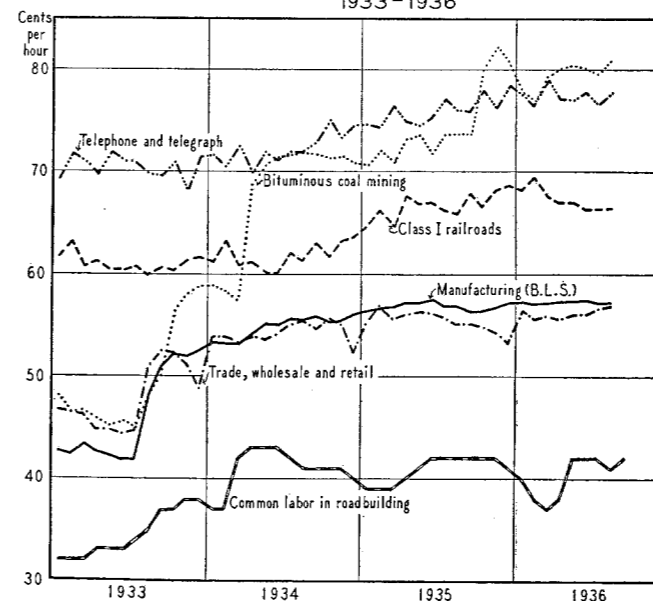


TABLE 6  
AVERAGE HOURLY EARNINGS IN SELECTED MANUFACTURING INDUSTRIES, MAY 1935 AND AUGUST 1936

INDUSTRY	May 1935	August 1936	% Change
Canning and preserving	\$.406	\$.389	-4.2
Slaughtering and meat packing	.561	.559	-0.4
Cotton goods	.382	.363	-5.0
Knit goods	.480	.480	0.0
Silk and rayon goods	.458	.423	-7.6
Woolen and worsted goods	.496	.497	+0.2
Men's clothing	.583	.561	-3.8
Shirts and collars	.408	.371	-9.1
Women's clothing	.519	.560	+7.9
Blast furnaces, steel works, rolling mills	.663	.668	+0.8
Agricultural implements	.616	.609	-1.1
Automobiles	.720	.773	+7.4
Furniture	.450	.457	+1.6
Lumber, sawmills	.427	.485	+13.6
Boots and shoes	.520	.496	-4.6
Rubber tires	.837	.878	+4.9
Cigars and cigarettes	.399	.401	+0.5
All manufacturing industries	.571	.571	0.0

SOURCE: U. S. Bureau of Labor Statistics

hourly earnings was in sawmills—13.6 per cent; the second—7.9 per cent—in women's clothing; the third—7.4 per cent—in the automobile and automotive parts industry.

Available data on the average hourly earnings of common labor in roadbuilding and of unskilled and female labor in manufacturing suggest that the minima established by the codes of fair competition have not been generally reduced since the death of the N.R.A., although they have declined in some industries and occupations. The hourly wage rates of common labor in roadbuilding rose from \$.345 in 1933 to \$.409 in 1934 and have remained at about that level. The average hourly earnings of female employees, and of unskilled and skilled and semi-skilled male employees in manufacturing for 1929 and 1933-36, are shown in Table 7.

TABLE 7

AVERAGE HOURLY EARNINGS IN MANUFACTURING, BY SEX AND SKILL  
1929 AND 1933-1936

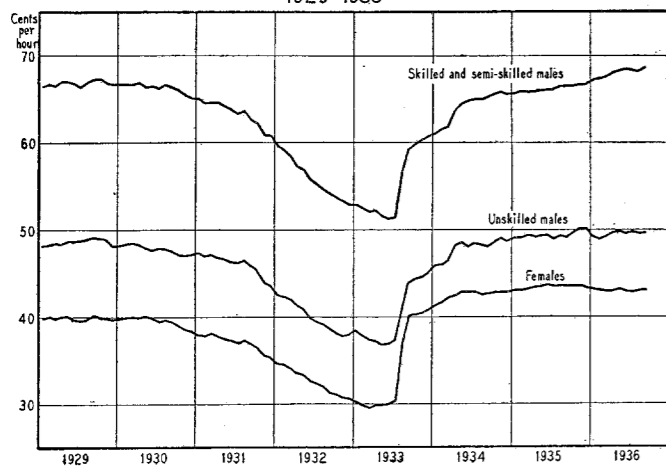
Year	Females	Unskilled males	Skilled and semi-skilled males
1929	\$.398	\$.486	\$.668
1933	.340	.401	.550
1934	.425	.478	.642
1935	.434	.494	.662
1936 <sup>1</sup>	.430	.495	.681

SOURCE: National Industrial Conference Board

<sup>1</sup> Average of first 9 months only.

While these figures are not the very best measures of the wage rates of employees affected by the provisions of minimum wage legislation, they are a reasonably satisfactory sample of the average wages paid to classes of low-paid labor and roughly indicate changes in wage differentials. They show that the increases in average wage rates achieved in the early months of the recovery and during

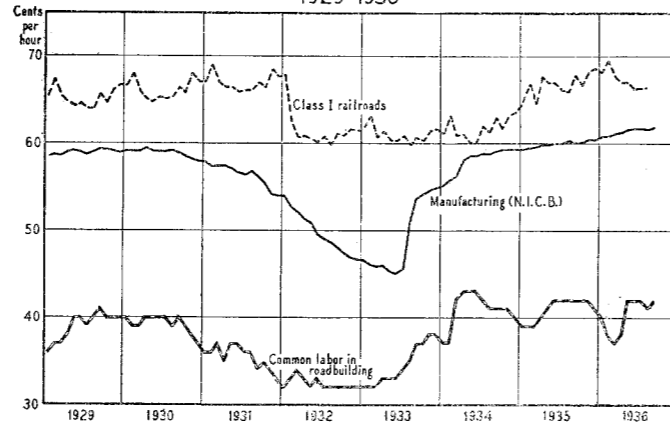
CHART 6  
AVERAGE HOURLY EARNINGS IN MANUFACTURING,  
BY SEX AND SKILL  
1929-1936



the existence of the N.R.A. have been generally retained since then and that the increases gained by women and the unskilled have not been at the expense of the skilled. Monthly data of average hourly earnings of manufacturing employees by sex and skill, 1929-36, are given in Chart 6.

In many industries average hourly earnings have returned to their 1929 levels and in some they exceed the rates then in force. Statistics of hourly earnings back to 1929 are not available for all classes of industry, but where they are, they show that the losses in wage rates suffered during the depression have been recovered. Average hourly earnings per year, 1929-36, for coal mining, manufacturing, rail transportation, and common labor in roadbuilding are shown in Table 8, and monthly data for the last three industries are given in Chart 7.

CHART 7  
AVERAGE HOURLY EARNINGS  
1929-1936



#### 4. THE COST OF LIVING AND REAL WAGES

The main features of the changes in the cost of living during the depression and recovery are well known. From December 1929 to June 1933, according to index numbers published by the United States Bureau of Labor Statistics, the cost of goods purchased by wage earners and lower salaried workers declined slightly more than 25 per cent. From June 1933 to July 15, 1936, the latest date for which figures are available, the cost of living increased 10 per cent.

Changes in the prices of the principal items entering into the cost of living have varied materially through the periods of depression and recovery. In the long decline of living costs from 1929 to 1933, food, rent, house furnishings and clothing declined much more than fuel and light and the miscellaneous items. When costs were rising, 1933-36, the food group rose most; rent is reported to be lower in 1936 than in 1933. From 1935 to 1936, when the index of the cost of living rose 1.0 per cent, the largest advances among the constituent items were 2.0 per cent for food and 1.5 per cent for rent. In 1936, rent was furthest below 1929, followed by food, clothing and house furnish-

TABLE 8  
AVERAGE HOURLY EARNINGS, SELECTED INDUSTRIES, 1929-1936

	1929	1930	1931	1932	1933	1934	1935	1936 <sup>1</sup>
Manufacturing <sup>2</sup>	\$.590	\$.589	\$.564	\$.498	\$.491	\$.581	\$.600	\$.614 <sup>3</sup>
Anthracite coal mining <sup>4</sup>	.....	.....	.824	.823	.819	.826	.823	.832
Bituminous coal mining <sup>4</sup>	.659	.....	.598	.518	.496	.678	.747	.794
Class I railroads <sup>5</sup>	.651	.660	.669	.615	.609	.617	.667	.672
Common labor in roadbuilding <sup>6</sup>	.390	.393	.355	.324	.345	.409	.409	.400

<sup>1</sup> Average of first 8 months only.

<sup>2</sup> National Industrial Conference Board. The U. S. Bureau of Labor Statistics series of hourly earnings in manufacturing industries begins in 1932. Since figures published by the National Industrial Conference Board are available for the earlier years, they are used in this table. The average hourly earnings of manufacturing employees, reported by the Board, run consistently higher than those reported by the Bureau. Thus the average hourly earnings of manufacturing employees in 1936 are reported by the Board as \$.614 and by the Bureau as \$.573. These differences are due to variations in the two samples of manufacturing industries. The Board's sample is heavily weighted by industries paying higher rates of wages and, in addition, excludes the cotton textile industry of the South where hourly wages are substantially below those paid in the cotton textile industry of the North. Inspection of scattered data on hourly earnings in 14 large manufacturing industries for years prior to 1932, published in special studies by the U. S. Bureau of Labor Statistics, confirms the general trend in manufacturing hourly wages indicated by the series of the National Industrial Conference Board.

<sup>3</sup> Average of first 9 months only.

<sup>4</sup> U. S. Bureau of Labor Statistics.

<sup>5</sup> Computed by the National Bureau of Economic Research from data published by the Interstate Commerce Commission.

<sup>6</sup> U. S. Department of Agriculture, Bureau of Public Roads.

ings. The percentage changes in these items in the cost of living for various years 1929-36 are shown in Table 10.

During the recovery the weekly earnings of employees in most categories of industry have increased faster than the cost of living. The purchasing power of their earnings, or their real wages, has consequently risen, in some instances quite substantially. Among non-manufacturing industries, the greatest increase in real weekly earnings from 1933 to 1936 was received by employees of the bituminous coal mining industry, the smallest by employees in trade. The real weekly earnings of employees in manufacturing advanced 18.1 per cent, 1933-36; in anthracite coal mining they declined 8.4 per cent.

Average hourly earnings likewise have risen faster than living costs and, in consequence, real average hourly earnings have increased in most classes of employment. Among

non-manufacturing industries, real wages per hour, like real wages per week, recorded the largest increase from 1933 to 1936 in bituminous coal mining—48.9 per cent. The real average hourly earnings of manufacturing labor rose 15.9 per cent; in anthracite coal mining there was a decline of 5.5 per cent. Percentage changes from 1933 to 1936 in real average weekly and real average hourly earnings are given in Table 11.

Since hourly earnings are generally as high in 1936 as in 1929, their present purchasing power is considerably in excess of the purchasing power of comparable rates of wages per hour in 1929. Thus the real hourly earnings of factory employees in 1936 were 27 per cent greater than in 1929; of railroad labor 26 and of common labor in roadbuilding 25 per cent. Weekly earnings in 1936, on the other hand, were in general less than in 1929, and in many industries

TABLE 9  
COST OF LIVING, INDEX NUMBERS, 1929-1936<sup>1</sup>  
(1929=100)

1929	1930	1931	1932	1933	1934	1935	1936
100.0	97.9	89.5	80.8	76.2	78.8	81.1	81.9

<sup>1</sup> Annual averages computed by the National Bureau of Economic Research from revised indexes published by the U. S. Bureau of Labor Statistics. The index for each year, 1929-33, is an average of the December index of the preceding year, December of the indicated year, and June of the indicated year with a weight of two. For 1934 it is an average of the index for December 1933, November 15, 1934 and June 1934 with a weight of two. For 1935 it is an average of the index for March 15, 1935, October 15, 1935 and July 15, 1935 with a weight of two. For 1936 it is an average of January 15, April 15 and July 15, 1936.