

Master Planks in the American Industrial Program¹

Improvement in Living Standards; Increase of Output and Wages; Co-operation of Management and Workers in the Improvement of Methods; Stabilization of Employment

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(Continued from December, 1927, number)

Discussion

Judson C. Dickerman.² With the publication recently by the United States Bureau of the Census, of the national, State and larger cities Census of Manufactures for the year 1925, we appear to have comparable data for the pre-war and post-war periods which were not seriously affected by other than ordinary conditions. By examining the data for the several census years 1909-14, 1919, 1921, 1923 and 1925, we can perhaps get a fairly good picture of what has gone on in industry as relates to the interests of the wage earner, of the public at large, and possibly of the manufacturer or owner.

The speaker, during the past several months, and quite noticeably at these meetings, has detected a questioning, almost a dejected, pessimistic note in discussing the progress of industry under the stimulus of scientific management and scientific research during recent years. Particularly pessimistic have been the comments of those who based their deductions on a comparison of 1919 figures with those of 1923 and 1925. Some even discussed the situation from the very short-range view of 1921 to 1923 or 1925.

Though not a trained economist, but merely an ordinary engineer with a somewhat wide experience in observation of business and industrial conditions, the speaker holds that the 1914 period was one of severe depression in industry due to the violent changes of the Democratic tariff of 1913, and the outbreak of the Great War, that 1919 was

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a year in which industry was crazy, and 1921 a depression year as an aftermath of the unbalanced war conditions. So he turned to 1909 as a base year and to 1925 as a year likely to be as normal as any we shall have for some years to come.

As part of the background of the Industrial Survey of Metropolitan Providence being made in 1927 under the auspices of local organizations and under the direct charge of the Division of Municipal and Industrial Research of the Massachusetts Institute of Technology, the speaker undertook an analysis of Census Material. One very specific idea was to see what really had happened to labor as a result of all the turmoil of recent years. Another was to determine the relative positions of, and changes in, industry in different states and cities and in specific industries.

The first analysis was made for the United States as a whole, inclusive of all manufactures. Various indexes were worked out, such as ratio of number of wage earners and of total persons engaged in manufacture to the entire population, relative index of wholesale prices of 404 commodities as prepared by the United States Department of Labor and refigured to 1909 as a base, changes in total wages, and in average annual wage per worker, changes in the worker's ability to purchase or of his real wage, increases in units of production, and in value of products per worker and per \$1.00 of wages, margin or balance of increase in value of products after paying for materials and labor, per worker and per \$1.00 of product, and similar units.

While it is recognized that the 1909 census was inclusive of certain class sizes of establishments which were omitted in later years, information was

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TABLES BASED ON U. S. CENSUS OF MANUFACTURES

Year	U. S. Population (in thousands)	Index of Change 1909=100	Wage Earners (in thousands)	Index of Change 1909=100	Ratio of Wage Earners to Population	Index of Wholesale Prices 1909=100
1908						92.8
1909	90,691	100.0	6,615	100	7.29%	100.0
1910	91,972					104.1
1911						95.9
1912	95,097					102.1
1913						103.0
1914	97,928	108.0	6,888	104	7.0	101.1
1915						104.1
1919	105,003	115.8	8,990	136	8.6	212.4
1920	106,418					232.5
1921	108,445	119.5	6,938	105	6.4	151.6
1922						153.3
1923	111,693	123.0	8,768	133	7.85	158.8
1924						154.2
1925	115,378	127.2	8,384	127	7.27	164.0

Year	Total Wages (in millions of dollars)	Index of Change 1909=100	Average Yearly Wage per Worker (in dollars)	Index of Change 1909=100	Total Wages Reduced to 1909 Level by Wholesale Price Index (in millions of dollars)	Index of Change 1909=100	Average Yearly Wage per Worker Reduced to 1909 Level by Wholesale Price Index (in dollars)	Index of Change 1909=100
1909	3,427	100	518	100	3,427	100	518	100
1914	4,063	118.6	590	114	4,015	117	584	113
1919	10,453	305	1,165	225	4,915	143	547	106
1921	8,193	239	1,180	228	5,400	158	779	150
1923	10,999	321	1,255	242	6,920	202	789	152
1925	10,730	313	1,280	247	6,540	191	780	150

Year	Total Cost of Materials (in millions of dollars)	Index of Change 1909=100	Cost of Materials per Worker (in dollars)	Index of Change 1909=100	Cost of Materials per \$1.00 of Wages	Index of Change 1909=100	Cost of Materials per \$1.00 Value of Product	Index of Change 1909=100
1909	12,143	100	1,835	100	\$3.54	100	\$.587	100
1914	14,162	117	2,055	112	3.48	98.3	.593	101
1919	36,989	305	4,120	225	3.54	100	.599	102
1921	25,155	206	3,630	198	3.07	86.7	.579	98.5
1923	34,481	284	3,930	214	3.14	88.6	.572	97.5
1925	35,936	296	4,290	234	3.34	94.2	.572	97.5