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CHAPTER 7

Summary and Conclusions

DAILY wages and annual earnings in manufacturing both increased about 50 percent between 1860 and 1890. The cost of living fluctuated widely, but the long decline that began in 1865 eventually wiped out the Civil War increase and restored the buying power of the dollar to its prewar level, so that real wages and earnings in 1890 were also 50 percent higher than in 1860. Daily wages rose from slightly over $1.00 in 1860 to slightly over $1.50 in 1890—if we adjust the levels in both years to the bench marks established by the extensive wage surveys of the Department of Labor in 1885 and the Dewey-Census and a number of state labor bureau reports in 1890. Annual earnings rose from just under $300 in 1860 to just over $425 in 1890.

Wages in building rose somewhat more—perhaps 60 percent in money or real terms. Because building employed mostly adult men in skilled occupations, wages were on a higher absolute level; the average was approximately $2.75 for a ten-hour day in 1890.

The advances have been measured in daily wages, and do not for the most part take account of extra allowances, premium payments for overtime, payments in truck instead of in cash, or deductions for damages and use of tools and materials. But the Weeks Report questionnaire suggests that these factors could not have changed the picture materially—at least for the firms reporting.

The data do not take account of the shortening of the average workday. This reduction seems to have been very small—not more than 7 percent—bringing the average in 1890 down to ten hours. The net advance in hourly wages in manufacturing, money or real, was still not much more than 60 percent, or 1.6 percent compounded annually, compared with 1914-53 when the rise was over 5 percent in money terms and 2.75 percent in real terms.[1] In contrast to recent data, little or no weight was given to piece-rate earnings, which may have participated more quickly than time-rate wages in the rising productivity, or they may even have stimulated productivity increase.

Wage differentials between industries and occupations were large in the decades between 1860 and 1890; the highest-wage industry paid two or two and a half times the lowest, and the highest-wage occupation still more. Adult males typically received three-fourths

[1] Leo Wolman, "Wages in the United States since 1914," *Proceedings of the Sixth Annual Meeting, Industrial Relations Research Association*, 1953, pp. 44-45. The increase is still smaller compared with the increases found by Wolman for the thirty years 1914-44.

more than adult females, and two and a half to three times as much as children and youths. Between regions the differentials were not so large. Wage levels were low in the South, and high on the Pacific Coast; but the differentials between the Central states, the Middle Atlantic states, and the New England states may have been no greater than among states within these regions.

Wide variations prevailed in differentials among establishments. Although southern establishments typically paid less than northern to an adult-male worker of a given skill in a given industry, some southern establishments paid as much as northern; others more. Some firms paid more to females than to males in the same occupation.

Regional differentials may have narrowed a bit, but only outside the South, notably only on the Pacific Coast. Other differentials may have widened slightly: for occupations, skills, and the sexes. No net change in wage or earnings differentials or in average dispersion among industries was apparent, despite the tendency for many industries with below-average wage levels in 1860 to increase more, by 1890, than the average.

A fifth of the increase of wages and earnings may have been due to the relative shift of workers from low-wage soft goods industries to high-wage hard goods industries—the principal shifts having been from cotton and woolen textiles to iron and steel rolling mills and foundries and machine shop products. The data for occupations are insufficient to tell us what part of the wage increase within industry may have been due to the relative shift of workers from low-wage to high-wage occupations. As for the effect of regional movements, it is unlikely that any significant part of the wages or earnings increase was due to the more rapid growth of employment in the central and western part of the nation. The Central region, which had gained the most workers, did not pay average earnings that were significantly different in 1890 from the average of the southern, Middle Atlantic, and New England regions, which had had a relative loss of workers.

Some Concluding Questions

What were the factors responsible for the major movements of wages and earnings during these years of turbulence and growth?

To begin with, why did wages lag so far behind living costs during the Civil War—to such an extent that real wages declined more than a fourth by 1864, and were depressed below prewar levels until 1867 in building and until 1869 in manufacturing? By contrast, real wages rose in every full year of World Wars I and II, and throughout the Korean War. The relative Civil War behavior was

attributable to both money wages and consumer prices. Money wages rose less than in World Wars I and II, and only slightly more than in the Korean War. Consumer prices—especially food, clothing, and rent—rose much more than in the three later conflicts.

The sluggishness of money wages may perhaps be explained partly by the fact that unions were far less significant during the Civil War; partly by the diversion of the best manpower of the nation to the armed forces, leaving a less able-bodied and less skilled wage earner which the mass-production methods of the time were not able to utilize as effectively as were those of later periods; and finally by the smaller role played by piece rates and overtime premium pay during the Civil War, perhaps because cost-plus contracts, which may place a positive incentive on the payment of premium wage rates, had not yet come into vogue. On the other hand, it must be acknowledged that the wage controls—formal or otherwise—were not the inhibiting factor in the Civil War that they came to be in the subsequent wars.

The greater rise in living costs may have been due partly to the absence of price controls, partly to the speculative fever induced by the issuance of inconvertible greenbacks, and partly to the cutting off of a large part of the southern agricultural land, thus reducing supplies of food and cotton. But an important factor in checking the inflation of later wars was lacking during the Civil War: the ability of relatively well-off wage earners' families to postpone consumption of many consumer durables, luxuries, and service items. The low real incomes at the start of the Civil War must have made it much less easy to postpone any item of consumption—since most of the outlay was on necessities. Expenditures on food, clothing, and rent were large percentages of family budgets in the Civil War years; outlays on services, house furnishings, and miscellaneous luxury items were very small percentages. The worker had to continue spending for immediate necessities—no matter how high the price—and this made the price go higher. Indeed, the erosion of real income by the Civil War inflation made workers less and less able to postpone consumption as the war progressed, thus accentuating the inflation through desperation buying. The fact that the cost of living reached its peak in 1865, and began falling immediately after the Civil War, further indicates that there was no such backlog of postponed consumer demand as existed in the three other wars, when prices continued to rise for several years after the peace.

A second question concerns the role played by productivity. The time and resources of this study do not make it possible to say anything definitive on this question. Our own tentative investigations

indicate that the net increases in real wages and earnings of manufacturing workers between 1860 and 1890 are not inconsistent with increases in productivity—measured by manufacturing value-added per worker in constant dollars. Estimates by Gallman disclose that real value-added per manufacturing worker in the census year ending May 31, 1890 was 50 percent above that of the year ending May 31, 1860.[2] In comparison, our real annual earnings in manufacturing rose 46 percent for all industries and 49 percent for the 17 important industries.

For intermediate years, there was close decade-to-decade association between real value-added per worker in manufacturing and mining, and real annual earnings in manufacturing from the census. Less close was the association with real daily wages. These rose while value-added fell in 1860-70, and rose much less than value-added in 1880-90—thus fluctuating less from decade to decade. On the other hand, daily wages in manufacturing moved closely with real output per worker in manufacturing, mining, construction, and agriculture. The similarity was especially close with the Weeks–Bulletin 18 series. Real output per worker rose 3 percent between 1860 and 1870 compared with 3 percent for real daily wages; 21 percent between 1870 and 1880, compared with 19 percent for wages; and 27 percent between 1880 and 1890, compared with 25 percent for wages.

There is, of course, no necessary relation between short-run changes in wages and productivity, either in a given industry or in the economy as a whole. Better grounds exist for expecting that real wages and productivity would move together in the long run and for major movements. So large is labor's share of the national income that any substantial disparity between productivity and real wages would exert great impact on the other shares—either largely expropriating them or presenting them with huge windfalls. Long-term associations between wages and productivity have been noted by other observers. Even for the long run the closeness of movement will depend upon the dates chosen for comparison. The fact that increases of wages and productivity during these thirty years were not inconsistent with each other is reassuring, but so imperfect are the measures of productivity, so complex and manifold the factors influencing productivity, and so hazy the relation of productivity to the qualities for which labor must be rewarded economically,

[2] Robert E. Gallman, "Commodity Output, 1839-1899," *Trends in the American Economy in the Nineteenth Century*, Studies in Income and Wealth, Vol. 24 (in press). Both Gallman and I exclude the hand trades, building occupations, and miscellaneous agricultural processing industries in certain years. However, Gallman includes non-precious-metals mining.

that we leave to later investigation the question of whether the changes in wages and earnings were fully explained by changes in productivity during these decades. In any case, what labor manages to gain depends on its bargaining power. In the absence of strong unions—to a large extent even with their aid—the ability to convert rising productivity into real-wage advances will depend on the supply and demand situation in which labor finds itself.

The period 1860-90 was unquestionably one of great quantitative increase in labor supply. Total population increased 100 percent, working-age population 112 percent, and the labor force 120 percent.[3] The rise in labor force was relatively modest during the first decade because of Civil War casualties and curtailed immigration; even so, the statistics show a one-fourth increase. In each of the next two decades the increase was approximately one-third. A large share of the increment was drawn into manufacturing. For the thirty years, wage earners in manufacturing rose 265 percent, excluding construction and hand trades, and the increase was especially large during the Civil War decade. These additions to the number of workers may have had some offset in a decline in the manufacturing workweek, but we have seen that it was small.[4]

Our labor supply data are imperfect, but they do suggest that quantitative labor supply increased greatly, that it rose very heavily in manufacturing in all decades, and that much of the increase in manufacturing employment came during the Civil War decade, in contrast to a smaller percentage rise in total labor force.

If the increase in quantity of labor supply was large, what of its quality? There is no over-all measure, but some indication may be seen in its composition.[5] This information is confined to sex and broad age groups, native or foreign birth, and education.

In the labor force as a whole, the number of females seems to have increased somewhat more rapidly than the number of males. There was no breakdown by sex of the labor force for 1860, so that this appearance of a larger rise for females can apply only to the last two decades. Even for this period the differential increase for females was small compared with what has occurred since 1890. In the manufacturing and mechanical industries, females 16 and older seem to have increased somewhat less rapidly, and children under 16 much less rapidly, than males 16 and older. However, the death

[3] For population and labor force: *Historical Statistics of the United States, 1789-1945*, Bureau of the Census, 1949, p. 25; Clarence D. Long, *The Labor Force under Changing Income and Employment*, Princeton University Press for the National Bureau of Economic Research, 1958, Appendix A.

[4] Tables 14 and 13, above.

[5] Long, *op. cit.*

and crippling of half a million or more men in the Civil War, and the postwar disorganization of the southern labor force must count heavily in assessing the change in quality of the manufacturing work force between 1860 and 1870.

There remain skill, education, and immigration. No basic statistics on skill composition exist for these years; the often-repeated argument that skills were diluted by the mass production factory system should be greeted with caution since most additions to our factory labor force were surely drawn from unskilled or semiskilled farm laborers here and abroad, and the proportion of skilled workers in or out of manufacturing was probably never large to begin with. Average education evidenced some increase—judged by the proportion of persons under 20 attending school, plus the continual rise in days attended by the average student, though the increase was far less than that which took place after the 1920's.[6] As for immigration, much has been said by others about its influence on earnings, through its supposed effect in increasing the labor supply and diluting the quality of that supply. The near stopping of immigration is often cited as explaining both the narrowing of occupational differentials and the increase of wages after World War I.[7] Although immigration was relatively less important after the Civil War, it was sufficient to increase the foreign-born labor force faster than the native labor force, from a little less than one-fifth of the labor force in 1860 to a little more than one-fifth in 1890.

All in all, except during the Civil War, the large rise in labor supply during 1860-90 was not modified by changes in the average quality of worker. In view of the presumably depressing effect of the rise in labor supply, some explanation may be needed as to how increases in real wages and earnings were possible and why they were so heavily concentrated in the last decade.

For this we may turn to the quantity of capital per worker in manufacturing. Like all data of that period, these statistics, based on decennial censuses of manufactures, leave much to be desired. Conceptually, capital included the gross assets of the manufacturing establishments, embracing land, buildings, machinery, actual cash on hand, raw materials in hand or in process, finished goods on hand, and unpaid accounts for goods made or delivered. It included borrowed capital, but excluded rented capital and certain nonoperating capital and intangibles such as securities and loans

[6] *Ibid.*

[7] For example, H. M. Douty, "Union Impact on Wage Structures," *Proceedings of the Sixth Annual Meeting*, Industrial Relations Research Association, 1953, p. 67. Douty merely mentions immigration as one factor, however.

representing investments in other enterprises, copyrights, trademarks, and good will.[8] The census called for valuation of capital at the amount carried on the books as of the last day of the previous year. Depreciation was not requested by the census before 1889; even as late as 1909, "The great majority of establishments make no allowances for depreciation on their books and have no definite idea as to the relation between the original cost or value of the buildings and machinery and their present value." Easterlin gives his opinion that the capital figures presented here are at book value (principally original cost) with increasing allowance for depreciation as we move forward in time." This factor would lead to downward bias in the figures for the later years of the period; on the other hand the questions addressed by the census through 1880 were vague and were believed by that agency to overlook items of capital such as goods in process. Easterlin suggests that the figures for 1870 and 1880 (and presumably 1860) were probably biased downward relative to those for subsequent years.[9] We made two adjustments to the capital data: one to exclude capital in certain nonmanufacturing industries, intermittently covered industries, and independent hand trades, the other to adjust to 1860 dollars, an operation that required some arbitrary assumptions, in view of the fact that investments were acquired at various times and prices.

These defects and assumptions keep us from saying anything final about the causes of wage and productivity increases. Nevertheless, the behavior of real capital per worker and wages and productivity were highly consistent. Between 1860 and 1890, capital per wage earner approximately doubled, with the entire increase apparently concentrated in the 1880's, the decade of the greatest rise in productivity and real wages. Thus the lag of real wages, real earnings, and productivity between 1860 and 1880 was probably due to the dilution of the capital endowment per worker during these years. Similarly, the doubling of the capital endowment per worker during the 1880's may have been responsible for so much of the rise in real wages and productivity being concentrated in that decade.

Undue emphasis should not be placed on quantity of capital. Fuller understanding is required of its industrial distribution, its quality, and the techniques by which it is used in production. At the outbreak of the Civil War, according to Clark, the United States was probably in advance of other nations in automatic machinery and interchangeable and standard parts. The Civil War

[8] Richard A. Easterlin, "Estimates of Manufacturing Activity," *Population Redistribution and Economic Growth, United States, 1870-1950*, American Philosophical Society, 1957, pp. 675-677.

[9] *Ibid.*, p. 678.

set higher standards of precision in some industries, created a demand for laborsaving machinery, and rapidly widened the use of automatic tools. Railroads were built even in the midst of hostilities. But the Civil War, Clark felt, did not create new manufactures or revolutionize industrial labor in the North, and it put a heavy burden on northern industries. In the South, it wrecked or depleted manufacturing equipment and railways, and destroyed the social organization for economic life, with the result that recovery was unexpectedly slow.[10] Thus the years of war and reconstruction were periods of quantitative rather than qualitative progress.[11] These impressions are consistent with a slow net advance between 1860 and 1870 in productivity and real wages and earnings.

In contrast, Clark regards 1873-93 as a golden age marked by the largest opening up of virgin territory and resources of any twenty-year period in our history, the linking together of transcontinental railroads, the most rapid application of scientific method to agriculture, large northern investment in southern manufacturing and railroads, the rise of new manufacturing centers in the South and West, the spread of technical education through scientific institutes, and notable improvements in steel making and railroad construction and operation.[12] Whether the qualitative advances were high compared with pre-Civil War or more recent periods is not certain, but the combination of considerable qualitative and quantitative growth is consistent with the fact that most of the real-wage advance in these thirty years of American industrial development occurred in the late 1870's and the 1880's.

The story of wage behavior during 1860-90 would be incomplete without mention of unions. The period was marked by wide fluctuations in both wages and union activity, by moderate net advance in both wages and union strength, and by the fact that the 1880's taken as a decade was the best of the three both for increase of real wages and development of lasting union organization. Can we trace connection between these developments in unionization and in wages?

The influence of unions on wages would have been hard enough to establish if the unions had been well organized and had left abundant records of their activities. Though the labor movement succeeded in gaining its first really firm foothold during the last years of this period, it was, except for the brief candescence of the Knights of Labor in the mid 1880's, a small part of the work force—typically

[10] Our own statistics on manufacturing employment show that the South lagged behind all the other regions in the increase between 1860 and 1880 (Appendix Table C-2).

[11] Clark, *op. cit.*, pp. 7, 18, 20, 23, 27, 61, 152.

[12] Pp. 154, 170, 182, 186.

1 or 2 percent of the total labor force—or less than 10 percent of the industrial labor force.[13]

Unions made their greatest gains and were probably strongest in skilled trades; they were surely of almost no significance for laborers. It would be interesting to investigate whether the large rise of unionization during the 1880's was associated with any greater wage gains for the skilled workers than for the unskilled laborers. Later investigation may yield a more positive result, but no differential impact of any significance could be noted in our own sketchy examination of the statistics.

As concerns manufacturing wages, any position that unionization was a significant factor must be regarded as extremely tenuous. For the first two decades we have a valuable record of the extent of union activity in the replies of manufacturing firms to a question posed by the Weeks investigation made in connection with the 1880 census: "Have strikes or lockouts been frequent in your business?" Of the 462 firms which supplied wage data, half made no reply to this question; 169 reported that they had never had a strike or lockout since 1860 or since the firm was founded, 58 said that strikes were infrequent or rare, and only 3 firms conceded that strikes had ever resulted in gains to the worker. In the 1880's, unions were undoubtedly more active in manufacturing, though they were probably never much of a factor except for some skilled occupations within some industries.

Any connection between union activity and wages is necessarily complex. Unions can influence wages, while their own activities are influenced by wage developments. Their influence can exert itself through strike activity, inspiration to unorganized workers, concessions by nonunion employers to ward off unionism, or gradual persuasion of employers that low wages are wrong or unwise. Their impact can take the form of resistance to reductions, or it can affect prices and therefore living costs.

These complexities, together with the absence of really adequate statistics of union membership for the firms and industries covered by the wage and earnings data, restrain us from trying to assess the impact of unionization in this period. We could discern no such impact in our sketchy analysis; but the final judgment on this, as on some other questions, we leave to later investigation.

[13] Trade union membership may have been as much as 14 percent of the industrial labor force in 1870-72, and it seems to have been about 7.5 percent in 1880 and 8.7 percent in 1890. For union membership, see Lloyd Ulman, *The Rise of the National Trade Union*, Harvard University Press, 1955, p. 19.

For industrial employment (including manufacturing, construction, and hand trades) see Table 14 of this study.

A Final Word

Despite the quickening in the 1880's, the pace of real wages and earnings during these three decades of almost unparalleled economic advance must, by present standards, be regarded as moderate, a walk followed by a trot, allegretto rather than allegro! This need not be surprising. A time of rapid economic development out of a mainly agricultural setting is not necessarily the best for labor. While industrial demand for labor increases apace, a great reservoir of labor supply flows into industry as a result of a simultaneously occurring agricultural revolution. This labor supply does not require as great a lure of industrial wage increases, since its flow is partly forced and is still large in relation to the industrial demand. When a large interflow of labor supply is added to a great immigration and a great natural population increase, it is an achievement even to increase the equipment per worker; qualitative standards are apt to lag.

If this perspective is sound, great quantitative growth would not necessarily be accompanied by great enhancement in the condition of labor; such gains must probably wait until the most rapid phase of quantitative growth is over. Then—when the economy can turn its strength to industrial and social improvement—can begin a golden age for labor.