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Chapter Title: Difference between Wage Rates and Average Hourly Earnings

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the United Kingdom. The lag in turns of wage rates on Class I railroads in the United States was even longer.

With respect to our technical problem of parallelism our analysis suggests that for industry aggregates and at the major turning points of business activity the turning points in average hourly earnings are a reliable indicator of those in wage rates. They are a somewhat less reliable indicator for industry subgroups. We conclude also that the cyclical amplitudes of wage rates and average hourly earnings are closely similar although this judgment rests largely on circumstantial evidence.

If the cyclical amplitudes of average hourly earnings can be taken to approximate those of wage rates, the cyclical amplitude of wage rates in manufacturing have been considerably smaller than those of factory production and employment or of wholesale prices of raw materials and, with minor exceptions, of semifinished goods. In contractions this has been true also of the declines in wage rates compared with the declines in the wholesale prices of finished commodities, but in half of the expansions the amplitudes of wage rates substantially exceeded those of the wholesale prices of finished commodities. The relation was reversed at minor expansions.

1 *Difference between Wage Rates and Average Hourly Earnings*
The time and piece rate are the two basic systems of wage payment. The time rate, the basis of compensation for a specified period of labor, usually an hour, is generally expressed as an hourly rate. The wages of workers hired by the day or week can be expressed as an hourly rate merely by dividing the standard wage payment for the day or week by the standard number of hours worked per day or week.

The basic hourly rate, 'straight time', is the remuneration for an hour's labor performed during the day shift in the course of the normal workweek. Hours worked in excess of the hours comprising the standard workweek are usually compensated at a higher rate, 'overtime', figured as a specified percentage of the straight-time hourly rate. Work on an evening or night shift also is frequently compensated at premium rates, determined by adding an absolute amount, called a 'shift differential', to the straight-time hourly rate. These arrangements make the straight-time hourly rate the pivotal time rate.

2

The piece rate, the price paid per unit of physical output, is the simplest form of an incentive method of payment. The more a worker produces in a given period, the higher his wage receipts. For this reason it is difficult to translate a piece rate into a time rate, or vice versa, and therefore to combine the two types of rate into a composite wage rate or index.[2]

Whether this translation has been done correctly by the reporting establishments cannot be determined. What we have done is to take the reported percentage changes from month to month in wage rates, whether time or piece, weight and chain them to obtain an index of wage rates (App. A). Wage rate indexes of this character can be constructed for individual manufacturing industries as well as for aggregate manufactures. At best, they measure only average changes in the schedules of wage rates, not changes in average wage rates caused by relative shifts in high and low wage industries, establishments, or occupations.

Management is more directly concerned with measuring the average cost of employing labor for a stated period, say an hour, or the average labor cost per unit of output. The latter measure cannot be derived satisfactorily in time series form because of deficiencies in our data; the former, labor cost per hour, however, has been adequately measured, at least between World War I and II, by average hourly earnings.[3]

Hourly earnings are computed by dividing total wage receipts in

[2] According to surveys by the National Industrial Conference Board in 1924 and 1935, about 56 percent of factory wage earners were paid on a time-rate basis, the rest on some form of incentive basis. In the establishments covered, employing upward of 700,000 workers, the percentage paid on a time-rate basis was virtually identical in the two surveys (*Monthly Labor Review*, Department of Labor, Vol. 41, No. 3, Sept. 1935, pp. 697-700).

A Bureau of Labor Statistics survey in 1945-46 of a much larger sample, 15,600 establishments employing 3.2 million workers, disclosed that 70 percent received a time-rate wage (ibid., Vol. 65, No. 5, Nov. 1947, pp. 535-8). It is uncertain how much of the difference can be attributed to differences in the sample and how much to a change in policy largely induced by the more extensive unionization of factory workers in the late 'thirties.

[3] In the years following World War II neither concept, wage rates or average hourly earnings, serves its former purpose in many industries because some of the 'fringe' payments to labor, to provide various types of social security, are excluded from the statistics on hourly earnings and wage rates. For the relative size of such payments in one industry see Appendix C.

a given period by the number of hours worked.[4] Changes in average hourly earnings in a given industry reflect not only changes in hourly rates and in piece rates but also the influence of various other factors. If, for example, the premiums paid for overtime or for extra shifts, or the prevalence of work compensated at premium rates change, straight-time rates will not be affected but hourly earnings will. Shifts in the relative number of high and low paid workers or of high and low wage plants also would affect average hourly earnings even though rates remained the same. Changes in the relative amount of work compensated on time- and piece-rate bases would have similar effects since hourly earnings at an identical task tend to be higher for piece workers.[5] Changes in the productivity of piece-rate workers are another factor that might cause hourly earnings and wage rates to diverge. The up- and down-grading of jobs is another example of change that influences the relative movement of hourly earnings but not nominal wage rates. In other words, a given task, without any alteration in the requirements, may be designated by an occupational title that qualifies it for a higher (upgrading) or a lower hourly rate (downgrading).

Another important difference is the fact that changes in wage rate schedules in a given industry are not continuous and are usually in response to substantial alterations in the previous relationships between the supply of and the demand for labor. Average hourly earnings, on the contrary, tend to change continuously, reflecting the adjustments induced by even moderate changes in the level of production. The extent to which the differences in the two concepts are the source of differences in cyclical behavior depends upon the cyclical pattern of the factors that are superimposed upon wage rates to yield hourly earnings.

Since average hourly earnings in a given industry are more sensitive than wage rates to changes in the level of production, it is questionable how well relative movements in hourly earnings represent relative movements in wage rates. Any difference in relative movements could, of course, be ascertained by comparing the two series in identical industries.

[4] 'Hours worked' actually means hours paid for in the case of time-rate workers and nominal hours in the case of piece-rate workers. That is, it includes 'stand-by time' when no work is performed.

[5] For evidence see Effect of Incentive Payments on Hourly Earnings, BLS *Bulletin* 742 (1943), p. 9.

4