

versus 9 percent); the difference in wage rate increases between the two groups of industries over the whole 9 year period was 43 percent (i.e. 57 percent versus 40 percent).

If we examine the particular industries which make up the upper and lower quartiles when ranked according to employment expansion, and compare them with industries comprising the upper and lower quartiles when ranked according to output expansion, we can gain some better understanding of the relationships between the variables.

Among the industries which had the lowest increase in employment between 1948 and 1957 are the petroleum and the food and beverage industries. Both of these industries experienced significant productivity gains. Despite a decline in production man-hours in these industries, they had larger than average wage increases. Hence their inclusion in the lower quartile increases the average wage rise for the group. When industries are ranked by output increases instead of employment increases, these two industries are replaced in the lower quartile by the apparel and the leather industries, both of which had less than average productivity gains and wage increases. As a consequence, the average wage increase for the quartile is reduced. Conversely, one of the most rapidly expanding industries in terms of output increases was the chemicals industry. It experienced very sizable increases in productivity and one of the highest wage rate increases. This tended to increase the average wage rate gain in the upper quartile of industries when ranked by the size of output gains. When the ranking is made in terms of employment increases, the chemical industry, on account of its very large productivity gain, is replaced by the printing and publishing industry, with a lower than average productivity gain and a lower than average wage rate gain. This reduces the average wage gain in the upper quartile, when the ranking is done by the size of employment gain.

So far we have considered changes in wages of production workers only. However, unit labor costs include both wages and salaries. Because of the very rapid substitution of salaried workers for wage workers during the postwar period, the increase in salary costs per unit of output has been substantially larger than the increase in wage costs per unit of output. Consequently an investigation of the behavior of unit labor costs must take into account changes in salary rates as well as changes in wage rates. We have no reliable figures on the change in salary rates per *man-hour* of salaried employees for each of the 20 manufacturing industries. However we can obtain data on average annual earnings per *employee*. Compensation per employee includes both wages and salaries. The difference between the behavior of average hourly earnings of production workers and average compensation per employee, however, will be affected not only by the fact that the former excludes, and the latter includes, changes in salary rates, but also by the fact that the annual earnings data include the effect of changes in the number of hours worked per year.¹³ Even if wage and salary rates increased by the same amount, in industries characterized by changing hours of work during the period in question average annual earnings would increase by a different percentage than average hourly earnings. Further, a change in the proportion of

¹³ There are also some relatively modest discrepancies of a purely statistical nature, resulting from the fact that the two series are prepared by different agencies, and include some adjustment factors not common to both series.