

A. WAGES

The first general hypothesis for investigation was that the industrial composition of the labor force, the labor-market condition, and the price level explain the level of manufacturing or unskilled wages.

Three regressions were run. Two attempted to explain the level of unskilled wages; one of manufacturing wages. The first regressed the level of unskilled wages on the percentage of the total labor force accounted for by employment in the service sector,²⁵ the labor-market condition (LMC), and the price level.

The second regressed the unskilled wage level on the percentage of total employed in the services industries, the LMC, and the price level. The third regression investigated the association of manufacturing wages on percentage of the total labor force employed in industrial employment, the condition of the labor market and the price level.

The coefficients of multiple determination (R^2) associated with the manufacturing wage regression were significant at the 5-percent level for the years 1956-58, and nearly so in 1955. The beta coefficients associated with the price level were significant at the 5-percent level in 1955 and at the 1 percent level in 1957-58. In addition, in 1957 and 1958 the beta for labor-market condition was significant at the 5-percent level. (See appendix tables.)

On the other hand, the regression of unskilled wages on the variables named above had no coefficients of multiple determination which were significant. The betas associated with labor-market condition and price level were significant at the 5-percent level in 1958 in the regression which included service sector employment as one of the independent variables. The regression involving services industries employment as a variable had no significant betas. (See appendix tables 1 and 2.)

B. SPILLOVER INVESTIGATION

If the level of unskilled wages cannot be satisfactorily explained by employment structure, labor market condition, or price level, another hypothesis is available. That is the "spillover" thesis.

The form investigated here states that the level and change in unskilled wages are associated with the level and change in manufacturing wages more than with other explanatory variables.

The analysis was carried out using rank correlation methods developed by Kendall.²⁶ The coefficient of rank correlation is called tau by Kendall and will be used throughout as a shorthand expression.

A sample of 14 cities was used, including Atlanta, Baltimore, Boston, Chicago, Cleveland, Detroit, Los Angeles, Minneapolis-St. Paul, New York, Philadelphia, Portland, St. Louis, San Francisco, and Seattle.²⁷

Level of unskilled wage on level of manufacturing wage

The results of correlation of cities ranked by level of unskilled wages and level of manufacturing wages were extremely significant. The correlations were carried out using data for the years 1951-58. The size of the sample is 14 cities for each set of computations reported. Cities omitted were Cincinnati, Houston, Kansas City, Pittsburgh, Scranton, and Washington, D.C.

The values of tau and the significance level associated with each one are tabulated below:

Rank correlation coefficients

Year	Value of coefficient	Level at which significant	Year	Value of coefficient	Level at which significant
1951.....	0.7023	0.0006	1955.....	0.5889	0.0024
1952.....	.7079	.0003	1956.....	.7300	.0001
1953.....	.6630	.0006	1957.....	.7889	.0001
1954.....	.6742	.0006	1958.....	.6409	.0009

²⁵ That is, the services industries, finance and insurance, transportation and public utilities.

²⁶ M. G. Kendall, "Rank Correlation Methods," London: Charles Griffin & Co., 1948. The method set forth by Kendall has the advantage over the simpler Spearman method for small samples. The distribution of tau tends to normality for samples greater than 10 and has been computed for values under 10.

²⁷ It will be noted that some of these cities have interpolated unskilled wage rates for some years. The first correlation reported below used both interpolated and uninterpolated data. No significant differences arose, so interpolated data was used throughout.