Applied Price Theory
Analyzing Changes in Relative Wages
(An application of production theory)

References:


Description of Analytical Approach

Step 1: Construct measures of factor prices and factor quantities for “types” of labor defined by education, gender and experience. Measure prices using a “reference population” and measure quantities using the “full” population

Step 2: Focus on relative wages rather than the level of wages by deflating all wages by a wage index

Step 3: Impose constant returns to scale by deflating all quantities by a “labor input index”

Step 4: Examine price evidence to see that changes in wage premia reflect “prices” rather than composition or cohort effects by looking at price changes within and between cohorts

Step 5: Examine evidence on prices and quantities to look for the importance of demand side factors and the nature of those factors using quasi-concavity condition for the production function (or equivalently the convexity condition for the cost function)

Step 6: Aggregate factors using both a standard index (i.e. perfect substitutes approach) as well as a “linear synthesis” approach. Methods of (K & M and M & W) differ in terms of the amount of structure they place on the problem but are forms of the same basic underlying model. Aggregation is based on co-movement of prices.

Step 7: Perform a “supply and demand” analysis using the aggregated measures of relative supply and demand. With two factors, we can reduce the problem to one relative quantity and the corresponding relative price; the key remaining question is what is the elasticity of substitution between the factors?

Step 8: Examine measurable components of demand side factors to check alternative explanations for the observed changes in prices and quantities.
Education Premiums by Gender

![Graph showing education premiums by gender over time. The x-axis represents years from 1965 to 2005, and the y-axis represents relative wage. The graph compares women (represented by blue diamonds) and men (represented by pink squares). There is a steady increase in relative wage for both genders over time, with women consistently having a higher premium than men.](image-url)
Wage Growth by Percentile 1968-2004

Real Wage Growth

Percentile
Wage Growth by Percentile 1986-1995

Real Wage Growth

Percentile