Chapter 13. Econometrics

1. As a test of the simplest Hicks strike model, you wish to analyze the empirical determinants of the strike duration. To proceed, you collect data on the length of all strikes in the U.S. during the past 10 years. What variables would you ideally include in your econometric model as determinants of strike duration? What are the predicted signs of the coefficients according to the Hicks model?

2. In an attempt to understand the forces leading to a decline in unionization rates over time in the U.S., one estimates the following regression model:

\[ \text{UNION}_t = \alpha_0 + \alpha_1\text{WEST}_t + \alpha_2\text{MIDWEST}_t + \alpha_3\text{NORTHEAST}_t + \alpha_4\text{FEM}_t + \alpha_5\text{GOVT}_t \\
+ \alpha_6\text{IND}_t + \alpha_7\text{IMP}_t + \epsilon_t \]

where \( \text{UNION}_t \) is the percentage of the workforce belonging to a union in year \( t \), \( \text{WEST}_t \), \( \text{MIDWEST}_t \), and \( \text{NORTHEAST}_t \) are the fractions of U.S. employment occurring in Western, Midwestern, and Northeastern states, respectively, \( \text{FEM}_t \) is the percentage of females in the workforce, \( \text{GOVT}_t \) is the fraction of the workforce employed in the public sector, \( \text{IND}_t \) is the fraction of the workforce employed by private firms in manufacturing, construction, mining, transportation, and public utilities, and \( \text{IMP}_t \) is the ratio of U.S. imports to total gross national product (GNP). Discuss the likely signs of the coefficients \( \alpha_1 - \alpha_7 \).