

Optimal Search with an Infinite Horizon Model

| <u>Variable</u> | <u>Definition</u> | <u>Proxy Variables</u> |
|-----------------|------------------------------|----------------------------|
| w^r | reservation wage | pre-unemployment wage |
| \bar{w} | expected acceptance wage | post unemployment wage |
| \bar{D} | expected search duration | unemployment duration |
| s | search subsidy | unemployment insurance |
| c | direct costs of search | transportation costs |
| K | human capital | education, experience |
| i | discounting rate of interest | marital status, dependents |
| p | probability of a job offer | local unemployment rate |

Theoretical framework

$$w^r = g \left(\begin{matrix} s \\ (+) \end{matrix}, \begin{matrix} c \\ (-) \end{matrix}, \begin{matrix} K \\ (+) \end{matrix}, \begin{matrix} i \\ (-) \end{matrix}, \begin{matrix} p \\ (+) \end{matrix} \right)$$

$$\bar{D} = F \left(\begin{matrix} s \\ (+) \end{matrix}, \begin{matrix} c \\ (-) \end{matrix}, \begin{matrix} K \\ (?) \end{matrix}, \begin{matrix} i \\ (-) \end{matrix}, \begin{matrix} p \\ (?) \end{matrix} \right)$$

$$\bar{w} = G \left(\begin{matrix} s \\ (+) \end{matrix}, \begin{matrix} c \\ (-) \end{matrix}, \begin{matrix} K \\ (+) \end{matrix}, \begin{matrix} i \\ (-) \end{matrix}, \begin{matrix} p \\ (+) \end{matrix} \right)$$

Empirical specification

D_j = the actual duration (weeks) of unemployment (for worker j)

F_j = the ratio of weekly UI to the pre-unemployment weekly wage (wage replacement ratio)

N_j = the number of weeks spent out of the labor force

w_{1j} and w_{0j} = the post-unemployment and pre-unemployment hourly wages

$$\ln(D_j) = a_0 + a_1 F_j + \text{other stuff}_{(+)}$$

$$\ln\left(\frac{w_{1j}}{w_{0j}}\right) = b_0 + b_1 F_j + \text{other stuff}_{(+)}$$

$$N_j = c_0 + c_1 F_j + \text{other stuff}_{(-)}$$