

Labor Economics
Assignment 3
Spring 1999

You are to write a GAUSS program which computes an Albrecht-Axell search equilibrium. Assume that there are two types of agents which are differentiated in terms of tastes for leisure, with $\nu_0 = .2$ and $\nu_1 = .8$, and $p(\nu = \nu_1) = .6$. The contemporaneous utility function of a type ν agent is

$$u_\nu = x + \nu m,$$

where $m = 1$ if not working and 0 otherwise and where x is consumption. Let lump sum transfers (dividends) be given by $\theta = .2$, and let unemployment benefits be equal to $b = .2$. The birth (and death) rate in the population is $.1$.

The production function of a type λ firm is

$$y_\lambda = \lambda l,$$

where l is the amount of labor employed by the firm. The efficiency parameter λ has a uniform distribution on the interval $[0, 2]$. Let $l(w)$ denote the steady state labor supply to a firm offering a wage of w . Then the steady state average profits of a type λ firm offering a wage of w are

$$\pi(w, \lambda) = (\lambda - w)l(w).$$

1. Find the equilibrium wage offer distribution for this model, and compute the steady state unemployment rate.
2. Let the unemployment benefit increase to $.25$. Compute the new equilibrium wage offer distribution and the equilibrium unemployment rate.
3. Starting from the original parameter values, compute the new equilibrium wage distribution and unemployment rate when dividends shift from $.2$ to $.25$. Compare your results from this change with what you observed earlier when the unemployment benefit changed by the same amount. What accounts for the difference in the two results?