

ECON 441: HANDOUT 8
LABOR SEARCH
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We have an agent searching for a job. Searching requires effort. Specifically, searching hard enough to find a job with probability e entails a utility cost of:

$$c(e) = \frac{1}{\gamma} \frac{e^2}{2}$$

The agent has utility over income I :

$$U(I) = -(2 - I)^2$$

If the agent finds a job, they get wage W , but they are taxed t . If the agent does not find a job, they are paid an unemployment benefit of b (and no tax). The government's balanced budget constraint requires that the revenue raised from taxing the employed, et , equals the total payout to the unemployed, $(1 - e)b$, so: $t = \left(\frac{1-e}{e}\right)b$

1. What is utility with and without a job (ignoring search effort)?
2. What is the agent's expected utility for a given search effort e (notice we have normalized effort so that effort=probability of finding a job)?
3. Find the optimal effort e .
4. If the government can monitor search effort, then the government can require optimal search in order to receive unemployment insurance. Thus, the government does not need to worry about disincentive effects of unemployment benefits and can take search effort as a given when choosing the benefit level b and tax t . If e is a fixed number, what level of b, t maximizes the agent's expected utility?
5. If the government cannot monitor search effort, then policymakers choosing b must recognize that unemployment generosity can influence search effort. Find b, t that maximizes agent expected utility.

6. Make a conjecture as to whether γ would be higher or lower during a recession, and explain why you think γ might change in this way during a recession. Based on your conjecture, would you recommend more generous or less generous unemployment benefits during recessions?