

Public Economics (ECON 131)

Section #12: Unemployment Insurance

Contents

1 Main Insurance Types

- **Unemployment Insurance (UI):** Pays benefits to workers who have been laid off
 - Federally mandated, state run
 - Each state determines benefits and rules
 - Funded through payroll taxes on employers (1-2%)
 - **Experience Rating:** the payroll tax amount depends partly on the burden the employer has placed on the UI system – i.e. payments increase after the firm lays off more workers.
 - **Replacement rate:** the share of previous earnings earned under UI. $R = B/W$, ranges from 35-55%
 - In general, can collect UI for 6 months
- **Disability Insurance (DI):** Pays benefits to workers who have suffered a medical impairment that leaves them permanently unable to work
 - Funded through Social Security payroll tax
 - Applicants screened by social security examiners
- **Workers compensation (WC):** Pays for medical costs and lost wages associated with an on-the-job injury
 - State-mandated
 - Purchased by firms from private insurers
 - Payments untaxed → replacement rate close to 90% on average

2 Practice Problem

2.1 UI question from 2015 final exam

Individuals have utility function given by $U(C) = \sqrt{C}$.

Individuals earn a wage w when employed and have no earnings when unemployed.

The probability of being unemployed is q .

(a) Write down the individuals' expected utility

(b) How much insurance at an actuarially fair price would individuals buy (No need for calculation)

(c) Present the previous result graphically, making sure to label (1) the axes, (2) the high and low consumption outcomes, (3) $EU^{insured}$, (4) $EU^{uninsured}$, and (5) the risk premium.

(d) When individuals have their own, unobservable to private insurers and to the government, probability of being unemployed q_i , the government might need to intervene in the insurance market. Explain why.

Let's now assume that the government intervenes and provides unemployment insurance benefits b to the unemployed. This is financed by a payroll tax t paid by the employees.

(e) Write down the government's constraint for a balanced budget and individuals expected utility as a function of q , w and b .

(f) When the likelihood of being unemployed depends positively on the generosity of UI benefits b , should the government provide full or partial insurance? Explain.

Arkansas, California, and New York are considering reforms of their unemployment insurance programs and have invited you to give your expert opinion on the optimal policy. They have estimated two parameters that they think will be useful in guiding your advice: The change in consumption while unemployed for a \$1 increase in the UI benefit rate ($\frac{\partial c}{\partial b}$) and the elasticity of unemployment durations with respect to the benefit rate ($\varepsilon_{dur,b}$). The estimates are as follows:

| | Arkansas | California | New York |
|---------------------------------|----------|------------|----------|
| $\frac{\partial c}{\partial b}$ | 0.2 | 0.3 | 0.3 |
| $\varepsilon_{dur,b}$ | 0.8 | 0.8 | 0.5 |

(g) Explain why $\frac{\partial c}{\partial b}$ is relevant in determining the optimal UI benefit rate. Based on this parameter only, which state(s) would you recommend adopt higher UI benefits?

(h) Explain why $\varepsilon_{dur,b}$ is relevant in determining the optimal UI benefit rate. Based on this parameter only, which state(s) would you recommend adopt higher UI benefits?

(i) Assuming the states are identical in all other dimensions, which state would you recommend should have the highest UI benefit rate? Which should have the lowest?

(j) How would you expect the parameters $\frac{\partial c}{\partial b}$ and $\varepsilon_{dur,b}$ to change during a recession? What does this imply for the optimal benefit level?

(k) In the context of unemployment insurance, explain what experience rating is. Provide an argument for perfect experience rating.