Moral Hazard, Adverse Selection and Unemployment Insurance

Examples of adverse selection:
– Risk of Selling a Life Annuity
– Lemons Market

Moral Hazard
A simple job search model

Unemployment Insurance
– The structure
– Effects on unemployment duration, layoffs, unemployment rate

Risks of Selling a Life Annuity

“In 1965, 47-year-old Andre Francois Raffray agreed to pay 90-year-old Jeanne Calment 2,500 francs (about $500) a month until she died, in exchange for her apartment in Arles, France”....

Time passed...

“In December 1995, M. Raffray died at 77 having paid $184,000 over 30 years... <worth $300,00 with 6% interest over the years... At that time,> Mme. Calment was still healthy and living in the apartment.”

She died two years later, on August 4, 1997.
“The Market for `Lemons`”
(George Akerlof 1970)

- Used cars are substantially cheaper than new cars. Why?
- A car can be either a “plum” ($11,000) or a “lemon” ($1,000). The owner of a car knows its quality which is unobservable to potential buyers. Assume that, at first, half of the cars in the market are plums and the other half are the lemons. What is the price that a potential buyer is ready to pay?
- Will the owners of the plums want to sell for this price?
- What will it imply about the quality and the resulting price of the used cars for sale?

What do the two previous examples have in common?

- Two parties interact
- One of the parties is better informed than the other
- This information has a direct implication on the payoffs that the parties receive from a potential contract between them

Adverse Selection

- The uninformed side should expect an “average” payoff.
- Given this, only the “adverse” types will want to “sign” a contract.
An Implication for Unemployment Insurance

Assume a private firm is offering unemployment insurance and buying the insurance is not compulsory.

What result would you expect?

Moral Hazard, examples

If you insure your car against a theft, there is no reason to lock the car.

If you are paid a fixed wage and there is no risk of being laid-off, there is no reason to work “hard”

If you get sufficiently high unemployment compensation for an indefinite future, there is no reason to look for a job.

Moral Hazard

two parties involved in a contractual relationship

the unobserved actions of one party affect the payoff (utility) of both

the parties have opposite interests

the informed party chooses “hazardous” actions to the the uninformed party
Unemployment Compensation, Adverse Selection, Moral Hazard

Adverse Selection provides grounds for making the Unemployment Insurance compulsory.

Moral Hazard restricts the unemployment compensation schemes that can be used.

Simple Job Search Model

Assume a worker, who discounts future income at a rate \( \beta \) gets unemployment compensation \( b > 0 \) and is looking for a job.

He gets job offers \( w \) that are drawn from a probability distribution \( F(w) \).

If the worker accepts, he is employed forever.

What is the relationship between the lowest wage that he will accept and the unemployment compensation?

The Job Search Model

Denote by \( v(w) \) the expected value of lifetime earnings for a worker who has an offer \( w \)

If the worker accepts the offer, he receives \( w \) forever, \( \sum_{t=0}^{\infty} \beta^t w = \frac{w}{1-\beta} \)

If he rejects the offer, he gets the unemployment benefit \( b \) this week and waits till the next period to get another offer, the expected value of which is \( \int v(w')dF(w') \)
The Job Search Model

The person’s maximization problem is then

\[ v(w) = \max \left\{ \frac{w}{1-\beta}, b + \beta \int v(w')dF(w') \right\} \]

The lowest acceptable wage and unemployment compensation

The reservation wage (the lowest acceptable wage) is determined as follows:

\[ \frac{w-b}{1-\beta} \]

Unemployment Insurance in the U.S.


Federal government provides the minimum standards, state governments administer the program.

Beneficiaries:
- must be laid-off (involuntary)
- must be ready to work if offered “suitable” employment (workers customary occupation)
- can not be new entrants and re-entrants to the labor force
- had to earn a minimum amount in the previous year
- had to be employed at least (two or more) quarters
- get the compensation for a limited period
Financing

Part of the payroll tax (levied on employers) go into the Unemployment Trust Fund.

Federal government can levy 6.2% tax on the base ($7,000) yearly salary of a covered employee. 5.4% is credited to the states. Some states levy additional taxes (over 5.4%), moreover the base salary may be higher than the federal standard, it differs from state to state.

Differences in the Coverage by State

1995-1996 data

Previous (yearly) earnings requirement:
- $330 in Hawaii
- $4280 in Oklahoma

Lowest minimum weekly benefit
- $5 in Hawaii
- $75 in Washington State

Average weekly benefit: National ave was $179
- $119 in Louisiana
- $262 in Hawaii

Differences in the Coverage by State (1995), Continued

Gross replacement rate = Compensation/gross ave wages
36.3%
- 26.8% in Louisiana
- 45.3% in Rhode Island

Note, however, that the wages of unemployed are usually lower than the average wages, thus the effective (for the unemployed) gross replacement rate is higher. In general, the weekly benefit replaces over a half of the claimants income.

Length is maximum 26 weeks except for MA and WA: 30
Average length: Nationwide 15 weeks
- 9 weeks in North Carolina
- 20 weeks in New York
Empirical Findings:
- higher benefits reduce probability that insured unemployed workers will leave unemployment
  - the probability is measured as a ratio of newly employed workers at the end of the week to those unemployed at the beginning of the week
  - 10% increase in the benefits decreases this probability by 5.3%
- percentage of workers finding employment rises in the last week when the compensation is paid

Firms may decide to lay-off workers when the business is “slow”.
There are implicit and explicit costs to layoffs.
- job specific knowledge of the workers is lost
- recruiting new workers is consuming resources
- if the job is viewed as “insecure”, workers will require higher wages
UC reduces the last cost, thus, firms will layoff more the better is the UC.

Experience rating.
- recall that the tax is imposed on employers;
- some states keep the layoff records of each employer;
- employers with smaller layoff rate pay smaller taxes
There is empirical evidence suggesting that experience rating reduces layoffs.