Announcements

1. Check MT link: MT Guide (rules, topics) 
   exam seating by GSI
2. Extra OH Week 3 F 1-3, Room 651
3. Recent Material Items to Skip
   Chapter 11 examples pp 383-4
   11.9 and 11.10, pp 287-8: I discussed this in class Idea important, but not calculations
   Exercises 11.2, 11.3
   Economic naturalist 13.3, p 336

The Occupational Demand for Labor

Labor demand is a derived demand
Firms producing output demand the labor to produce the output.
Labor is paid according to value of what it produces. It is paid it’s “net contribution” to value. Eg. P=10$ and materials cost $1 labor paid $9 for each extra unit produced.
Labor paid its Value Marginal Product=VMP

The Occupational Demand for Labor

D = VMP1 + VMP2

Supply & Demand shifts: eg. change in technology
Increased demand for computer programmers as production processes become software driven.
The Effect of an Increase in the Demand for Computer Programmers

- Changes in equilibrium W & Q occur when the supply and/or demand for labor changes.

labor market may take time to reach new Equil.

The Occupational Demand for Labor

Goal of having theory: explain differences in wages

- Human capital
- Unions
- Compensating Differentials
- Discrimination

Unions & Wages

Group of workers who bargain collectively

Suppose fixed supply of labor = 200

Two markets

Initially equilibrium established by S&D

With union, get differential

An Economy with Two Nonunionized Labor Markets

- Total employment in market 1 = 125

Wage ($/hour)

D1 = VMP1

D2 = VMP2

W1 = 9

W2 = 7.5

WN = 100

Why? Suppose 10 in market 1 and 8 in market 2

The Effect of a Union Wage Above the Equilibrium Wage

- Market 1: supernumeraries and union W = $12

- Employment falls to 100

- Market 2: W falls to $6

- Employment increases to 100

- Loss in economic surplus

25 go from market 1 to market 2
Human Capital & Wages

Inherent differences in training, skill, intelligence drive differences in wages.

To become a lawyer, a plumber has to undergo substantial investment in training.

Compensating Differentials & Wages

Differences due to unpleasant occupational conditions

Skyscraper construction worker

Ad writer for tobacco “bad cause”

Need premium on wages

Discrimination & Wages

Arbitrary preferences by employer for one group.

Eg. equally productive, in LR women and male wages same for given industry & job type

to get only males, have to offer premium

Summary

Demand for labor is a derived demand

Labor is paid the value of its marginal product

Supply and Demand in labor market establishes equilibrium wage

Unions, human capital, compensating differentials explain differences in wages

Externalities

Equilibrium in a perfectly competitive market without interventions results in maximum social welfare. It is also a social optimum.

IF S and D schedules reflect true costs and benefits to society

### How External Costs Affect Resource Allocation

<table>
<thead>
<tr>
<th>Price ($/ton)</th>
<th>Quantity (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private MC</td>
<td></td>
</tr>
<tr>
<td>12,000</td>
<td>1,300</td>
</tr>
<tr>
<td>Social MC + XC</td>
<td>2,300</td>
</tr>
<tr>
<td>Polluton cost = $1,000/ton</td>
<td></td>
</tr>
</tbody>
</table>

Private equilibrium:

- Price = 12,000 $/ton
- Quantity = 8,000 tons/year

Social optimum:

- Price = 12,000 $/ton
- Quantity = 2,300 tons/year
Externalities

Negative Externality: too much is produced and consumed. True social costs are more than reflected in S&D

Positive Externality: too little is produced and consumed. True social benefits are more than reflected in S & D

Externalities

Remedies:
Interventions in market
Bargaining to compensate victims.
Given Coase Theorem
Laws

Examples second half

Externalities

tax for negative externality
subsidy for positive externality
examples second half

Externalities

Laws
Speed limits: too high speed, social cost
Snow tires: too slow, social cost
Zoning: too high building, social cost
Pollution limit: too high pollution, social cost
Trees on Hillside: too few trees, loss in social benefit
Optimal Externality Not Zero

Eg. Pollution
Zero pollution means, for instance
zero driving! Vs some car emissions
zero hotdogs! Vs some runoff

Public vs Private Goods

Models we have considered were for private sorts of goods.

Market determines Q & P for private good

With public goods get Free rider problem

With commons goods get overuse: Tragedy of Commons

With collective good get inefficieny from charging fees

Public vs Private Goods

Nonrival
High: MC almost zero
Low: MC non zero

Nonexcludable
High: Price almost zero, can’t exclude via payment
Low: Can exclude via payment, Price non zero

Summary

Perfectly competitive markets work well if S & D reflect true social costs & benefits

In general have positive and negative externalities.

Optimal level non-zero

Remedies are private bargaining, government intervention, laws
Generating the Market Demand Curve for a Private Good

\[ Q = Q_1 + Q_2 \]

Market demand is the horizontal summation of the individual demand curves.

Generating the Market Demand Curve for a Public Good

\[ D = D_1 + D_2 \]

A public good demand curve is the vertical summation of the individual demand curves.

Public Goods Problem

**Classic Problem**

Free Rider: Incentive problem in which too little of good or service produced because non-payers cannot be excluded from using it.

See example second half

Commons Goods Problem

**Classic Problem**

**Tragedy of the Commons:** tendency of resource to be used until marginal benefit falls to zero.

Solution: form institution to optimize on joint use

Tension between individual rationality and joint (social) optimality

eg Villagers & grazing in text

Alice and Barnaby in past mt
Summary

P & Q can be determined by S & D for private goods.

Public goods provision plagued by free rider problem.

Commons goods plagued by tragedy of commons problem

Second Half

For second half we did text problems

Chapter 11 # 2
Answer: ambiguous effect on Q soc opt

Chapter 11 # 3
Example of extra costs imposed by consumption choice. Add 3 to intercept of MCpriv to get MC soc

Chapter 11 # 4
Example of remedy for externality. Govt taxes consumption

- Chapter 11 # 8 try if you want
- Chapter 15 # 1
  Example of how payment method can result in under provision of public good
- Chapter 15 # 8
  Discussion of free rider problem
- Chapter 13 # 1 2 try if you want
- Some student questions:
  1. CS/PS with perfectly inelastic D/S w/ tax
  2. Examples of costly consumption. So MB not as high as private MB. Show as shift of MC. See Ch 11, #3,4
  i.e. Always show "extra cost" as shift of MC
  Always show "extra benefit" as shift of MB.
  3. Tax in presence of externality eliminates externality cost from too
     Excessive production/consumption