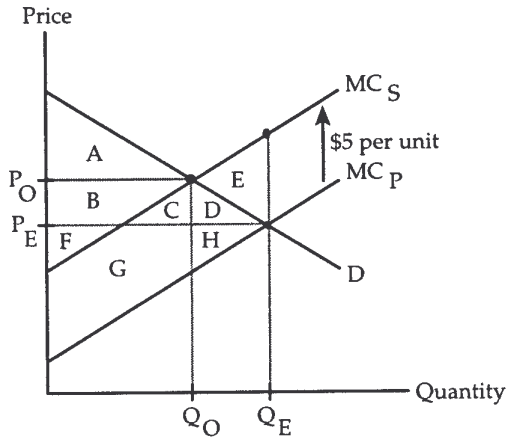


ECON 310—Assignment #5 Answer Key

1. See page 111 in coursepack.

2. The following questions refer to the accompanying diagram, which shows the effects of a negative externality created by an industry's production. The equilibrium quantity in the absence of any attempt to internalize the externality is Q_E and the optimal quantity according to Pigovian analysis is Q_0 .



- i. The external costs imposed by this externality is given by what area in the above diagram?
GCDHE
- ii. Suppose there is no attempt to internalize the externality. Pigovian analysis indicates that the externality creates a deadweight loss equal to what area?
NO TAX: Social gain = A+B+F-E
TAX: Social gain = A+B+F
DWL = E
- iii. According to a Pigovian analysis of this externality, when a tax of \$5 per unit is imposed on the firms in this industry, the external costs created by the firms' production will be equal to what area?
At Q₀, difference between MCs and MC_P = CG
- iv. Suppose there are no transactions costs. Also suppose the externality is internalized when the damaged parties offer producers a bribe of \$5 per unit to reduce their production. Coasian analysis indicates that social gain in this situation will equal what area?
CS: A - (EDH)
PS: BCFG + (EDH)
Externality: CG
Difference: ABF
- v. According to Pigou, what is the socially optimal quantity?
Q₀ (see above! - I told you this outright!)

3. Use the following chart to answer the questions below.

	Non Excludable	Excludable
Non Rival	A	C
Rival	B	D

- i. An empty public park falls under square A
- ii. A toll bridge not during rush hour falls under square C
- iii. A toll bridge during rush hour falls under square D
- iv. A fishery falls under square B

v. Cable television falls under square C

4. Chapter 14, Problem Set #1

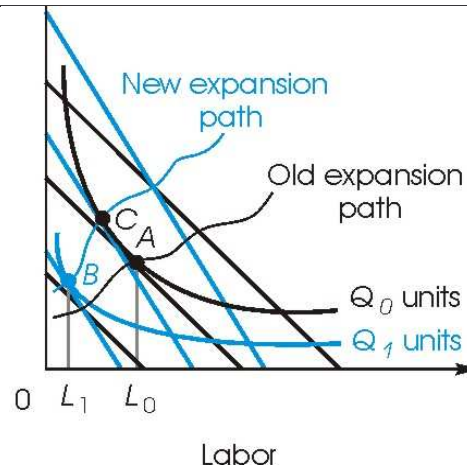
# Fisherman	Fish per Day per Fisherman	Opportunity Cost	Total Benefit	Social Gain	Marginal Social Benefit
1	20	7	20	13	-----
2	19	7	38	24	18
3	18	7	54	33	16
4	17	7	68	40	14
5	15	7	75	40	7
6	13	7	78	36	3
7	10	7	70	21	-8
8	7	7	56	0	-14

a) 8 come to the lake; where opp cost = private benefit. Each catches 7 fish * 8 fishers = 56 fish. Social gain is 0.

b) Optimal # = 5, where MBs = MC. Social gain = 40.

c) Entrance fee must make the fishermen indifferent. We want 5 at the lake, we have 8. How do we get the three to leave? At 5, each catches 15 fish. At 8, each catches 7. Let's charge an entry fee of 8 fish.

5. The figure shows the effects of a wage increase. The firm starts at point A and ultimately ends up at point B. Point C is an interim point that illustrates certain effects. The movement from A to C is the substitution effect while the movement from C to B is the scale effect. (6 pts)



6. Chapter 16, Problem Set #4 ,5,6

#4) Yes, since the income effect for Dick caused him to work more, leisure must be an inferior good for Dick. Thus, if he gets a wage hike, the substitution effect will say he will work more and the income effect will say he will work more since leisure is inferior (since this is what he did when he got his inheritance). Thus, Dick will work more.

#5) No, for Jane, leisure is a normal good. When she got non-labor income, she consumed more leisure. In this case we don't know if the substitution effect of the wage hike (which tells us she will work more) is greater than the income effect (which says she will work less), so we can't determine how Jane's behavior will change.

#6) a) See Exhibit 16-5A in the text, except that Q will be to the right of Q'

b) NO; Since leisure is inferior, an increase in the wage will always cause Hortense to work more. Thus, his labor supply curve will be upward sloping.

7. Multiple Choice

- i. The short-run demand curve for labor for a firm in any type of market for its output coincides with
- the upward sloping portion of the marginal revenue product curve.
 - the downward sloping portion of the marginal revenue product curve.**
 - the downward sloping portion of the marginal product curve.
 - the marginal labor cost curve.
- ii. An increase in the price of labor will, in the short run, cause a competitive firm's
- marginal cost to increase, the quantity it sells to decrease and therefore reduce the quantity demand of labor.**
 - price of output to increase, leaving the demand for labor unchanged.
 - marginal revenue product of labor to decrease and therefore reduce demand for labor.
 - marginal revenue product of labor to increase and therefore increase demand for labor.
- iii. If labor and capital are complements in production, then an increase in the amount of capital will
- reduce the firm's demand for labor.
 - raise the firm's marginal cost of production.
 - cause the scale effect to outweigh the substitution effect.
 - increase the labor's marginal product.**
- iv. When will a wage increase cause a firm to produce more output in the long-run?
- Always.
 - When labor and capital are complements in production.
 - When labor is a regressive factor.**
 - Never.
- v. To maximize its profits, a monopsonist will always hire the quantity of labor at which marginal revenue product of labor
- is downward sloping and equal to the market wage rate.
 - is downward sloping and equal to its marginal labor cost.**
 - minus marginal labor cost is maximized.
 - is maximized.
- vi. The practice of a firm setting a price so low that all firms incur losses is called
- a tournament.
 - predatory pricing.**
 - a buy-out strategy.
 - a contestable market.
- vii. The key defining feature of oligopoly, in addition to firms' market power, is
- collusion.
 - free entry and exit.
 - firms take rivals' actions into account.**
 - the Prisoner's Dilemma.