

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Department of Economics

December 10, 2001

Cameron

Economics 1 - Final Exam

INSTRUCTIONS: Enter your name, student number, and signature (you may be asked to show identification). Circle your TA section, day and time. When finished, turn in your exam by Section, so that your name may be checked off on our lists.

For the multiple-choice portion of the examination, mark your choices on your SCANTRON form. **ONLY THESE ANSWERS WILL BE COUNTED, SO DOUBLE-CHECK CAREFULLY.** Answer the rest of the questions in the spaces provided. If any pages of this exam are loose, please print your name clearly on every page. **USE APPROPRIATE DIAGRAMS (MODELS) WHENEVER POSSIBLE.**

You have three hours to complete this exam. Total points = 120 (average time allocation = 15 minutes for every 10 points)

Name: _____

Student # _____

Signature: _____

1A M 1	Richard Scheelings	1G W 2	Xiang Tang (Thomas)
1B M 2	Richard Scheelings	1H Th 10	Richard Scheelings
1C Tu 10	Joshua Wright	1I Th 9	Ching Tai
1D Th 4	Xiang Tang (Thomas)	1J Tu 2	Xiang Tang (Thomas)
1E Tu 9	Joshua Wright	1K F 10	Ching Tai
1F W 8	Joshua Wright		

SCORING:	Multiple Choice (30@2):	_____	/60
	Short Answer (12@5):	_____	/60
	TOTAL SCORE:	_____	/120

1. Economic profit is equal to
 - (i) total revenue – (explicit costs + implicit costs).
 - (ii) total revenue – opportunity costs.
 - (iii) accounting profit – implicit costs.
 - a. (i) only
 - b. (i) and (ii)
 - c. (ii) and (iii).
 - d. all of the above

2. Hikers frequently claim that livestock grazing in Wilderness Recreation Areas reduce the satisfaction of their recreational hiking experience. An explanation would be that
 - a. hikers don't eat beef.
 - b. grazing cows create negative externalities that make hiking less pleasant.
 - c. ranchers are insensitive to the recreational use of public lands.
 - d. cattle should not be allowed to graze on public property.

3. Which of the following is an example of a normative statement?
 - a. If the price of a product decreases, quantity demanded increases.
 - b. Reducing tax rates on the wealthy would be good for the country.
 - c. If the national saving rate were to increase, so would the rate of economic growth.
 - d. All of the above are normative statements.

4. Suppose the government increases the tax on gasoline in order to raise revenue. Since raising the gasoline tax would increase the price of gasoline, the government must be assuming that
 - a. the demand for gasoline is price elastic.
 - b. the demand for gasoline is price inelastic.
 - c. the demand for gasoline is price unit-elastic.
 - d. the tax on gasoline will not affect the consumption of gasoline.

5. If a tax is imposed on a market with elastic demand and inelastic supply,
 - a. buyers will bear most of the burden of the tax.
 - b. sellers will bear most of the burden of the tax.
 - c. the burden of the tax will be shared equally between buyers and sellers.
 - d. it is impossible to determine how the burden of the tax will be shared.

6. National defense is a classic example of a public good because
 - a. private security services are very difficult to find.
 - b. it is difficult to exclude people from receiving the benefits from national defense once it is provided.
 - c. everyone agrees that some level of national defense is important.
 - d. if individuals were required to purchase their own armored tank, there wouldn't be enough to go around.

7.

	Labor Hours needed to make one unit of:		Amount produced in 120 hours:	
	Perfume (bottles)	Cloth (yards)	Perfume (bottles)	Cloth (yards)
Nancy	6	8	20	15
Roger	5	10	24	12

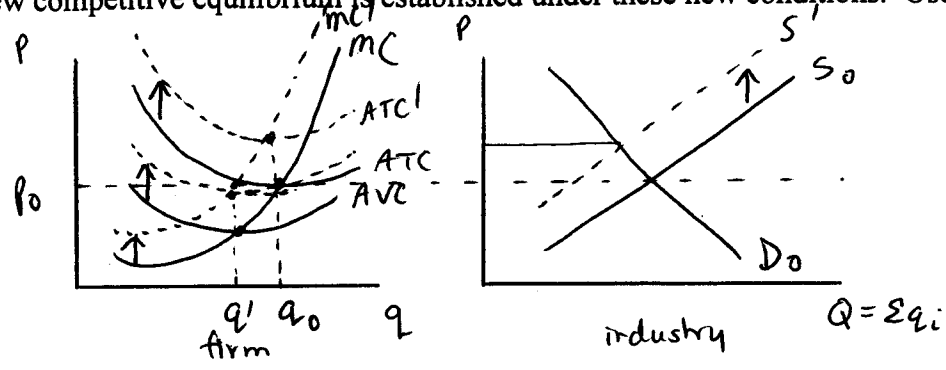
- Refer to the tables shown. Nancy has an absolute advantage in _____ and Roger has a comparative advantage in _____.
- a. cloth, perfume
 - b. perfume, cloth
 - c. perfume, neither good
 - d. cloth, cloth

8. When new firms enter a perfectly competitive market,
- entering firms will earn zero profit.
 - profits of existing firms must fall.
 - existing firms will see their costs rise.
 - consumers will likely observe increasing prices.
9. The average fixed cost curve
- declines as long as it is above marginal cost.
 - declines as long as it is below marginal cost.
 - always declines with increased levels of output.
 - always rises with increased levels of output.
10. Government agencies subsidize basic research because
- the private market devotes too few resources to basic research.
 - the general knowledge developed through basic research can be used without charge.
 - the social benefit of additional knowledge is perceived to be greater than the cost of subsidies.
 - all of the above
11. Consider a profit-maximizing monopoly pricing under the following conditions: The profit-maximizing price charged for goods produced is \$16. The intersection of the marginal revenue and marginal cost curves occurs where output is 10 units and marginal cost is \$8. The socially efficient level of production is 12 units. The demand curve and marginal cost curves are linear. What is the deadweight loss?
- \$8
 - \$16
 - \$48
 - none of the above
12. In a competitive market, a firm's supply curve dictates the amount it will supply. In a monopoly market
- the same is true.
 - the decision about how much to supply is impossible to separate from the demand curve it faces.
 - the supply curve conceptually makes sense, but in practice is never used.
 - the supply curve will have limited predictive capacity.
13. When a profit maximizing firm in a competitive market is unable to generate enough revenue to pay all of its fixed costs it should, in the short run,
- shut down and incur the total loss of its fixed costs.
 - continue to produce as long as marginal cost is less than average revenue.
 - continue to produce as long as revenue is sufficient to pay variable costs.
 - shut down until it is able to produce where average revenue exceeds average fixed cost.
14. Which of the following statements are most likely to be true for the air transportation industry?
- In the short-run, the cost of the airplane is sunk.
 - The opportunity cost of a flight is the variable cost.
 - As long as total revenue exceeds fixed cost, the airlines should continue operating.
- (i) and (ii) only
 - (ii) and (iii) only
 - (i) and (iii) only
 - All statements are true.
15. Many movie theatres allow discount tickets to be sold to senior citizens because
- handicap/senior-citizen laws mandate such discounts.
 - they are profit maximizers.
 - efforts of goodwill show community respect and wins loyal patrons.
 - senior citizens usually comprise a solid portion of those who voice their opinions.

16. If firms in a monopolistically competitive market are earning economic profits, which of the following scenarios would best reflect the change facing incumbent firms as the market adjusts to its new equilibrium?
- a downward shift in their marginal cost curve
 - an upward shift in their marginal cost curve
 - an increase in demand
 - A decrease in demand
17. Two suspected drug dealers are stopped by the highway patrol for speeding. The officer searches the car and finds a small bag of marijuana, and arrests the two. During the interrogation, each is separately offered the following: "If you confess to dealing drugs and testify against your partner, you will be given immunity and released while your partner will get 10 years in prison. If you both confess, you will each get 5 years." If neither confesses, there is no evidence of drug dealing, and the most they could get is one year each for possession of marijuana. If each suspected drug dealer follows a dominant strategy, what should he/she do?
- not confess regardless of the partner's decision
 - not confess and hope that the partner does confess
 - confess regardless of the partner's decision
 - confess in hopes that the partner does not confess
18. What happens when the prisoners' dilemma game is repeated numerous times in an oligopoly market?
- The firms might reach the monopoly outcome.
 - The firms might reach the cooperative outcome.
 - Society will always be better off.
- (i) and (ii)
 - (ii) and (iii)
 - (i) and (iii)
 - (ii) only
19. Which of the following goods are sold in a monopolistically competitive market?
- wheat
 - corn
 - books
 - postage stamps
20. Assume that trade negotiators meet to discuss trade policy between the United States and China. If neither party to the negotiation is able to trust the other party, then
- each should follow their dominant strategy.
 - each should assume that the other will choose a strategy that optimizes total value of the trade relationship.
 - the Nash equilibrium will provide the largest possible gains to each party.
 - Chinese negotiators should assume that United States negotiators will implement a policy that is in the mutual best interest of both countries.
21. Product differentiation in monopolistically competitive markets ensures that when in equilibrium
- price will exceed marginal cost.
 - marginal cost will exceed average revenue.
 - marginal revenue will equal average total cost.
 - average variable cost will be declining.
22. A firm's demand for a factor of production is derived from its decision to supply a good in the market, therefore we call this type of demand
- derived demand.
 - supplied demand.
 - differentiated demand.
 - secondary demand.

23. If the price of airline tickets rises, what will happen to the demand curve for flight attendants?
- a. It will shift to the right.
 - b. It will shift to the left.
 - c. It will shift down.
 - d. It will remain unchanged; prices changes do not shift demand curves.
24. Public school teachers are known to have low wages. This is likely to be partially explained by the fact that
- a. public school teachers need very little money to live.
 - b. many people perceive the job of public school teacher to have a high element of personal satisfaction.
 - c. public school teacher jobs are easy.
 - d. public school teachers are required to be college graduates.
25. Measuring poverty using an absolute income scale (like the poverty line) is likely to be deceptive because
- a. income is not correlated with job satisfaction.
 - b. the poor are not likely to participate in the labor market.
 - c. income measures don't include the value of in-kind transfers.
 - d. money is more highly valued by the poor than by the rich.
26. Economists have proposed the following hypotheses to explain the rising wage gap between skilled and unskilled workers.
- increasing international trade
 - technological change
 - increasing role of unions in setting skilled wage scales
- a. (i) and (iii) only
 - b. (ii) and (iii) only
 - c. (i) and (ii) only
 - d. (iii) only
27. An actual tax provision in the U.S. that works much like a negative income tax is the
- a. deduction for charitable contributions.
 - b. state sales tax deduction.
 - c. Earned Income Tax Credit.
 - d. mortgage interest rate deduction.
28. When two goods are perfect complements, the indifference curves are
- a. straight lines.
 - b. right angles.
 - c. intersecting.
 - d. upward sloping.
29. When indifference curves are bowed inward toward the origin,
- a. people are less inclined to trade away goods that they have an abundance of.
 - b. people can only increase satisfaction by consuming more of all commodities.
 - c. it is unlikely that consumers will be willing to engage in trade.
 - d. the marginal rate of substitution decreases as a consumer moves down an indifference curve.
30. When the price of a good decreases, ceteris paribus, the lower price
- a. generally encourages the consumption of inferior goods.
 - b. leads to a parallel shift of the linear budget constraint.
 - c. will necessarily lead to a decrease in the consumption of goods whose price did not change.
 - d. expands the consumer's set of buying opportunities.

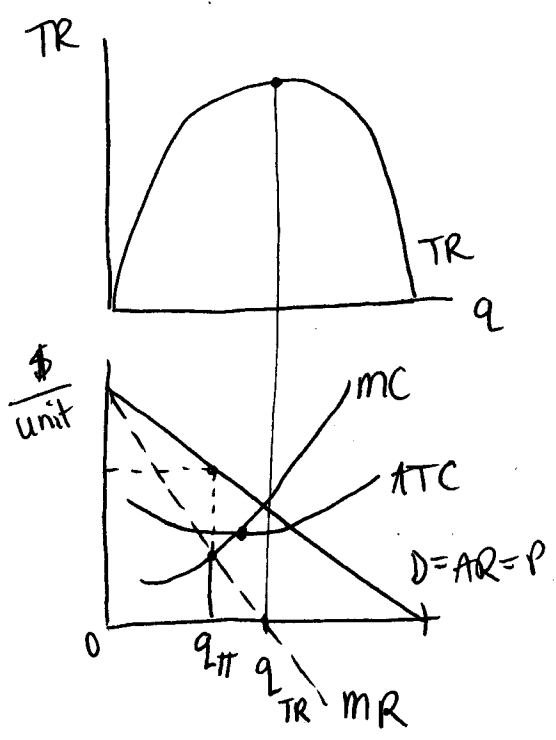
1. Consider a competitive agricultural industry in equilibrium. Suddenly, the growing region is invaded by an exotic species of insect. This means all firms must pay more for pest control. This may mean more (or more-expensive) pesticides, or more labor for environmentally friendly forms of pest control. Explain what happens, to each firm and to the industry and the market as a whole, as a new competitive equilibrium is established under these new conditions. Use appropriate diagram(s).



MC, ATC, MC + S
all shift upwards
At old price P_0 ,
each firm will
produce fewer
units, q' , and
will make losses.

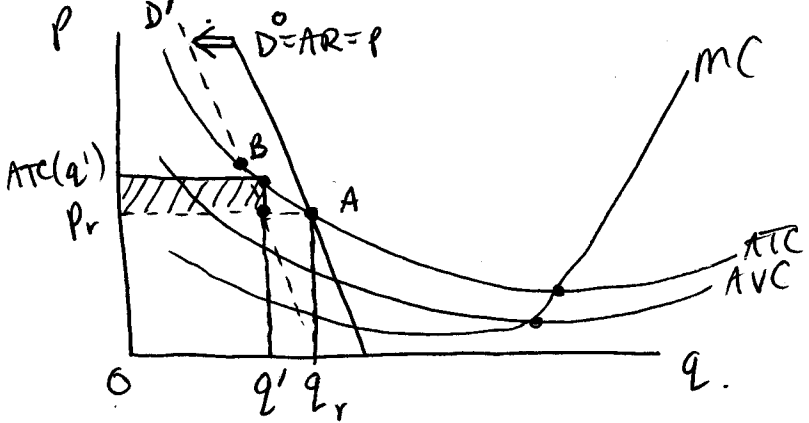
Since each firm's MC curve is now higher by the amount of pesticide costs per unit of output, the aggregate supply will also shift upward, causing price to rise. Losses will also cause some firms, potentially, to exit. New equilibrium will be established where (entry or) exit yields a price that is just equal to the minimum of the new ATC curve. Quantities produced will be lower overall, but the same for each remaining firm as they were before. Prices will be higher.

2. Textbook authors are typically paid royalties that are determined as a percentage of the value of book sales revenue. Textbook publishers have market power with respect to individual textbook titles because of copyright laws. If publishers are typical profit-maximizing firms, will the author and the publisher typically agree about how many copies of the book should be offered for sale and what price should be set for the book? Explain carefully, using a diagram. Indicate which party will prefer a lower or higher price, and which will prefer a greater or lesser quantity of books being printed.



This is illustrated most easily by our straight-line demand curve case. Total Revenue is maximized where MR goes to zero. Max TR means Max royalties. Profits are maximized where $MR = MC$, which will occur at lower output and higher prices. The model predicts that authors would prefer lower prices (and higher quantities) than publishers.

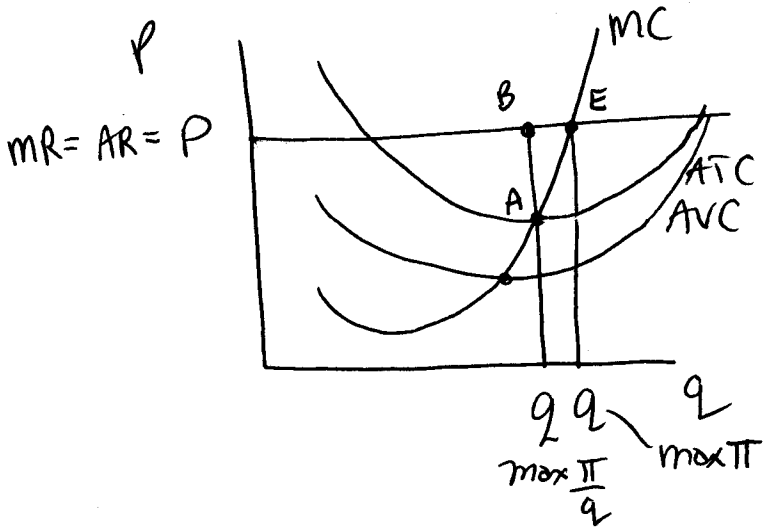
3. The US Postal Service is not a government agency, but a regulated natural monopoly with exclusive rights to the handling of first-class mail. Many of the services it offers, however, have experienced declining demand because of the emergence of parcel-delivery and express-delivery companies (like UPS and FedEx) and other substitutes (cheaper long-distance calls, and e-mail). What happens to a regulated natural monopoly in a market where demand is steadily declining? Use diagrams as appropriate.



If a regulated natural monopoly experiences a demand shift from D_0 to D_1 , then it will not be able to sell q_r any more at the regulated price of P_r . It will be making losses equal to the shaded area and will sell only q' units.

This will lead to a need for another "rate hearing" to allow the natural monopoly to charge higher prices (equal to the price coordinate of point B)... a postage increase.

4. "To maximize profits, all you need to do is to adjust your output level until your profits on each unit are as large as possible." True, False, Uncertain? Explain. Keep in mind that "profits per unit" can be written as (π/q) . Support your argument with one or more graphs illustrating the competitive case.



$$\pi = TR - TC$$

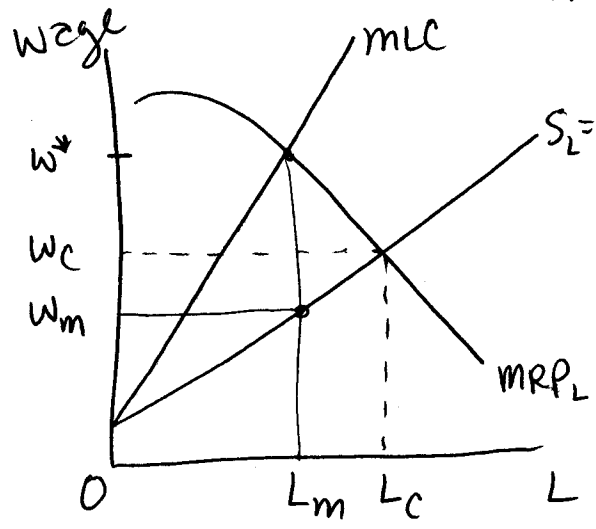
$$\frac{\pi}{q} = \frac{TR}{q} - \frac{TC}{q} = AR - ATC$$

" π/q " is the vertical distance between the price line and the ATC curve. This distance is maximized at the lowest point of the ATC curve, where π/q is equal to distance A-B.

Profits, however, are maximized where $MC = MR = P$, namely, at point E. By taking a slightly lower profit-per-unit, and selling more units, profits overall can be higher.

Overall effect of union wage depends on labor demand elasticity

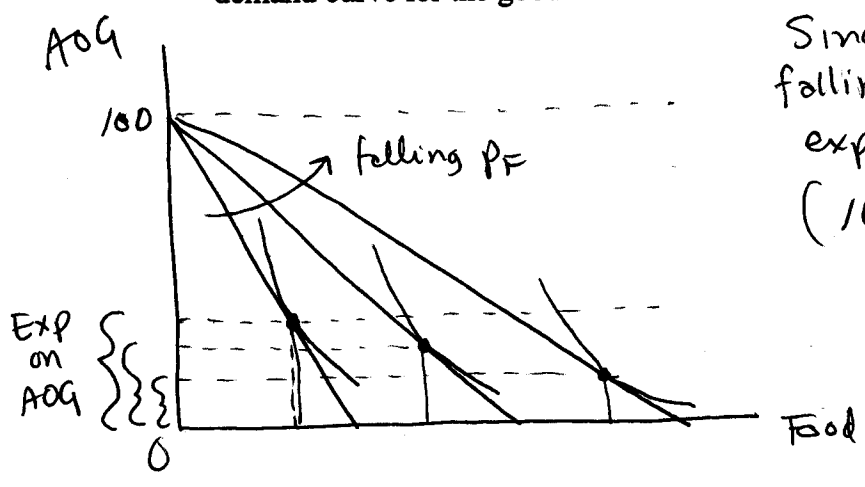
5. Consider a small city that used to have dozens of apparel factories. However, the industry has been in a long period of economic decline because of competition from cheaper imports. Eventually, there is only one firm left that hires skilled laborers in the textile-based trades. Is the work force employed by that firm likely to be better off than it was when many other firms were still operating? Will unionization of this work force help or hurt them? Explain, using appropriate diagrams.



The one remaining firm will have monopsony power in this labor market. Monopsony typically leads to fewer workers being employed and lower wages than the competitive case, which would be (L_c, w_c) . Unionization can repeal the upward-sloping supply curve below the union wage, making S_L horizontal at that wage and making $MLC = w_{union}$.

Employment with a union will reach the competitive level only if the union matches the competitive wage. If the union wage is less than w_c fewer workers will be employed than in the competitive case, but wages and employment will be higher than in the monopsony case. If $w_u > w_c$, then $L_u > L_m$ unless $w_u > w^*$. People who keep jobs will be better off.

6. Depict a set of indifference curves (an indifference "map") that is consistent with an elastic demand curve for the good on the horizontal axis.



Since expenditure on AOQ falling as price of food falls, expenditure on food is growing.

$$(100 - \text{expenditure on AOQ} = \text{expenditure on food})$$

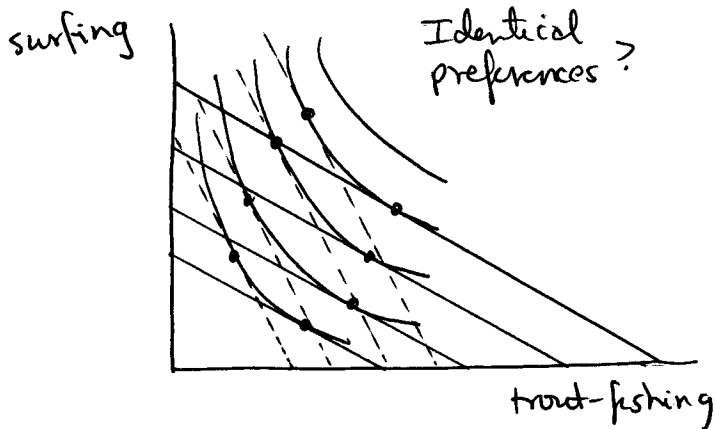
When price falls and total expenditure (\equiv revenue of seller) grows, demand is elastic.

$Y = 100$
 $P_{AOQ} = \$1/\text{unit}$

If demand for food is unit elastic, The tangency points would progress horizontally as the budget constraint pivots outwards. (Some vertical coordinate).

7. Suppose we observe that people who live in Southern California go trout-fishing much less frequently than people who live in Oregon. From this we can certainly conclude that, compared to Southern Californians, Oregonians have preferences that are skewed relatively more towards these activities (and away from other activities such as surfing). True, False, Uncertain? Explain using one or more diagrams that depict "preferences".

Not true. "False" or "Uncertain" are acceptable answers. Preferences can be identical, but if relative prices differ, people will face different constraints, and will therefore be observed to make different choices.

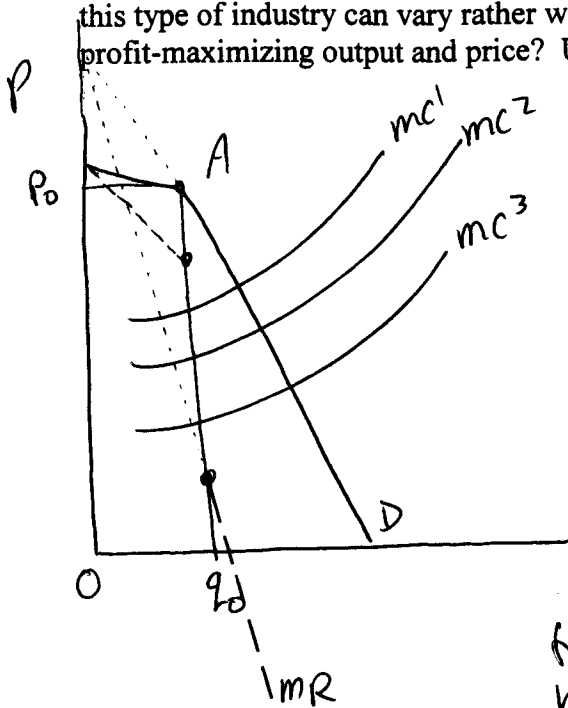


If the relative price of a trout-fishing trip is lower in Oregon than in Southern California, Oregonians may face constraints like the solid lines. Californians may face constraints like the dotted lines. Oregonians may be observed to choose more trout-fishing simply because it is relatively cheaper.

8. What methods have economists typically used to determine what portion of the male-female wage differential across jobs could be due solely to gender discrimination in wages?

Regression methods. Different average wages for males and females may be due to many things besides gender discrimination. Statistical methods can be used to "control" for differences in age, work experience, training, and labor market continuity of experience. These other factors can explain a good deal of variation in wages. But there is still some left that cannot be explained by anything except the gender of the individual (in a statistical model).

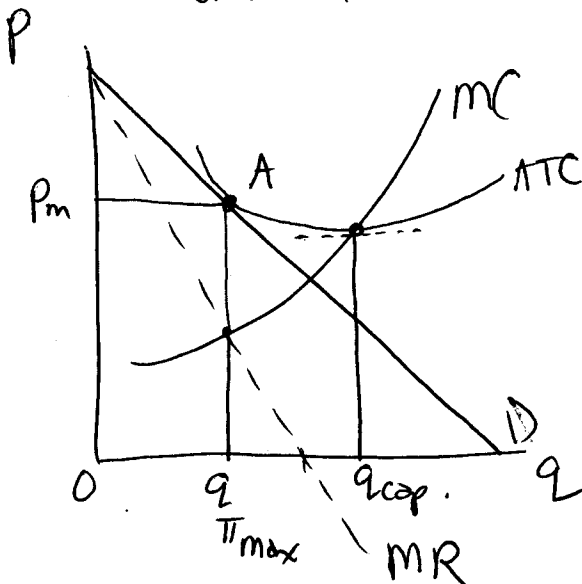
9. How did we adapt our basic model of output and pricing behavior (in an industry with, say, twelve firms) to enable it to explain this phenomenon: Short-run per-unit costs for a firm in this type of industry can vary rather widely without the firm being inclined to change its profit-maximizing output and price? Use appropriate diagram(s).



The kinked demand curve model. Suppose other firms will match this firm's price decreases, but not its price increases. Then the demand curve is more elastic on the "up" side and less elastic on the "down" side. MR corresponds to D curve section on relevant quantity interval. Result: a vertical section (discontinuity) in Q . No effective MR curve for this firm. MC can vary over quite a range but still intersect MR at Q_0 (and hence "monopoly" price will remain at P_0)

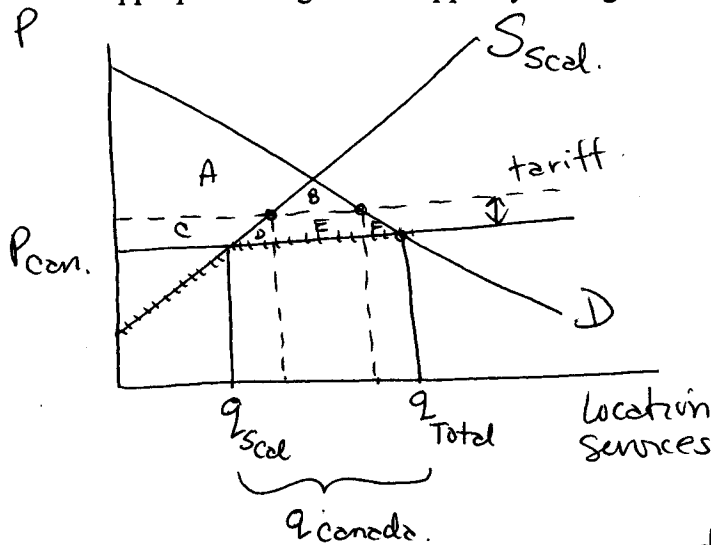
10. In long-run equilibrium in a monopolistically competitive industry, each firm will be producing a level of output that exceeds its rated capacity. True, False, Uncertain? Explain using appropriate diagram(s).

This statement is nonsense. There is something called the "excess capacity theorem" which argues that monop. competitive firms will have their profits driven to zero in the long run by free entry of new firms.



A LR equilibrium is possible only if all firms are profit-maximizing and making zero profits, as at $Q_{\pi\text{-max}}$ and P_m (point A). "Capacity" output (Q_{cap}) is the min-ATC level of output. In LR eq^m, then, monop. comp. firms will be producing at output levels below Q_{cap} .

11. U.S.-based movie companies buy production services for "locations" both in Southern California and in other countries, such as Canada. New and interesting "locations" in Southern California are getting rather scarce, and the Canadian government has been actively encouraging companies to film in Canada. Suppose that an effectively unlimited supply of Canadian locations is available at a lower price than what would be the equilibrium price in Southern California (in the absence of Canadian opportunities). Not surprisingly, the local suppliers of these services object, and are calling for restrictions. If domestic movie companies were required to pay a tariff to the US government on their use of Canadian "locations" they used, who would gain and who would lose, and by how much? Use an appropriate diagram to support your argument.

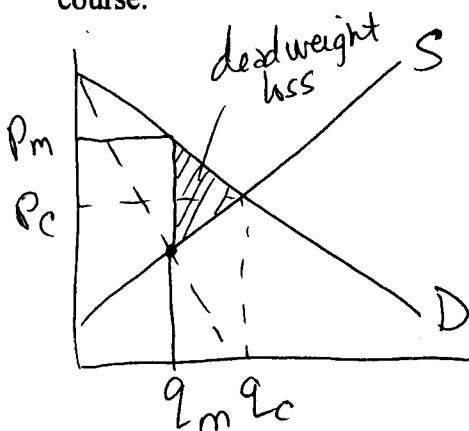


A tariff on "imported" location services purchase by US domestic movie companies will raise the ^{total} price that S, Cal firms must pay for Canadian services.

The surplus of domestic buyers (more companies) will decrease by C+D+E+F. The surplus of domestic suppliers (sellers of location services) will increase by C. D+E+F is lost buyer's surplus that is not captured by domestic sellers. But E will

be tariff revenue collected by the US government, so it is not really "lost" to the US as a whole. However, D+F represents the deadweight loss from imposing a tariff.

12. What is the economist's explanation for why monopolization of a competitive industry is typically a "bad thing"? Explain using a model and terminology that we have covered in this course.



Competitive equilibrium ensures that the last unit produced and sold is valued by consumers at the same level as the opportunity cost of its production. Monopolization restricts output and results in higher prices for the last unit sold than the op cost of its production.

There is a deadweight loss under-monopolization. The price increase transfers some surplus from consumers to producers (in amount $(P_M - P_C) \times Q_M$) but the shaded triangle represents a decrease in total surplus from fewer units being produced or consumed.