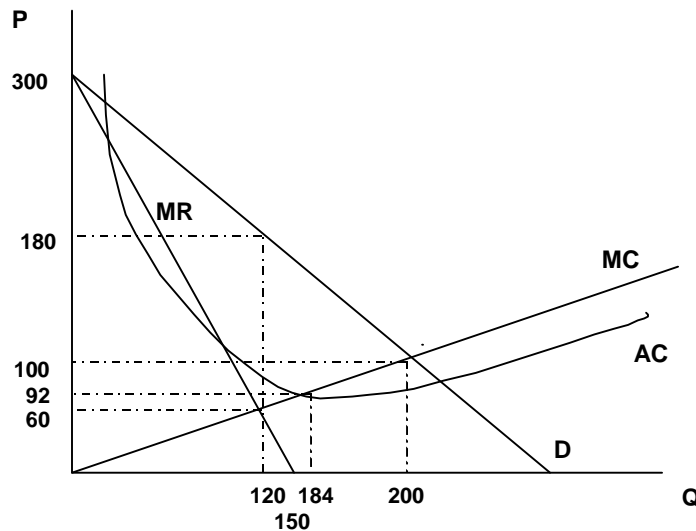


ECONOMICS 1 (Lecture1)
PROBLEM SET #3

Due in your last section in the week of March **15**

1. Perfect Competition (Chap. 9): Let's assume that the market for croissants is perfectly competitive. The Berkeley City Council decides to tax those delicious items. The Council legislates that a \$0.25 tax be paid on each croissant sold (this is known as an *excise* or *unit* tax, as opposed to a *sales* or *ad valorem* tax, which would be expressed in terms of percentage).
 - a) Using two separate graphs, show the long-run equilibrium for the croissant industry and profits for a typical firm in this industry before the tax is imposed. Be sure to label your graph carefully.
 - b) Explain and show graphically the short-run effects of the tax on the market for croissants on the cost curves of a typical firm, the industry supply curve, the industry demand curve, and the equilibrium price and quantity in the industry.
 - c) Explain the effect of the tax in the short run on the profits of a typical firm.
 - d) Explain and show graphically what will happen to this industry's equilibrium price and output, and to the profits of a typical firm in the long run (what happened to the number of firms?)

2. Monopoly (Chap. 11): Imagine that you have discovered a type of coffee that makes people stay awake without turning them into neurotic basket cases (a unique product, no doubt) You are granted a patent and therefore your firm is a monopoly. You face revenue and cost curves like the ones in the graph below. Output is measure in tons of beans shipped. You have fixed costs of \$4200 per month.



- a) What price will the monopolist charge?
- b) What price is socially optimal?

- c) Calculate (\$) the deadweight loss of the monopoly?
- d) Would a unit tax on coffee reduce this deadweight loss?

3. Oligopoly (Chap 12): Suppose there are only two firms in the glazed sardine business. Each is considering whether to advertise or not. Some consultant (econ 1 graduate) comes up with the following estimates of profits for each of the possible scenarios. Those estimates are summarized in the following payoff matrix:

	Firm B advertises	Firm B doesn't advertise
Firm A advertises	Profit A = 10 Profit B = 10	Profit A = 15 Profit B = 5
Firm A doesn't advertise	Profit A = 5 Profit B = 15	Profit A = 12 Profit B = 12

- a) What is Firm A's best strategy for each of Firm B's possible actions?
 - b) What is Firm B's best strategy for each of Firm A's possible actions?
 - c) Is advertising a dominant strategy for either of them?
 - d) If each firm chooses its best strategy, what will be the outcome? Discuss.
1. Externalities (Chap 13): The Marginal Private Cost (MPC) for a perfectly competitive death metal band is $MPC = 0.05q + 0.5$, where q is output (# of recordings). The (competitive) market price for such recordings is \$3.00 per unit. The band does not close its windows when recording, thus imposing ear damage on its neighbors. Medical expenses for the neighbors (which you can think of the Marginal External Costs, or MEC) total \$1.00 for each death metal recording they are forced to listen to.
- a) Graph the MPC, MEC and Marginal Social Cost ($MSC = MPC + MEC$).
 - b) Find graphically and algebraically the price and quantity that will be produced by each band in the absence of intervention from the music police (a special branch of government).
 - c) What would be the socially optimal price and quantity?
 - d) How could government achieve that outcome? (think fiscal intervention)
2. Labor (Chap. 16): "Imposing a minimum-wage is a bad idea since it increases unemployment among those it seeks to help, teenagers and the working poor." Discuss.
3. Inequality (Chap.17): Why do you think the distribution of income has grown more unequal during the 1980s and 1990s? Is the measure of welfare often used in economics (producer surplus + consumer surplus + government revenues) of much help in discussing this inequality?