

Additional problems on monopoly

Problem 1.

There is a single monopolist whose technology exhibits constant MC, i.e., $c(y) = cy$. The market demand curve exhibits constant elasticity, ε . There is an *ad valorem* tax on the price of the good sold so that when the consumer pays a price P_D , the monopolist receives a price of $P_S = (1 - \tau)P_D$. (Here P_D is a the demand price facing the consumer and P_S is the supply price facing the producer).

The taxing authority is considering changing the *ad valorem* tax to a tax on output, t , so that we will have $P_D = P_S + t$. You have been hired to calculate the output tax t that is equivalent to the *ad valorem tax* τ in the sense that the final price facing the consumer is the *same* under either scheme.

Problem 2.

Assume that the market demand is given by $D(p) = 10p^{-3}$ and there is a monopolist with the following cost function $c(y) = 2y$. What is the optimal price and quantity level? Why the Lerner condition (markup pricing) can be used here?

Problem 3.

Is it possible that an unregulated monopoly arrives at Pareto optimum (that is the choice of the monopolist is similar to the competitive market equilibrium)?