

PROBLEM SET 3

DUE AT THE BEGINNING OF LECTURE ON TUESDAY, MARCH 6TH

You may work together on the problems, but your answers must be ***in your own words*** and ***handwritten***. You also must ***list the other students with whom you worked***.

For all questions be sure to explain your answers and to use graphs whenever appropriate.

1. Consider a monopolist.

- a.** Show how much a monopolist will choose to produce in the absence of government intervention. Explain why the monopolist behaves this way.
- b.** Suppose that the government decides to deal with the monopoly by imposing a price ceiling that is below the price that would result if the market were perfectly competitive. How, if at all, will this affect the monopolist's decision? Without doing a full welfare accounting, discuss whether a price ceiling in this situation could raise total welfare.

2. Noise pollution has become a serious problem in recent years, particularly in urban areas experiencing a great deal of construction. The market for construction services is highly competitive.

- a.** How much construction activity will the free market choose to produce? What is the socially optimal quantity (Q^*)?
- b.** Show that the total social surplus is smaller at the equilibrium quantity than at Q^* .
- c.** Briefly discuss both some strengths and some weaknesses of three ways that society could attempt to deal with the externality.

3. U.S. producers often express concern about foreign governments subsidizing their producers. Consider the market for a good that we both produce ourselves and import. Suppose that a large number of foreign countries introduce a per-unit subsidy to producers of some good, with the result that the world price of the good falls. (Assume that there are no externalities associated with the good.)

- a.** How do the foreign subsidies affect the amount of the good produced and consumed in the U.S. and American imports of the good?
- b.** How do the foreign subsidies affect consumer surplus, producer surplus, and the total surplus in the U.S.?

4. Suppose Australia produces and consumes two goods—meat and machinery.

- a.** Use a supply and demand diagram with international trade to show what must be true about the world relative price of meat if Australia is a net exporter of meat.
- b.** Use the PPC/CPC diagram to show qualitatively where Australia chooses to produce and consume meat.
- c.** Suppose that the world price of meat rises. Show the effects of this change in both the supply and demand diagram and the PPC/CPC diagram.

5. How would you expect the following changes to affect the prevailing wage and employment of workers in fast food restaurants? (Note: You should assume that the wage and employment are determined by the intersection of the labor supply and demand curves.)

- a.** Increasing public awareness of nutrition reduces the demand for fast food.
- b.** New, freely available apps and video games make leisure time more enjoyable.
- c.** The introduction of new fryers increases the productivity of fast food workers.
- d.** Technological progress elsewhere in the economy raises wages in some other industries.