Name _____

Section Leader _____

Section Time _____

Harvard ID # _____

SOCIAL ANALYSIS 10 HOURLY

WEDNESDAY, DECEMBER 11, 2002

This exam is 50 minutes long. Points per question are proportional to the time indicated. You will have 3 extra minutes (for a total of 53 minutes) to take this exam. Please write clearly; illegible answers will receive no credit. Label all graphs. **Calculators are not allowed.**

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1. Write your name, your Harvard student ID number, your section leader's name, and your section time on this sheet.

2. Do not write your name on your bluebooks. To ensure anonymous grading, write only your Harvard student ID number, your section leader's name, your section time, and the bluebook number **on each bluebook** that you use.

3. Use **three** exam booklets for this exam. You may write on this exam, but you will only be given credit for answers written in the exam booklets.

4. Use one exam booklet for each bluebook section of the exam. **You must hand in all 3 bluebooks.**

BLUEBOOK I: Wake Up and Smell the Fresh Air (15 minutes)

1. Non-Smoking Section (15 minutes)

Demand and supply for cigarettes in Kleenair can be expressed as:

$$Q_D = 20 - 2P$$
$$Q_S = 2P - 4$$

where price (P) is dollars per carton and quantity (Q) is the number of cartons sold.

a. (1 minute)

Find the equilibrium price and quantity.

b. (4 minutes)

The government of Kleenair imposes a price floor of $8 per carton of cigarettes. Assume that the government will not purchase any surplus or supply any shortage of cigarettes. What is the new quantity transacted? With a well-labeled graph and welfare table, clearly show how consumer surplus, producer surplus, and social surplus have changed with the price floor. (You may assume that the cigarettes are made by the lowest-cost producers and are bought by the consumers who value them the most.)

c. (3 minutes)

Now suppose that the true demand curve is more inelastic but still crosses the supply curve at the equilibrium you found in part a. Would producers be willing to spend more or less money than they would have spent with the previous demand curve to lobby the government for the imposition of the $8 price floor? Explain with a well-labeled graph.

d. (4 minutes)

Now assume that the demand curve is the one specified in part (a), i.e. $Q_D = 20 - 2P$.

Suppose instead that the government decided to impose a tax instead of a price floor. If it wanted cartons transacted to be the same amount as your answer in part (b) (i.e. under the price floor), how large would the per carton tax have to be (in dollars)? How much revenue would the government be able to raise with the tax? Show your work.

BLUEBOOK I CONTINUES ON THE NEXT PAGE

e. (3 minutes)

Given the three groups in Kleenair – consumers of cigarettes, producers of cigarettes, and the government – which groups prefer the price floor rather than the tax? Which groups prefer the tax rather than the price floor? Is any group indifferent between the two policies? Explain. (Assume that the government is only concerned with its own revenues.)

END OF BLUEBOOK I

BLUEBOOK II: Lemons of Various Kinds (18 minutes)

1. *Burro* (7 minutes)

The new film *Burro* is sweeping the country of Philodysfunctia. The supply curve for theater screenings of the film is upward sloping and the demand curve is downward sloping.

Economists have calculated that for every showing of the film, there is a BEF (Burro Emulation Factor)—primarily, the medical costs for those who do not heed the warning "don't try this at home." These costs turn out to be a constant $C for every showing of the film.

However, scientists hired by the film industry have discovered that, when run through a projector (i.e., in the "production" of a film screening) the film releases a powerful gas which is quite effective against roaches and mice. They estimate the value of this, per showing of the film, is the same constant $C.

a. (3 minutes)

   Show this situation on ***one*** well-labeled graph, clearly indicating the market and efficient quantities. What is the deadweight loss?

b. (4 minutes)

   How might the market quantity, efficient quantity, and deadweight loss change if supply were more inelastic while demand were more elastic? Explain using ***one*** well-labeled graph.

BLUEBOOK II CONTINUES ON THE NEXT PAGE

2. Sweethearts and Lemons (11 minutes)

Imagine there are two qualities of used cars: sweethearts and lemons. Potential buyers are willing to pay at most $9,000 for a car they know to be a sweetheart, and at most $6,000 for a car they know to be a lemon. Car owners are willing to sell sweethearts for any price greater than or equal to $7,500, and lemons for any price greater than or equal to $3,000. Assume all car buyers and sellers are risk-neutral.

a. (3 minutes)

Assume buyers and sellers can easily tell the difference between sweethearts and lemons. Also assume that there is a fixed supply of each car type. If there is a large number of buyers relative to the number of sellers, what price will prevail for each category in the market? Draw a well-labeled graph of the market for each type of car.

Now, assume everyone knows there are twice as many lemons as sweethearts on the market.

b. (4 minutes)

If neither the buyer nor seller can know whether a given car is a sweetheart or a lemon, what is the most that the car could sell for? What is the least that the car could sell for? Explain.

c. (4 minutes)

In reality, of course, the seller knows a lot more about a car than the buyer. Assume the seller knows what quality of car she is trying to sell, but that the buyer cannot determine the car's quality.

Explain what will happen in the used car market. Be specific.

What price will prevail?

END OF BLUEBOOK II

BLUEBOOK III: A Surprising "Li" Good Bluebook (17 minutes)

1. (5 minutes)

Consider Professor Feldstein's International Trade lecture.

a. (1 minute)

Countries sometimes make concessions during WTO trade negotiations that they claim are very burdensome. Does Professor Feldstein agree with their claims? Explain.

b. (2 minutes)

Use a simple example to explain what is meant by "Trade Diversion." Briefly discuss trade diversion's major implications for efficiency.

c. (2 minutes)

What is the major exception to the WTO's "Most Favored Nation" clause? How does it relate to trade diversion? Explain.

2. (4 minutes)

Consider the articles in the Readings/Workbook on repealing the estate tax.

List and briefly explain two arguments in favor of and two arguments against repealing the estate tax.

3. (2 minutes)

Consider the *New York Times* article, "When It Comes To Inequality, More Than Just Market Forces At Work."

a. (1 minute)

Sketch the "Kuznets Curve" and describe the shape of the curve over the different stages of economic growth.

b. (1 minute)

What is the shape of the Kuznets curve in the United States for the period from 1920 to the present?

4. (6 minut **BLUEBOOK III CONTINUES ON THE NEXT PAGE**

Consider Professor Feldstein's Health Care lecture.

Everyone in the nation of Ectenia has always been fully insured because they are all risk-averse. The demand curve for health care in Ectenia is downward-sloping. After hearing Professor Feldstein's lecture, the government now decides to mandate a 50% coinsurance rate.

a. (3 minutes)

   Using a well-labeled demand curve for the health care market, show any changes in the quantity of health care consumed and any changes in DWL. Explain.

b. (3 minutes)

   Illustrate the effects of this change on a well-labeled graph of the total costs and benefits of insurance. Does this policy increase or decrease the net gain from insurance? Explain.

END OF BLUEBOOK III