

**Second Examination**  
**Economics 121 C/F**  
**April 1, 2003 – Prof. Becker**

Name: \_\_\_\_\_

Seat: \_\_\_\_\_ Row: \_\_\_\_\_

***Instructions:***

You will have (virtually) unlimited time to complete this exam.

The use of books is prohibited.

You may use one page of notes (8½" x 11"), a calculator, pencils, pens, etc. All other materials are to be out of reach and out of sight.

Answer only on the blank sheets provided.

Write only on **one side** of each page and begin each question on a new page.

When you have finished, staple these pages to your answers as a coversheet.

**Pledge:**

I pledge my honor that during this quiz I neither gave nor received assistance and that I saw no dishonest work.

Signed: \_\_\_\_\_

I have not signed the pledge intentionally.  (Check only if appropriate.)

**Problem 1.** (5 points for each part) The following is taken from the article, “Still Hooked on the Evil Weed,” *Business Week*, July 5, 1999, p. 18.

From December 1997 until July 1999, average cigarette prices in the U.S. have increased 40 percent. Studies have shown that a 10 percent price rise in cigarettes tends to induce a 3-5 percent drop in per capita consumption. So why aren't government regulators cheering?

Two medical researchers report that:

- People given cigarettes with lower tar and nicotine content often change their smoking behavior to maintain their intake – they puff more often and inhale more deeply.
- Smokers also change their buying behavior to compensate for price increases. Smokers in high-tax states buy fewer cigarettes, but smoke longer ones that are higher in tar and nicotine than smokers in low-tax states.
- The effect is that the average tar intake of those who keep smoking remains roughly the same after they cut down.
- Among those aged 18 – 24, the tendency to switch to stronger brands is so compelling that average tar and nicotine actually rises. “It suggests that the future health problems of young continuing smokers could offset as much as half of the health gains anticipated for those in their age group who are induced to quit.”

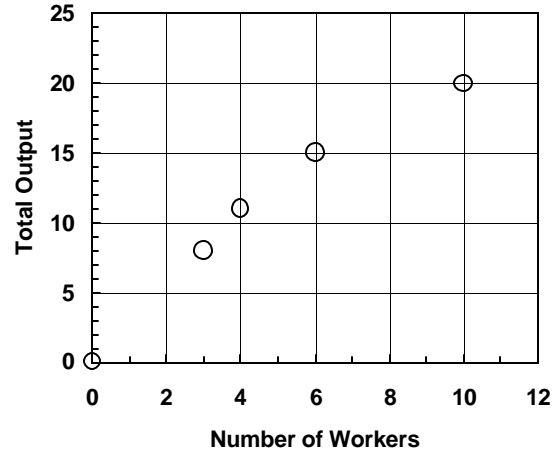
What to do? The researchers recommend that taxes on cigarettes be tied directly to their tar content.

- a) Based on the information in the first paragraph, calculate the elasticity of demand for cigarettes. Is the demand elastic or inelastic?
- b) What does the information imply about the elasticity of demand for tar intake? (See the second and third bulleted items.)
- c) The researchers suggest that taxes on cigarettes be tied directly to tar content so that high tar cigarettes would have a higher tax per pack. How would this be an improvement?
- d) The cigarette market is an oligopoly with the top three sellers providing almost 90% of the cigarettes sold in the U.S. each year. Should anti-smoking organizations file law suits (under the antitrust laws) to break up the big tobacco companies? Explain.

**Problem 2.** In a different class we conducted an experiment similar to the one involving Easter card production; we made paper airplanes. The following experimental results were obtained:

<i>Number of Workers (L)</i>	<i>Total Output (Q)</i>
3	8
4	11
6	15
10	20

Fixed costs were \$1.00. Workers received a wage of \$0.20 while materials cost \$0.10 per airplane produced.



a) Fill in the table below. (10 points)

<i>L</i>	<i>Q</i>	<i>Marginal Product</i>	<i>Fixed Costs</i>	<i>Variable Costs</i>	<i>Total Costs</i>	<i>Marginal Costs</i>	<i>AFC</i>	<i>AVC</i>	<i>ATC</i>
0	0								
3	8								
4	11								
6	15								
10	20								

b) What is the lowest price at which the firm will sell airplanes? What is this price called? (5 points)

c) If airplanes sell for \$0.25 each, how many airplanes should be produced and how much profit will the firm earn? Assume that the company sells airplanes in a competitive market. (5 points)

**Problem 3.** (5 points for each part) Lisa Bannon wrote the following in “ASCAP Cautions the Girl Scouts: Don’t Sing ‘God Bless America,’” *The Wall Street Journal*, August 21, 1996.

Starting the Summer of 1996, the American Society of Composers, Authors & Publishers (ASCAP), has informed summer camps worldwide that they must pay license fees to use of the four million songs written or published by ASCAP’s 68,000 members. All those who sing or play and don’t pay, ASCAP warns, may be violating the law. Included among the songs are: “God Bless America,” “Edelweiss,” “The Macarena,” “This Land Is Your Land,” “Blowin’ in the Wind,” “Puff the Magic Dragon,” and “Happy Birthday.”

The federal copyright law allows composers and music publishers to demand royalty payments for any public performance of copyrighted material. The law defines a public performance as “where a substantial number of persons outside of a normal circle of a family and its social acquaintance is gathered.” Although the law has been on the books since 1909, ASCAP began notifying large music users, such as hotels, only a little over a decade ago and more recently has worked its way down to small users such as rodeos and funeral homes. In 1996, it negotiated a reduced annual fee of \$257 with camps enrolled in the American Camping Association. For those who are not association members, the fees are higher, ranging from \$308 to \$1,439 per year. Small camps that last two weeks or less get a special rate of \$77.

Penalties for ignoring the law are stiff. Fines of \$25,000 or a year in prison, or both for major infringements. ASCAP, which sends monitors around the country, has successfully sued restaurants, retailers, and private clubs. While the law has not been tested on girls’ and boys’ summer camps, experts say even they could lose.

“If you make an exception for the Girl Scouts, you could set a practical precedent,” according to a copyright lawyer. “You give the impression that a particular use is not an infringement, and that could be used against you in the future.”

- a) Cite an example of a monopoly from this article.
- b) Does a copyright constitute a barrier to entry? If so, what kind of barrier is this?
- c) ASCAP has negotiated lower fees for some summer camps and non-profit organizations. Why might they be behaving as price-discriminating monopolists?
- d) Suppose that the “product” is not the song “God Bless America,” but patriotic songs in general. State at least two reasons why the market, so defined, is not longer monopolistic.

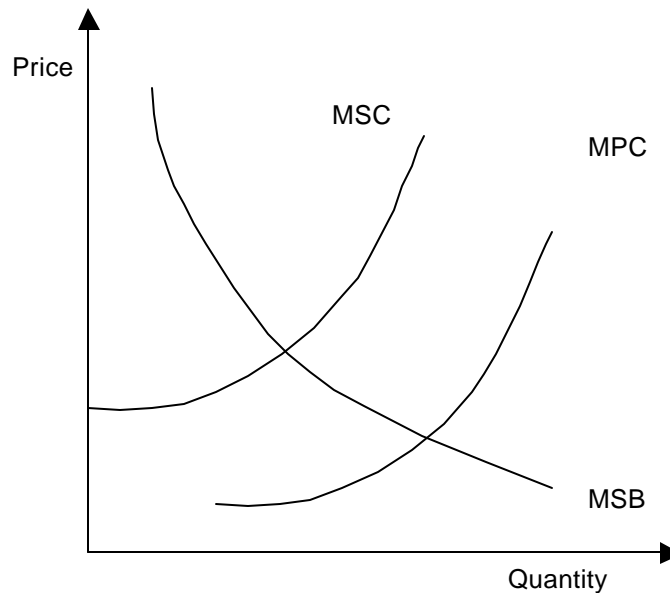
Extra Credit: Answer “true” or “false” to the following statement and provide a brief explanation for your answer: *Bruce Springsteen’s “Born in the U.S.A.” is a patriotic song.*

**Problem 4.** (5 points for each part) Marginal social cost (MSC), marginal private cost (MPC, supply), and marginal social benefit (demand) for gasoline are represented in the figure below. Suppose there are no restrictions on the purchase and consumption of gasoline:

a) Assuming perfect competition, what are the market equilibrium price and quantity? Copy the graph on your answer sheet and indicate these with  $P_m$  and  $Q_m$ .

b) What are the allocatively efficient (or Pareto efficient) price and quantity? Indicate these with  $P_e$  and  $Q_e$ .

c) Is this a negative or a positive externality? Explain how you know this from the graph.



d) Propose two solutions that would enable the market to provide the efficient price and quantity.

**Problem 5.** Answer **only four** of the following in **a sentence or two**. (5 points each)

- Based on the piece by Milton Friedman, explain why he would favor the legalization of narcotics and other drugs that are currently illegal.
- Suppose two economies are nearly identical but in one there is a lack of trust that makes it expensive to contract to sell goods, purchase inputs for production, etc. According to Ronald Coase, where should we see markets develop easier?
- Some people propose that it is more efficient to have a privately owned, regulated monopoly (like a telephone or electric company) than to have a government owned monopoly. Would Northcote Parkinson agree? (Hint: Parkinson's Law)
- Joan Robinson noted that some investments firms might make cause irreversible changes so that it may not be possible to go back to a prior situation. How can this idea challenge our model of the supply curve in the long run?
- In his article, John Kenneth Galbraith identifies several of the other authors from the *Classic Readings* and others we have named in class. Name two of these and tell what Galbraith thinks they did that is particularly noteworthy.