Exam 3 – Version C  Fall 2001

Name: ____________________

Before you Begin:

• Put your name on this paper.
• Put your name on your scantron.
• Put your Version (ex. A, B, C, D) on your scantron under “Test No”.
• Put your class time (9:00 or 10:00) on your scantron under “Hour”.
• Put your name on this paper. I really mean it.

1. **True (a) or False (b).** Assume that last year, the government of Taxistan put a $5 per unit tax on ceramic teddy bears. This year, partly in response to the tax, the only makers of ceramic teddy bears quit the market. As a result, the tax collected no revenues. Therefore, this tax necessarily produces no deadweight loss.

2. Some economists have called for a head tax (sometimes called a “poll tax”). Under a head tax, every adult pays the same amount (ex. $1,500) regardless of their income etc. Which of the following is true?
   a. A head tax would be a good tax from in terms of efficiency (minimizing deadweight loss), but a bad tax from an equity standpoint.
   b. A head tax would be a good tax from in terms of efficiency (minimizing deadweight loss), and a good tax from an equity standpoint.
   c. A head tax would be a bad tax from in terms of efficiency (minimizing deadweight loss), and a bad tax from an equity standpoint.
   d. A head tax would be a bad tax from in terms of efficiency (minimizing deadweight loss), but a good tax from an equity standpoint.

3. Who wrote the book Progress and Poverty?
   a. Donald Rumsfeld
   b. Adam Smith
   c. Alfred Marshall
   d. Tariq Assiz
   e. Henry George

4. What type of tax was advocated in the book Progress and Poverty?
   a. a head tax (everyone pays the same amount regardless)
   b. a tax on land (excluding the value of any property on that land)
   c. a general sales tax on all items bought or sold
   d. a tax on real property excluding the value of land (i.e. a tax on building)
   e. a tax on newborn babies (paid by their parents)

5. Which government has come to closest to imposing the kind of tax advocated in Progress and Poverty?
   a. Sydney, Australia
   b. Pittsburgh, PA USA
   c. Chicago, IL USA
   d. Vancouver, Canada
   e. Toronto, Canada

6. Which of the following happened during Ronald Reagan’s 8 years as U.S. President?
   a. the payroll tax (i.e. FICA) was introduced
   b. the corporate income (also called corporate profits) tax was eliminated
   c. the national sales tax was eliminated
   d. income tax rates rose
   e. income tax rates fell
7. In this class we were given several criteria one wants in a good that is being taxed. Based on these criteria, which of the following goods would be the best to tax?
   a. Good a: $E_D = 0.8$, $E_S = 0.3$, External benefits are generated when a is produced and sold.
   b. Good b: $E_D = 0.8$, $E_S = 0.3$, External costs are generated when b is produced and sold.
   c. Good c: $E_D = 1.9$, $E_S = 1.6$, No externalities are generated when c is produced and sold
   d. Good d: $E_D = 1.9$, $E_S = 1.6$, External benefits are generated when d is produced and sold.
   e. Good e: $E_D = 1.9$, $E_S = 1.6$, External costs are generated when e is produced and sold.

8. Which of the curves at right best illustrates a typical graph of excess burden as a function of the tax rate?
   a.
   ![Graph (a)]
   b.
   ![Graph (b)]
   c.
   ![Graph (c)]
   d.
   ![Graph (d)]
   e.
   ![Graph (e)]

9. Which of curves at right best illustrates a typical Laffer Curve?
   a.
   ![Laffer Curve (a)]
   b.
   ![Laffer Curve (b)]
   c.
   ![Laffer Curve (c)]
   d.
   ![Laffer Curve (d)]
   e.
   ![Laffer Curve (e)]

Pay attention to the axis labels!

10. Medical care is a good for which buyers have a lot of trouble knowing the quality of the care they are getting before they purchase it. Sometimes consumers do not know the quality of care received even after they received it. Because of this:
   a. government provision, without any private sector provision, will eliminate the scarcity of information problem.
   b. markets, without any government intervention, will result in the greatest gains from trade.
   c. government intervention, namely making information regarding medical practices and statistics on health care providers easily available, could increase the gains from trade.
11. Lawrence Lindsey, now an advisor to President Bush, has long argued that *income lower lowering income* tax rates paid by the very rich will lead to more total income taxes collected from the rich? What is Mr. Lindsey saying with respect to the Laffer curve.
   a. The Laffer curve is normally shaped, i.e. increasing but at a diminishing rate, when it comes to income taxes on the very rich.
   b. The Laffer curve is inverted, i.e. non-typical, when it comes to income taxes on the very rich.
   c. The federal government has moved too far too the left (i.e. this $\Leftarrow$ direction) on the Laffer curve when it comes to income taxes on the very rich.
   d. The federal government has moved too far too the right (i.e. this $\Rightarrow$ direction) on the Laffer curve when it comes to income taxes on the very rich.
   e. more information is needed to answer this question.

↓ #’s 12 – 18: Below, you are given the supply and demand curves, before any taxes, for rental cars in Spokane, Washington. The city then decides to impose a tax, with the legal incidence on sellers, of $36 per car (per day).

12. How many cars will be rented (per day) after the tax?
   a. 100   b. 125
   c. 150   d. 175
   e. none of the above (50)

13. What is the price buyers will be paying for a rental car after the tax?
   a. $56   b. $52
   c. $48   d. $44
   e. none of the above

14. What is the $ amount, per car, that sellers will receive keep after the tax?
   a. $32   b. $28
   c. $24   d. $20
   e. none of the above

15. What is the level of consumer surplus after the tax?
   a. $3,200   b. $2,000
   d. $200   e. none of the above

16. What is the level of producer surplus after the tax?
   a. $3,200   b. $2,000
   d. $200   e. none of the above ($100)

17. What is the level of deadweight loss after the tax?
   a. $3,200   b. $2,000
   d. $200   e. none of the above ($36\times150\times0.5 = $2,700)

18. What is the level of tax revenues generated by this tax?
   a. $3,200   b. $2,000
   d. $200   e. none of the above
19. A few years ago the city of Baltimore considered a “commuter tax”. The city, strapped for cash, thought about imposing a tax on those who work in the city but don’t live there. The tax would be equal to 3% of their take-home pay.

Studies are commissioned to investigate this issue. Study X supports Hal’s position. This study states that; “The excess burden of this tax will be quite large.”

Studies are called for to resolve the issue. Study Y supports Gail’s position. This study states that; “the excess burden of this tax will be relatively small.”

What is most likely the difference between these two studies?

a. Study X looked at the long-term effects whereas Study Y looked at the short-term effects.

   Key: In the long-run, both demand and supply are usually more elastic.

b. Study Y looked at the long-term effects whereas Study X looked at the short-term effects.

c. Study X failed to recognize that the revenues generated by the tax should be considered a benefit to society, not a cost.

d. Study Y failed to recognize that the revenues generated by the tax should be considered a benefit to society, not a cost.

e. Study Y is “double dipping”, i.e. counting tax revenues as both a cost and as a benefit. Study X is correctly counting tax revenues as a cost to society.

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Answer questions 20 – 21 based on the information in the table below. Assume you are the commissioner of a tax advisory board in the beautiful metropolis of Ozark, Missouri. You and your commission have been asked to place a 5% sales tax on one of the items listed below.

The legal incidence of this tax will be on the seller.

<table>
<thead>
<tr>
<th>Good</th>
<th>Price (before tax)</th>
<th>Qty sold (before tax)</th>
<th>E_d</th>
<th>E_s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parsley</td>
<td>$1.50/bunch</td>
<td>4,000 bunches</td>
<td>2.09</td>
<td>0.94</td>
</tr>
<tr>
<td>Peanuts</td>
<td>$1.50/bag</td>
<td>4,000 bags</td>
<td>1.32</td>
<td>0.96</td>
</tr>
<tr>
<td>Pecans</td>
<td>$1.50/lb</td>
<td>4,000 lbs</td>
<td>0.82</td>
<td>0.90</td>
</tr>
<tr>
<td>Petunias</td>
<td>$1.50/flower</td>
<td>4,000 flowers</td>
<td>0.19</td>
<td>0.92</td>
</tr>
</tbody>
</table>

20. A tax on which item will result in the highest excess burden?

a. parsley
b. peanuts
c. pecans
d. petunias
e. more information is needed to answer this question.

21. A tax on which item will result in the most revenue?

a. parsley
b. peanuts
c. pecans
d. petunias
e. more information is needed to answer this question.

22. Which of the following is an example of an activity generating a negative externality?

a. flu shots
b. research into the health effects of eggs
c. a neighbor with large viscous dogs which threaten you and your children’s safety
d. a and b
e. none of the above
23. Congratulations! After getting your BS in Economics and an MPA Masters of Public Administration, you get a job as financial planner in beautiful Sommerset county, Maine. The city is proposing a special 4% sales tax on restaurant meals. Sellers will be legally responsible for paying this tax. Your team of research analysts have estimated both the elasticity of demand and supply for restaurant meals in Sommerset county. \( E_D = 0.6 \). \( E_S = 1.4 \). **How will the burden of this tax be distributed?**

a. buyers will bear all of the burden of this tax  
b. buyers will bear most, but not all, of the burden of this tax  
c. the burden should be evenly split between buyers and sellers  
d. sellers will bear most, but not all, of the burden of this tax  
e. sellers will bear all of the burden of this tax

24. You’re moving up. You are not working for the state government of Maine. The state legislature is considering a special 4% sales tax on new cars. Buyers will be legally responsible for paying this tax. i.e. Buyers are the one who must send the state government a check for the amount of the tax. Your team of research analysts have estimated both the elasticity of demand and supply for cars in Maine. \( E_D = 0.6 \). \( E_S = 1.2 \). **How will the burden of this tax be distributed?**

a. sellers will bear all of the burden of this tax  
b. sellers will bear most, but not all, of the burden of this tax  
c. the burden should be evenly split between buyers and sellers  
d. buyers will bear most, but not all, of the burden of this tax  
e. buyers will bear all of the burden of this tax

25. Funding Social Security and Medicare is a major issue in politics today? The ageing of the population means fewer workers (i.e. taxpayers) and more seniors qualifying for Social Security and Medicare. The payroll (i.e. FICA) tax funds these programs. Some combination of 1) lowering benefits, 2) increasing the rate of return Social Security and Medicare money earns, or 3) raising the payroll tax is required.

Currently, employers and employees are both responsible for the same share of the FICA tax. Employers must send the government 7.65% of what they pay workers. Employees also owe the government 7.65% of what they are paid. **Senator Sally Salucas has proposed raising the rate employers legally owe to 10% while leaving the amount employees legally owe unchanged. How would the burden of this tax increase be distributed?**

a. employers will bear all of the burden of this tax increase  
b. employers will bear most, but not all, of the burden of this tax increase  
c. The burden will be split between the two groups. However, more information is needed to know exactly how it will be split.  
d. employees will bear most, but not all, of the burden of this tax increase  
e. employees will bear all of the burden of this tax increase

**C or D are counted as correct. C is correct if you do not know the relative elasticities. However, Chapter 6 of Mankiw states that many labor economists believe labor supply is less elastic than labor demand.**

26. Which of the following is an example of an activity generating a positive externality?

a. a city owned bus which benefits its riders (who pay) and non-riders (less traffic congestion).  
b. a light house that is always on.  
c. telephone service.  
d. a and b  
e. all of the above

**Both D or E are accepted as correct.**
27. Julie and John are an old couple who loves to travel. When they travel, they really prefer to fly somewhere, rent a car, and stay in a motel/hotel. However, most local governments place a rather hefty tax on car rentals and motels/hotels. Because of this, John and Julie travel less than otherwise. They also are more likely to drive (instead of flying then renting a car) and camp out in their motor home. **What does this best illustrate?**
   a. deadweight loss
   b. an external cost problem being solved through private actions
   c. an external benefit problem being solved through private actions
   d. inelastic demand for motels/hotels
   e. a failure of the Coase theorem

28. Consider two goods – one that produces external costs and one that produces external benefits. Relative to the socially optimal, the private sector will tend to produce:
   a. too much of the good producing external costs and too little of the good producing external benefits.
   b. too little of the good producing external costs and too much of the good producing external benefits.
   c. the socially optimal amount of both goods.
   d. too much of both goods.
   e. too little of both goods.

29. The government of Munchkinland is worried about its nation’s diminishing wetlands. It recently passed a law that will pay any person $10/acre for every acre of what was once wetlands that they take out of commercial use and restore to its natural state. What is this an example of?
   a. the Coase theorem working to fix an externality
   b. the Coase theorem working to minimize deadweight loss
   c. a failure to meet the necessary conditions for the Coase theorem to work, and a resulting increase in deadweight loss
   d. The Coase theorem in action: a market failure being replaced by a government failure resulting in an even greater deadweight loss
   e. a Pigouvian subsidy

30. Assume the production of quahog soup produces, as a by-product, quahog toxins which pollute our waterways. Nonetheless, without government intervention, businesses find it profitable to make quahog soup. Buyers greatly desire this soup. It is extremely difficult to make quahog soup without releasing any quahog toxins into waterways. Small amounts of the quahog toxin occur naturally in the wild. Which of the following is true?
   a. The private sector is producing the socially optimal amount of quahog soup. It is not practical, nor desired by buyers, to change production.
   b. It is socially optimal to continue to produce quahog soup and the resulting quahog toxins in waterways. However, less should be produced and emitted (than the unregulated private sector was producing and emitting). **Key: The optimal amount of pollution is usually not zero.**
   c. Although profitable for the private sector, it is socially optimal for there to be no quahog soup production.
   d. Although profitable for the private sector, it is socially optimal for zero quahog toxins to be emitted during quahog soup production. i.e. Zero pollution production techniques should be used.
   e. both c and d
31. At right, you are given the (private) supply and demand curves for after school tutoring of K-12 students in the United States. Economists have estimated that each hour of after school tutoring produces $20 in external benefits. Assume this estimate is accurate. What is the socially optimal amount of after school tutoring?
   a. 0
   b. 3 Million
   c. 4 Million
   d. 5 Million
   e. none of the above

32. Assume the federal government wishes to correct this problem (from # 31 above) with a tax or subsidy. What should it do: use a tax or a subsidy? How much should the amount of the tax or subsidy be?
   a. a tax of $45/hour
   b. a tax of $35/hour
   c. a subsidy of $45/hour
   d. a subsidy of $35/hour
   e. none of the above (a subsidy of $20/hour)

33. Assume there is a market with perfect information, no externalities, lots of competition, and no worries about income distribution. In this case, leaving market outcomes to the private sector (i.e. no government intervention) will:
   a. maximize the sum of private gains going to buyers and sellers but fail to maximize the net gains to society.
   b. maximize the sum of private gains going to buyers and sellers and also maximize the net gains to society.
   c. maximize the gain to sellers but fail to maximize the gains to buyers or the net gains to society.
   d. maximize the gain to buyers but fail to maximize the gains to sellers or the net gains to society.
   e. not function at all.

34. In this class we were given several criteria one wants in a good that is being taxed. Based on these criteria, which of the following goods would be the best to tax?
   a. Good a: \( E_D = 0.2, \ E_S = 0.3 \), External costs are generated when a is produced and sold.
   b. Good b: \( E_D = 0.2, \ E_S = 0.3 \), External benefits are generated when b is produced and sold.
   c. Good c: \( E_D = 0.2, \ E_S = 0.3 \), No externalities are generated when c is produced and sold
   d. Good d: \( E_D = 0.9, \ E_S = 0.8 \), External costs are generated when d is produced and sold.
e. Good e: $E_D = 0.9, E_S = 0.8$. External benefits are generated when e is produced and sold.

35 - 37. Henrik Ibsen’s play “Enemy of the People” involves a small Norwegian town in the 1880s. The town’s economy relies on tourists who come to visit its natural springs. A doctor discovers that the town’s many springs are being polluted, threatening people’s health and threatening the tourist industry.\(^1\) It is suspected that tanneries (leather factories) are causing the pollution. Norway has a very well developed code of law and court system. Suggest a way to solve this problem in each of the cases below.

35. **Case 1.** There is only 1 tannery in the area. There are 2 health spas in the area are owned by one person. Technology exists to measure the amount of pollution being emitted by the tannery. Good estimates of the amount of damage suffered by the spa, from various levels of pollution, exist. **According to lecture and the text, which of the following solutions would probably be the most efficient and effective?**

- a. offer the spa a subsidy for every visitor they serve.
- b. little government intervention other than allowing people & companies to sue for damages in court.
- c. direct government regulation specifying the amount of leather produced and/or the technology used to produce it.
- d. direct government regulation closing the tannery down
- e. a leather boycott by the spa’s owners and employees

36. **Case 2.** There are 51 tanneries and 64 health spas in the area each with a different owner. Good estimates of the amount of damage suffered by the spas, from various levels of pollution, exist. There is, however, a cheap and easy way to measure the amount of pollution any given tannery emits, or even the amount of leather they produce. **According to lecture and the text, which of the following solutions would probably be the most efficient and effective?**

- a. offer the spa a subsidy for every visitor they serve.
- b. little government intervention other than allowing people & companies to sue for damages in court.
- c. direct government regulation specifying the amount of leather produced and/or the technology used to produce it.
- d. direct government regulation closing the tannery down
- e. a tax on leather or the pollution emitted by tanneries

37. **Case 3.** There are 51 tanneries and 64 health spas in the area each with a different owner. Good estimates of the amount of damage suffered by the spas, from various levels of pollution, exist. There is a cheap and easy way to measure the amount of pollution any given tannery emits. The tanneries are also very diverse (i.e. have a lot of differences) in the style of factory and the technology they use. **According to lecture and the text, which of the following solutions would probably be the most efficient and effective?**

- a. offer the spa a subsidy for every visitor they serve.
- b. little government intervention other than allowing people & companies to sue for damages in court.
- c. direct government regulation specifying the amount of leather produced and/or the technology used to produce it.
- d. direct government regulation closing the tannery down
- e. a tax on leather or the pollution emitted by tanneries

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\(^1\) Actually, the main theme of the play is not really pollution. Instead it is about self-interest vs public interest, hypocrisy, and mistaking the bandwagon, i.e. the latest fads in intellectual thought, for the leading edge of thought. It’s a cool play.