

Second Hour Exam  
Public Finance - 180.365  
Fall, 2005  
Answers

**1 Multiple Choice - Circle The Correct Letter (4 pts each)**

Correct answer indicated by  $\Rightarrow$

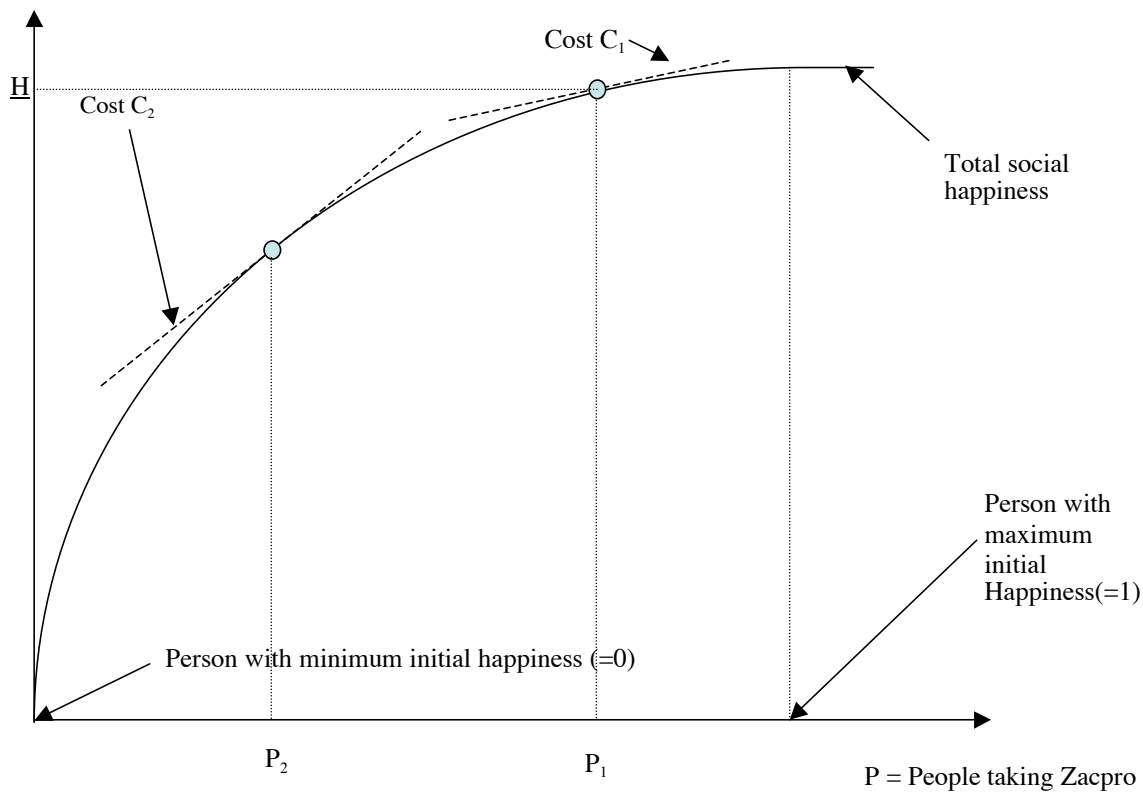
1. In the year 2000, about what fraction of total health expenditures in the U.S. were paid for by government programs?
  - (a) 10%
  - (b) 25%
  - (c) 35%
  - (d)  $\Rightarrow$ 50%
  - (e) 75%
  
2. The economic theory of optimal health care provision says that
  - (a) It is socially optimal for free medical treatment to be provided to everyone
  - (b) Everyone should pay their own medical expenses because they will set marginal cost equal to marginal benefit.
  - (c) Adverse selection can prevent efficient insurance markets from developing even when everyone buys the same insurance.
  - (d)  $\Rightarrow$ The optimal health care system will ration care: Some people who would benefit from treatment should be denied that treatment.
  - (e) Moral hazard is not a problem because nobody would intentionally do something that might make them sick.
  
3. Social insurance can be justified on the grounds of
  - (a) adverse selection
  - (b) decision-making costs
  - (c) moral hazard
  - (d) paternalism
  - (e)  $\Rightarrow$ all of the above

4. In considering how to reduce government spending on health care, someone with a strong utilitarian concern about income distribution would be least likely to support:
- (a) Cuts in Medicare
  - (b) ⇒Cuts in Medicaid
  - (c) Cuts in CHIPs
  - (d) Cuts in HMOs
5. About 2.7 percent of tax returns in the U.S. show household income of \$200,000 or more. According to the handout `BushTaxCutDistributionTable`, when fully phased in, roughly what fraction of the total 2001 tax cut went to households with incomes of \$200,000 and over?
- (a) ⇒46.1
  - (b) 20.4
  - (c) 9.8
  - (d) 2.7
6. According to economic theory:
- (a) Inefficiency results whenever prices of drugs exceed their marginal cost of production
  - (b) Marginal cost pricing would bring a halt to development of new drugs
  - (c) Since knowledge is a public good, economic inefficiency results whenever the formula for a drug is kept secret
  - (d) ⇒All of (a)-(c)
  - (e) None of (a)-(c)
7. If the exact same medication sells for different prices in different countries, this proves
- (a) In the long run, social welfare would be higher if drug makers had to sell their products at marginal cost
  - (b) ⇒The market for this medication is Pareto inefficient
  - (c) Government has intervened in the market where the price is lower
  - (d) All of (a)-(c)
  - (e) None of (a)-(c)

8. According to the handout on inequality trends, which of the following is true over the period 1968-1999.
- (a) Most of the gain in income in the top quintile came from a reduction in income in the bottom quintile
  - (b)  $\Rightarrow$ The ratio of the income of those in the top quintile to income of those in the bottom quintile has increased sharply
  - (c) The proportion of the income received by the middle quintile has remained almost unchanged
  - (d) The “Hollowing” of the income distribution continued steadily over the whole period, especially since 1993
9. According to the *Economist* reading “Globalization and Its Critics,”
- (a) One advantage of free trade is that there are fewer ways to bribe and corrupt a government that has no control over trade
  - (b) Businesses are mostly out to make profits and don’t really care about social responsibility
  - (c) Globalization and free trade place few limits on the government’s ability to pursue goals like environmental protection or income redistribution
  - (d)  $\Rightarrow$ All of (a)-(c)
  - (e) None of (a)-(c)
10. According to the *Economist* reading “A Different Manifesto,”
- (a) Globalization is good for exporters and creates jobs
  - (b)  $\Rightarrow$ More free trade would be good for poor countries, because rich countries tariffs discriminate powerfully against poor countries
  - (c) Governments in developing countries resist globalization mainly because of a concern for their poor citizens
  - (d) All of (a)-(c)
  - (e) None of (a)-(c)
11. According to the *New York Times* article “Poverty Memo,”
- (a) The Bush Administration has proposed abandoning a go-it-alone strategy on food aid to move toward the international mainstream
  - (b) The real reason Congress supports food aid for Africa is as a subsidy to big agribusiness companies like Archer Daniels Midland (who make big political contributions)
  - (c) Less than half the money spent on food aid actually goes to pay for food
  - (d)  $\Rightarrow$ All of (a)-(c)
  - (e) None of (a)-(c)

12. According the required reading by Nicholas Kristof from the *New York Times* "Let them Sweat,"
- (a) Leaders of rich countries should start an international campaign to encourage imports from sweatshops
  - (b) The \$2 a day wage earned by sweatshop workers is much better than the alternative jobs they could get
  - (c) A Nike factory in Cambodia was closed, throwing 2000 people out of work, after a BBC report that the factory employed three girls under the age of 15
  - (d)  $\Rightarrow$ All of (a)-(c)
  - (e) None of (a)-(c)
13. According to an editorial in the *New York Times*,
- (a)  $\Rightarrow$ The average European cow receives a government subsidy of more than \$2 a day, which is more than what a quarter of the world's people live on
  - (b) The Bush administration is the main booster of subsidies to the agribusiness industry; Congress has resisted administration efforts to increase subsidies
  - (c) Without trade protection, farmers in poor countries would be unable to compete with efficient producers in rich countries
  - (d) America's farm subsidies are even worse than Europe's
  - (e) All of (a)-(d)
14. According to a *Washington Post* Op-Ed, U.S. preparations for the avian flu
- (a) Reflect an appropriate use of governmental power to protect the public health
  - (b) Reflect excessive concern about intellectual property rights compared to public health
  - (c)  $\Rightarrow$ Are stymied by the government's inability to resolve the conflict between intellectual property rights and public safety
  - (d) Are difficult because only one company has the knowhow to manufacture the potentially lifesaving drug TamiFlu
15. Suppose I'm somebody who has decided to do without health insurance to save money. Then I'm diagnosed with a disease for which drug treatment costs are very high. After I am diagnosed, nobody will sell me health insurance. This is an example of
- (a) Stupidity
  - (b) Moral Hazard
  - (c) Paternalism
  - (d)  $\Rightarrow$ Adverse Selection
  - (e) Externalities

## 2 Graphical Question



Suppose a drug called Zacpro is invented which can make everyone happier. However, the effect on happiness is much greater for some people than for others. Specifically, before taking Zacpro, the maximum possible degree of happiness is  $H = 1$ , while the minimum degree of happiness is  $H = 0$ . Anyone who takes Zacpro will have their happiness increased to the maximum possible level,  $H = 1$ .

Refer to the graph, which captures this situation. Everyone in the population is arranged in a line on the horizontal axis, with the person with minimum initial happiness at the farthest left and the person with maximum initial happiness on the right.

1. Explain why the curve labelled “Total Social Happiness” goes up sharply at first, and then levels off as more and more people receive Zacpro.

*Answer:*

12pt

The person farthest left is the person who benefits most from the drug, because he/she has the lowest initial utility. As we move to the right on the figure, we are moving toward people whose happiness is improved less and less by the drug. Eventually, as we get to the right edge of the graph, the people are already as happy without the drug as they would be with it, so giving them the drug does not increase either their own happiness or social happiness much.

2. Suppose the cost of making and delivering Zacpro is  $C_1 > 0$  for every extra person who gets the drug. Draw a line indicating the socially optimal proportion of the population who should be receiving the drug. Explain why people to the left of the point should be receiving the drug and those to the right should not. Explain why, under the assumptions we have made, the socially efficient outcome will be achieved if the government simply makes Zacpro available to anyone who wants it for a price of  $C_1$ .

*Answer:*

12pt The optimal point is where the slope of the social happiness curve is equal to  $C_1$ , indicated by the rightmost dashed line. People to the left of  $P_1$  benefit from receiving the drug by an amount more than its cost  $C_1$ ; people to the right benefit by an amount less than  $C_1$ . Since the cost is  $C_1$ , treatment is “worth the cost” for people to the left of  $P_1$  but not for people to the right. If the government makes Zacpro available for the amount  $C_1$ , everyone for whom treatment is worth the cost will buy it, and nobody will buy it if it is not worth the cost.

3. Now suppose the inventor of Zacpro has a patent and therefore can charge whatever price they want for the drug; the inventor therefore sells the drug for some profit-maximizing price of  $C_2 > C_1$ . Use the diagram to show the outcome in terms of the proportion of the population using the drug and total social happiness. Is this outcome Pareto efficient? Why or why not?

*Answer:*

12pt The new outcome is the intersection of the leftmost dashed line with the social happiness curve, at slope  $C_2$ . The outcome is not Pareto efficient because there are now people (between  $P_2$  and  $P_1$  who would benefit from the drug by an amount more than its cost but who do not buy it.)

4. Now suppose a universal health insurance system is created in which everyone can get Zacpro for free. Explain why the outcome will not be socially efficient.

*Answer:*

12pt The outcome is that everyone will buy Zacpro, even people who benefit by only a trivial amount. This is not socially efficient, because only people who benefit by an amount worth the cost should be taking the drug.

5. Finally, suppose a universal health insurance system is created in which patients pay nothing for prescription drugs, but doctors can limit prescriptions for Zacpro to people whose happiness is measured to be less than a certain level. (We are assuming that happiness can be measured directly by the doctor). Show on the diagram what the socially optimal happiness cutoff is, and explain why rationing the drug is efficient.

*Answer:*

12pt Doctors should ration Zacpro so that only people with happiness below  $\bar{H}$  receive the drug. This achieves the Pareto efficient social outcome, because it corresponds to the exact same people receiving the drug as would receive it at a cost  $C_1$ .

### 3 Discussion Questions

1. Explain why a person's decision of whether to get a flu shot causes an externality. Discuss whether subsidizing flu shots by making them available for free might be an optimal policy.

*Answer:*

- 15pt      If I get a flu shot that makes you less likely to catch the flu because you can't get it from me. So I have caused a positive externality for you. For a more detailed treatment, see the first hour exam from 2004.

A Pigouvian subsidy is an optimal response to a situation where there are positive externalities. It is possible that the optimal Pigouvian subsidy in this case would be to subsidize the entire price of the flu shot, so that flu shots would be free; it is also possible that the optimal subsidy would be more or less than the price of the flu shot.

2. According to news stories, rebuilding has not begun in most of the areas of New Orleans destroyed by hurricane Katrina, because no private company will provide flood insurance for the areas destroyed by the hurricane and developers will not rebuild without insurance. Some have called for the Federal government to provide flood insurance in order to convince people to rebuild. Discuss how this proposal relates to the concept of moral hazard in insurance discussed in class. Does the existence of a moral hazard problem imply that government should provide the insurance?

*Answer:*

- 15pt      Moral hazard occurs when people who have insurance against a risk behave differently than they would if they had no insurance. Clearly, the argument here is that people will rebuild if they have insurance and won't if they don't, so it's a classic moral hazard situation. But that doesn't mean the government should provide the insurance. In fact, if private companies won't provide insurance at a reasonable price, that probably means that they judge that the danger of floods is too great to economically justify the rebuilding. If it's a bad idea, the government shouldn't do it either.