

STUDY QUESTIONS B

MAST/ECON 676: Environmental Economics

Spring 2014

1. A hedonic wage study finds that the value of reducing risk of death by .0003 is worth \$1,500 per person. Suppose an analysis shows that the cost of reducing air pollution in City Y is \$144 million. Based on the hedonic analysis, how many statistical lives must be saved by the reduction to justify cleaning the air?
2. Consider the **Figure 1**. Show and define two different money measures for valuing an increase risk of death. The individual is initially located at point (y_0, R_0) .
3. Economists usually favor a referendum (yes/no) elicitation format over an open-end format. The referendum is easier to answer, is similar to what people actually do in markets, is in a voting format that makes sense to people, and is incentive compatible. However, it has one major drawback versus open-ended, payment card, and bidding game formats. What is that drawback?
4. Give an example of the collinearity problem that often complicates hedonic price analysis.
5. Consider **Figure 2A**. Persons A and B are identical in every respect except that they live different distances from Lake X. They have the same travel cost demand function for trips to the lake. Which person has the highest access value (consumer surplus) for the lake? Show graphically. How is the result different if Lake Y exists (as in **Figure 2B**). Show graphically.
6. Explain graphically how a change in site quality (like water quality or beach width) can be valued using a single site travel cost model. Discuss the different ways data for such an analysis could be generated.
7. Discuss how the “grandma problem” (aka, multiple-purpose trips) complicate travel cost demand models. Give an example.
8. Define compensating surplus for a quantity change using an indirect utility function.
9. Discuss the “anchoring” issue in contingent valuation studies. Give an example.

10. Show what a typical hedonic price function looks like for a housing market and show how it might be used to estimate the marginal value of an environmental good.
11. Show what happens to a person's recreation demand function and access value for a site if her wage rises. Does access value (consumer surplus) go up or down or stay the same? Her demand function has the following form $x = f(P, P_s, Y)$, where x is the number of trips, P is travel cost to the site, P_s is travel cost to a substitute site, and Y is income. The opportunity cost of time is based on an individual's wage rate. Show graphically and explain.
12. HB discuss several validity checks for contingent valuation studies. Discuss each briefly.
13. What does incentive compatibility refer to in the context of stated preference studies?
14. Give three examples of goods that vary by use and non-use value. The types are (i) a good that has high use value but low non-use value, (ii) a good that has low use value but high non-use value, and (iii) a good that has high use and non-use value. Explain Briefly.
 - (i) High use and Low non-use value:
 - (ii) Low use and High non-use value:
 - (iii) High use and High non-use value:
15. Suppose you are asked to design a contingent valuation survey to value the construction of several new bike paths and devices to improve separation of bikes from cars on major roadways in Newark. Your population of users includes students, staff, and faculty.
 - (a) What would you use as a payment vehicle in your analysis? Why?
 - (b) How would you define/describe to respondents the good to be valued.
 - (c) Would you use a phone, mail, internet, in-person, or other survey format? Why?