






## REM 621 Midterm Exam

We've covered a lot of ground so far in the course, nice job! This exam has three parts, 1) multiple choice, 2) supply-demand thought exercises, and 3) trade-off analysis and valuation. This is an evaluation but also a review, so you are free to discuss with classmates to help you better understand concepts and questions. Please submit your answers on a Word or PDF through Canvas. Good luck!

**Part 1.** Choose the best answer in each case. 2 points each (30 total).

1. What is the name given to a policy measure that makes the firm pay for all the pollution damage it creates with each extra unit of output?
  - a) Coase Theorem
  - ☒ b) Pigouvian tax
  - c) Deposit-refund program
  - d) Liability law
  - e) Marketable permits
2. Which item from the list below is an example of a positive externality?
  - a) Adding a second story to your house
  - b) Traffic jams
  - c) A neighbor's barking dog
  - ☒ d) Playing music (well) in a park
  - e) None of the above
3. Which of the following is referred to as the 'hedonic price' method for valuing environmental assets?
  - a) Using 'indirect use value' to estimate the value of an environmental asset
  - b) Using 'willingness to pay' to value an environmental asset
  - ☒ c) Using variations in house prices and their linkage to an environmental asset
  - d) Using travel costs to estimate the value of an environmental asset
  - e) Using 'existence value' to estimate the value of an environmental asset
4. Which good below is a public good?
  - a) Defense expenditures
  - b) Used car market
  - c) Insurance from a private company
  - ☒ d) A new highway bridge
  - e) Petroleum imported from a government-controlled oil field

5. What is a common-property regime?
- a) Individuals hold entitlement
  - b) Government owns and controls property
  - c) No one owns or exercises control over the resource.
  - ☒ d) Property is jointly owned and managed by a specific group 
  - e) None of the above
6. Which of the following is a Stated Preference valuation method?
- ☒ a) Choice experiment 
  - b) Travel cost method
  - c) Benefits transfer
  - d) Production function approach
  - e) None of the above
7. What is a market failure?
- ☒ a) Something that prevents the market from allocating resources efficiently 
  - b) Both consumers' and producer's surpluses are minimized
  - c) Free markets lead to a socially-desirable result
  - d) Occurs when there is a stock market crash
  - e) All of the above
8. Which of the following market failures arise if a company producing books also pollutes the air?
- a) Imperfect Information
  - b) Natural monopoly
  - ☒ c) Negative externality 
  - d) Open access problem
  - e) All of the above
9. What do we call negotiating between perpetrators of pollution and those who suffer from pollution, where 'property rights' determine the outcome of the negotiation?
- ☒ a) Coase Theorem 
  - b) Liability law
  - c) Deposit-refund program
  - d) Pigouvian tax
  - e) Marketable permits

10. Access to the broadcast signal from a radio station is a:
- a) Private good, but the station itself is a public good
  - ☒ b) Public good, but the station itself is a private good
  - c) Both the radio station and broadcast signal are private goods
  - d) Both the radio station and broadcast signal are public goods
  - e) None of the above
11. If a higher rather than a lower discount rate is used in a benefit-cost analysis, and all else stays the same, which of the following describes a likely outcome?
- a) Projects with benefits bunched at the end and costs at the beginning will have a higher NPV
  - b) Projects with costs bunched at the end and benefits at the beginning will have a lower NPV
  - c) Projects with benefits and costs bunched towards the middle of their life will have a lower NPV
  - d) All of the above
  - ☒ e) None of the above
12. "The demand for product X is inelastic if a price reduction from \$10 to \$8 leads to an increase in the quantity demanded from 20 to 25 units."
- a) True
  - ☒ b) False
13. Why undertake a cost benefit analysis?
- a) Assist with choosing a project with the highest benefits and costs
  - b) Ensure a project's benefits are distributed fairly
  - c) Enable the use of a range of criteria in assessing projects
  - ☒ d) Assist with choosing a project with the highest benefits and lowest costs
  - e) None of the above
14. What policy measure involves identifying the total amount of pollution that is socially acceptable and then letting the market set a price on the right to contribute to that total?
- a) Deposit-refund program
  - b) Coase Theorem
  - c) Liability law
  - d) Pigouvian tax
  - ☒ e) Tradeable permits
15. Estimates for willingness-to-pay and willingness-to-accept that are elicited through valuation studies are usually quite close in value.
- a) True
  - ☒ b) False

**Part 2.** Draw a supply-demand graph for yourself (no need to submit it). Based on that, answer the following questions. The column “Demand or Supply” indicates which curve you should answer for. Remember we are interested in the initial movements or shifts, not any subsequent ones. 5 points each (20 total).

	Demand or Supply	Change in the market	Movement along curve or shift in the curve? Which way?
1	Demand for alcohol in Vancouver area pubs	Vancouver city council introduces a ban on “Happy Hour” drink deals at pubs	movement leftward along the demand curve
2	Supply of BC organic kale	A new study suggests that a kale smoothie a day helps reduce cholesterol	movement right along the supply curve (demand shifts to the right)
3	Demand for movie tickets on Wednesdays	Cineplex decides to provide a 2-for-1 offer for all Wednesday moviegoers	downward movement demand along curve
4	Supply of eggs to local markets	An avian flu epidemic has been identified in BC chicken farms	leftward shift of supply curve
5	Demand for camera memory cards	A fall in the retail price of entry-level digital cameras	rightward shift of demand curve, as it is a complimentary good

**Part 3.** Pick 5 of the attributes you included in your own MATA table for Assignment 1. (If you had less than five, you can add new ones. If the ones in your assignment were very broad, you can be more specific for this.) Imagine you have presented your analysis to a council that is deciding whether to proceed with the project. They are very interested in including attributes beyond NPV in their decision, but there is an outdated but still binding provision in their decision guidelines that requires any attributes considered to include an estimate of monetary value.

For each of the five attributes you picked, a) indicate what type of ecosystem service it represents; b) indicate what method you would use to estimate its value, and why; c) explain what the limitations of this method might be for your attribute; and d) name at least 2 estimates from other studies that can give the council an initial sense of this attribute’s value (include references if possible; if you could not find anything that’s ok, just state it). 10 points each (50 total).

**Bonus question (2 points):** Who is your favorite economist, and why?

I think I would have to say the most influential was Andrew P Shinn, who head authored "Economic impacts of aquatic parasites on global finfish production". After extensively learning and researching the far reaching ecological impacts of pathogen propagation in ecosystems, I read this paper. It really opened up my mind to the cascading economic impacts of pathogens and parasite salmonid aquaculture in terms of industry losses.