Queen's University
Introduction to Ecological Economics
ENSC 290*
Fall Term 2007

ASSIGNMENT # 2

This assignment is due by 4:00 pm, Wednesday, November 28.
Late submissions will not be graded.
Students are encouraged to work together on the assignment, but each student must submit an original copy of their own responses.
Electronic submissions will not be accepted.
All questions must be answered.
Please show your work.
There are a total of 60 marks on this assignment.

GOOD LUCK!

Question # 1 – Practice Multiple Choice Questions

(2 marks / question x 10 questions = 20 marks for question # 1)

Pick the best of the available responses.
You do not need to show your work or any calculations.

(i) Willingness to accept values:

(a) Are lower than willingness to pay values because sellers have more information than buyers.
(b) Are lower than willingness to pay values because buyers have more information than sellers.
(c) Are lower than willingness to pay values because sellers have an endowment effect associated with ownership.
(d) Are lower than willingness to pay values because buyers and sellers use bargaining strategies to try to get the best deal possible from the other participants in the transaction.
(e) None of the above.

(ii) Mental account bias in contingent valuation studies:

(a) Is present when respondents embed broader or more general values into their reported values for a particular asset.
(b) Is present when respondents' reported values reflect a belief that a particular asset may be a symbol for a broad range of similar assets.
(c) Implies that the specific characteristics of a particular asset are only loosely related to the values respondents report for that asset.
(d) Implies that respondents' reported values for a particular asset are very insensitive to changes in the number or size of that asset.
(e) All of the above.

(iii) If an inverted "U" shaped environmental Kuznet's curve exists for some pollutant e:

(a) e is probably a consumption based pollutant.
(b) For every nation, income growth will eventually reduce e.
(c) e reduction is probably a luxury good that switches from being an inferior good to a normal good as income rises.
(d) There is a linear relationship between e reduction and income.
(e) e probably imposes environmental damage on a global scale, while e reduction costs are local.

(iv) A society's production possibility frontier:

(a) Shifts outwards in the presence of persistent environmental degradation.
(b) Shifts outwards when society's welfare improves.
(c) Can shift outwards if increases in physical, reproducible capital offset reductions in natural or environmental capital.
(d) Has nothing whatsoever to do with the ecological economists' definition of sustainability.
(e) Both (c) and (d).

Questions (v) – (vii) refer to the following table:

These 4 individuals are identical in every way, except for their welfare levels.

		Policy A		Policy B	
Individual	Welfare	Costs	Benefits	Costs	Benefits
Bob	100	20	10	100	200
Joe	100	50	40	50	100
Jane	10	1	6	1	1
Mary	5	1	6	1	11

(v) Policy A is horizontally equitable because:

(a) Jane and Mary pay the same costs and they have the lowest welfare.
(b) Jane and Mary receive the same benefits and they have the lowest welfare.
(c) Bob and Joe receive the same net benefits and they have the same welfare.
(d) Policy A is proportional, so it must be horizontally equitable.
(e) Policy A is not horizontally equitable.

(vi) Policy B is vertically progressive because:

(a) Bob and Joe pay the highest costs and they have the highest welfare.
(b) Mary receives the highest net benefits as a % of her welfare and she has the lowest welfare.
(c) Jane is irrelevant to the determination of vertical equity because her welfare is unaffected by Policy B.
(d) Bob and Joe both receive more net benefits than Jane or Mary.
(e) Policy B is not vertically progressive.

(vii) If the government implements both Policy A and B simultaneously, then this aggregate policy will be:

(a) Horizontally equitable and progressive.
(b) Horizontally inequitable and progressive.
(c) Horizontally and vertically inequitable.
(d) Horizontally inequitable and regressive.
(e) Horizontally equitable and proportional.

Questions (viii) – (x) refer to the following equations:

Private Marginal Benefits: PMB = 9 – 2E
External Marginal Benefits: EMB = 18 – 4E

Private Marginal Costs: PMC = E
External Marginal Costs: EMC = 2E

(viii) The private market equilibrium quantity of E* will be:

(a) 9 units.
(b) 3/13 units more than the socially optimal quantity of E**.
(c) 3 units less than the socially optimal quantity of E**.
(d) Because there are both external benefits and external costs we cannot say for certain if E* will be greater than, less than, or the same as E**.
(e) Equal to the socially optimal quantity of E**.

(ix) The market participants' total cost to provide E** will be:

(a) $9.00.
(b) Exactly equal to the total external cost at E**.
(c) Exactly equal to the total social cost at E**.
(d) Exactly one quarter of the market participants' total benefits at E**.
(e) Exactly equal to the dead weight loss if E* is provided instead of E**.

(x) The socially optimal marginal value of E is:

(a) $9.00.
(b) $3.00.
(c) $4.00.
(d) $8.31.
(e) Equal to the private market price for E because the external costs and external benefits offset each other.

Question # 2 – Essay Question from December 2005 Final Exam

(20 marks / question x 1 question = 20 marks for question # 2)

Please double space your response.
Your response will be graded for style and content.
Maximum 500 words (approximately 1.5 double spaced typed pages).

Ecological economists have severely undermined our confidence in the importance and/or relevance of the empirical evidence supporting the presence of an environmental Kuznets curve. List and describe five reasons ecological economists have given us for questioning the importance and/or relevance of the environmental Kuznets curve evidence. Your response should be explicit about the connection between the critiques and the available evidence.

Question # 3 – Short Answer Questions from 2004 and 2005 Final Exams

(5 marks / question x 4 questions = 20 marks for question # 3)

Please double space your responses.
Please be clear and concise.
Graphical illustrations and mathematical notation may help you answer these questions, but they are not necessary or sufficient.

(i) "A job with greater exposure to environmental pollutants will pay higher wages."
Do you agree with this statement? Why or why not?

(ii) "If environmental quality is a public good, it is never socially optimal to provide 0 units of environmental quality."
Do you agree with this statement? Why or why not?

(iii) "Environmental degradation shifts our production possibilities frontier inwards, thereby reducing our feasible production combinations and reducing our welfare."
Do you agree with this statement? Why or why not?

(iv) "If an environmental pollutant has an inverted-U shaped environmental Kuznets curve, then at higher income levels income growth causes improvements in environmental quality."
Do you agree with this statement? Why or why not?