

Economics 3250
Fall 2003

Dr. Lozada
Exam 1

Do Not Turn This Page Over Until You Are So Instructed!

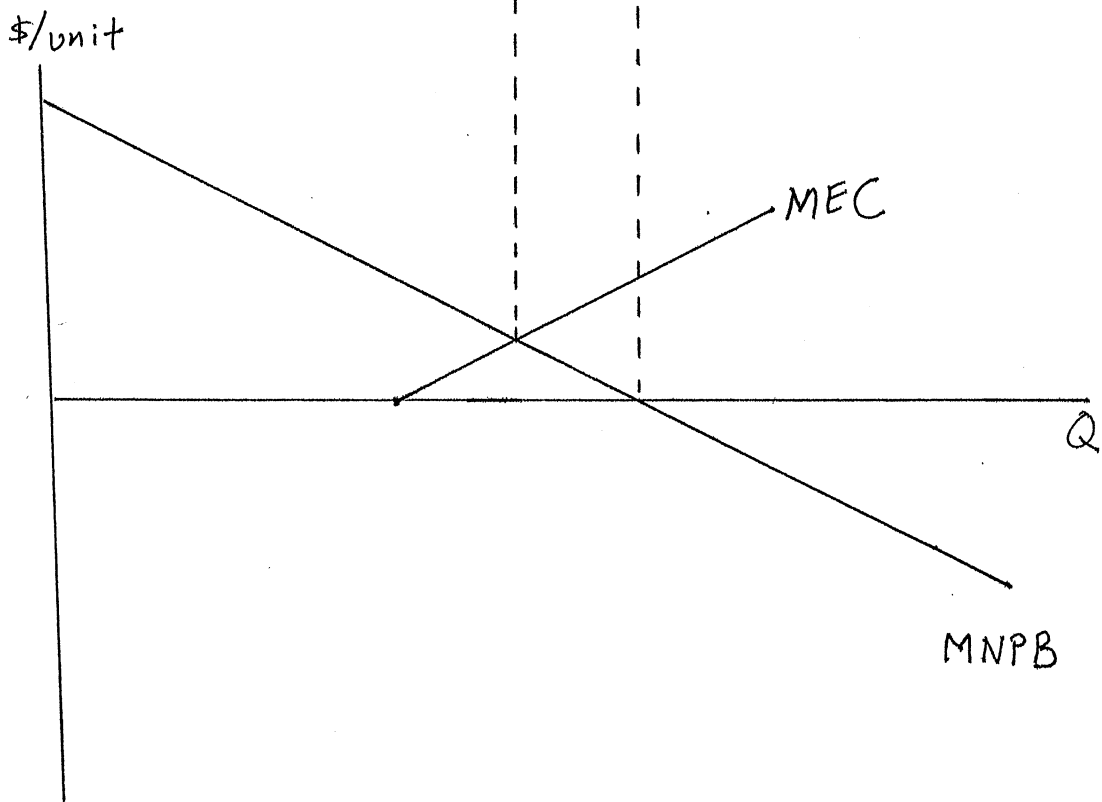
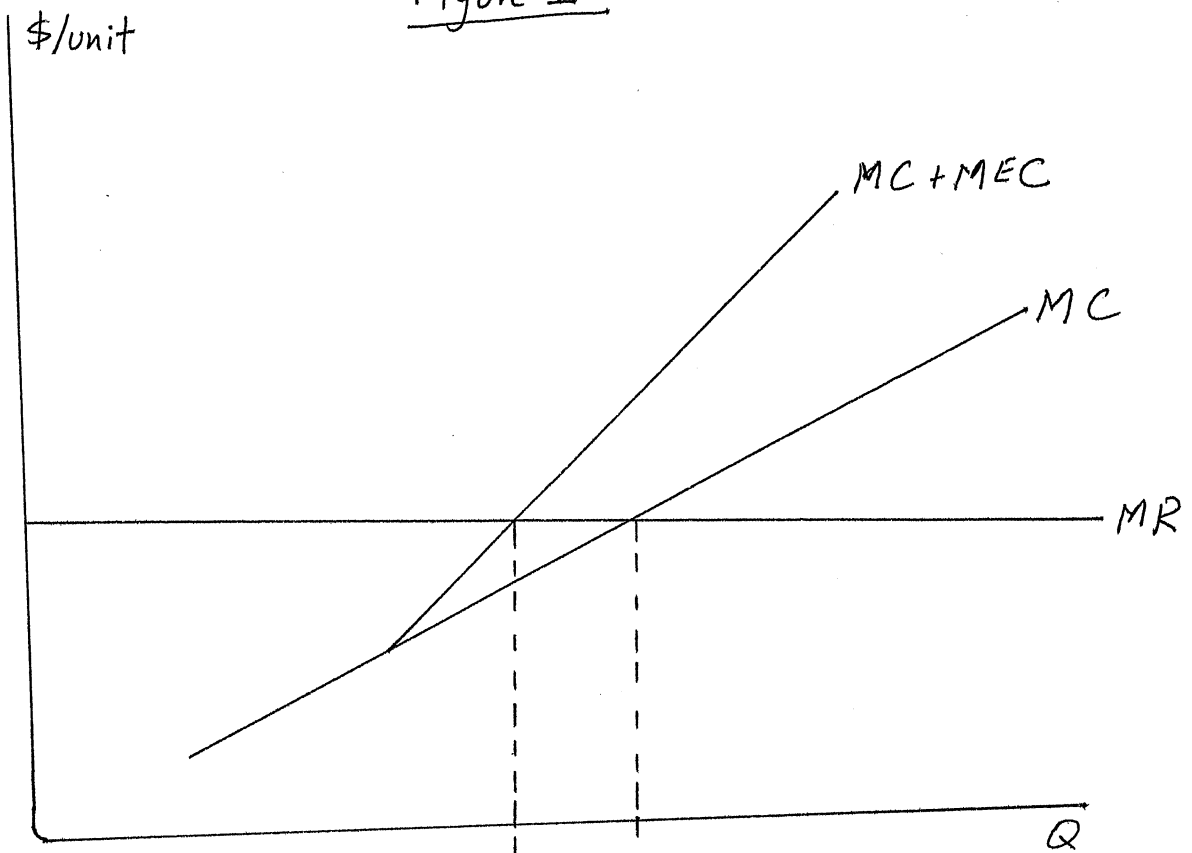
This exam has 25 points. There are six questions on the exam. Question 1 is worth 5 points; the other questions are worth 4 points each. Put your answers to the exam in a blue book or on blank sheets of paper.

Answer the questions using as much precision and detail as the time allows. Correct answers which are unsupported by explanations will not be awarded points.

Answer all of the following six questions.

1. [5 points] Explain Figure 1. This includes defining the terms used there and describing the economic behavior it illustrates.
2. [4 points] What does the Condorcet Paradox have to do with this course? (You do not have to give an explicit example of the Paradox but you should describe in general terms what it is.)
3. [4 points] Distinguish between option value and existence value.
4. [4 points] What is the travel cost method? What is one disadvantage that it has?
5. [4 points] What is the meaning and significance of " $WTP < WTA$ "?
6. [4 points] In your personal opinion, should "disaster aversion" influence the way policy makers make decisions under uncertainty? Why or why not? (You should define "disaster aversion" in your answer.)

Figure 1



Answers to Exam 1, Econ 3250, Fall 2003

① 2 MR, MC, MEC, MNPB

\downarrow $\Delta TR/\Delta Q$ \downarrow $\Delta TC/\Delta Q$ \downarrow Δ cost of pollution/ ΔQ \rightarrow $MR - MC$

1 pt for either this or a similar discussion for society as a whole

1 Firm will want to be at $MR = MC \Leftrightarrow MNPB = 0$; else if $MR > MC$ want to $\uparrow Q$,
 1 Society " " " " $MR = AC + MEC \Leftrightarrow MNPB = MEC$ $MR < AC$ want to $\downarrow Q$

② } If society uses majority voting to decide issues, voting cycles could occur
 2 } (where $A \succ B$, $B \succ C$, but $A \prec C$).

So finding a good social decision rule is hard.

2 } In Econ 3250 we have to specify what society should do if the free market fails,
 } so we have to specify a social decision rule. This is not trivial. Majority
 voting has much intuitive appeal, but suffers from this defect.

③ 2 option value: value because you may want to use the resource yourself in the future
 2 existence value: you may never want to use the resource in the future, but you may still value its existence

Both these are the amount you'd be willing and able to pay to obtain these values.

④ 2 Travel cost: visitors' value for a site must be at least as large as the cost they paid to get there; so if you measure the latter, you've put a lower bound on the former

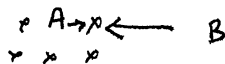
2 problems: valuation of time cost of travel (to or -?)

1 trip to more than one destination

House purchase decision

Local visitors

"substitute sites" x x x



travel cost of A & B might be = but
 A has more because he really likes this

2

site whereas B has gone because there's nothing else close to him

⑤ $\begin{matrix} \text{willingness to pay to avoid suffering an environmental damage} < \\ \text{willingness to accept compensation if that damage occurs} \end{matrix}$

1. * this is not rational behavior but makes cost-benefit analysis quite hard because it's unclear which function use

⑥ "Disaster aversion": 10 deaths in one accident are more feared than
2 1 death in each of 10 accidents

2 { Pro argument: people value things this way; it's not up to us to question those values, just use them

Con argument: this is irrational, because the outcome is the same either way, and all we should care about are the outcomes

Note: a novel pro argument would be that observing the disaster makes you increase your subjective probability of a similar disaster occurring later