

Assignment #1
Economics 101 – Section 5
Due Date: Thursday Jan 29, 2004

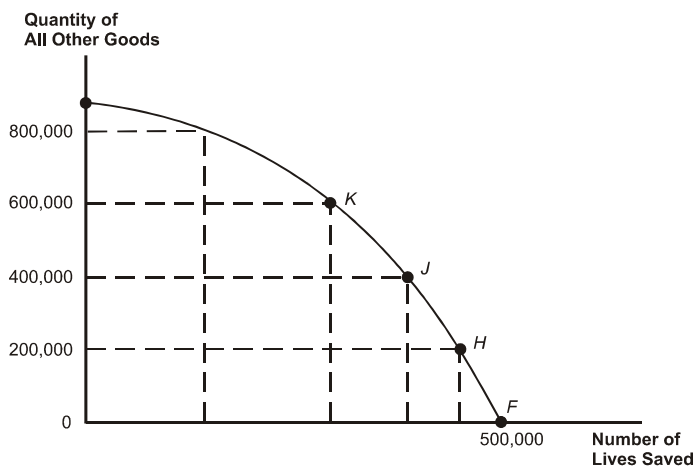
Instructions: Complete all questions and sub questions on separate sheets of paper. Make sure to include your name (first and last) and your student number on the first page of your assignment. Staple all sheets together and turn in to my office by the due date.

#1) Estimate the opportunity cost of taking this class. Include direct expenditures such as tuition, books, and supplies, as well as indirect expenditures such as the value of the time spent in class. What else should you include? Put a dollar value on all these opportunity costs and sum them.

#2) You are the president of a small island country. You are interested in producing only two goods 1) agricultural plant breeding and technology; and 2) agricultural products (i.e. food for your residents to eat). You want to draw the production possibilities curve for the production of these two items in your little island paradise. You are neither a farmer or a research scientist but you know that it is easy to make the first scientific discovery and the first bushel of food is relatively easy to produce. However you are familiar with the principle of increasing opportunity cost and you are well aware that each subsequent discovery takes more and more effort as do increases in food production.

- a) Draw the PPF for this island country.
- b) What happens if all resources are spent only on scientific discoveries (note that your island does not import any food)? What will happen to the island residents?
- c) Suppose that you are also looking to the future and you know that an increase in research in the first period will increase food productivity but not research productivity. Using a graph show what happens over time to the PPF if some research is conducted in the first period. Can you say anything about how much of either discoveries or food will be produced in the second period?

#3) Consider the following PPF for the production of all other goods and lives saved (similar to that used during the lecture)



- a) Recall how we established that the law of increasing opportunity cost applied to saving lives. Does the law of increasing opportunity cost also apply to the quantity of all other goods produced? Explain by assigning appropriate values to the dashed lines on the horizontal axis.
- b) How would a technical change which improves lifesaving techniques, i.e. development of a drug to cure multiple sclerosis, affect the frontier in the above figure (note that the technical advance affects only the ability to save lives)?

#5) Return to our class example with Gilligan's Island. Gilligan discovers a new plant that when taken as a tea makes him very hyper and enthusiastic about picking berries and catching fish (this new plant is packed full of amphetamines). The new plant also makes him more annoying than usual. As a direct result of this new stimulant he is able to pick a quart of berries in 0.5 hrs and catch a fish every 0.25 hrs.

- a) Fill in the missing blanks below:

	1 Quart of Berries	1 Fish
Maryanne	1 hour	1 hour
Gilligan		

- b) What are Gilligans new opportunity costs of fishing and picking berries? Fill in the following table.

	1 Quart of Berries	1 Fish
Maryanne	1 fish	1 quart of berries
Gilligan		

- c) Who has the comparative advantage in what?
- d) If each increases production in the good for which they have a comparative advantage by one unit, what is the net gain from specialization?

#6) For each of the events below, use a graph to explain the effects on both prices and quantities for the coffee market:

- A blight on coffee plants kills off much of the Brazilian crop;
- The price of tea (a substitute for coffee) declines;
- Coffee workers organize into a union and gain higher wages;
- Coffee is found to cause cancer in laboratory mice;
- coffee prices are expected to rise sharply in the near future, what are the effects in the current period (keep in mind this will cause changes to both suppliers and consumers behavior).