David Youngberg
ECON 202—Montgomery College

TOPIC 03: MARGINAL ANALYSIS

I. The Marginal Revolution
   a. Economists think "on the margin"
      i. Margin: the change in total something, each individual units of something
      ii. Marginal analysis: decisions are made on the margin; a little bit more or a little bit less
      iii. People put value on something based on marginal analysis
   b. Diminishing Marginal Utility
      i. *Utility*—economic lingo for satisfaction or benefit
      ii. Each additional unit—each marginal change—generates less and less utility (we call this diminishing marginal utility).
      iii. The first ice cream I eat is great, the second isn't as good as the first, the third is even less, the fourth starts tasting disgusting
   c. Oranges example
      i. Suppose I hand you 12 oranges. What do you use them for and in what order?

ORANGE	UTILITY	ORANGE	UTILITY	ORANGE	UTILITY
1st	$20	*5th*	$16	*9th*	$12
2nd	$19	*6th*	$15	*10th*	$11
3rd	$18	*7th*	$14	*11th*	$10
4th	$17	*8th*	$13	*12th*	$9

      ii. Note that each item down the list would be worth less and less to you.
      iii. Now suppose I give 11 oranges instead. Do you divvy up the orange, reducing each activity by a twelfth or do you give up an option on your list? If so, what option do you give up?
   d. Increasing marginal cost
      i. Marginal cost follows the same pattern as marginal utility, it just goes in the opposite direction
         1. Marginal cost *increases* (instead of *decreases*)
         2. Start with the *lowest cost* (instead of the *highest value*)
   e. Oranges example, cont.
      i. Now suppose that I'm picking the oranges I'm handing you form a large tree. This time, I start with the lowest cost first.

ORANGE	COST	ORANGE	COST	ORANGE	COST
1st	$8	*5th*	$12	*9th*	$16
2nd	$9	*6th*	$13	*10th*	$17
3rd	$10	*7th*	$14	*11th*	$18
4th	$11	*8th*	$15	*12th*	$19

II. Synthesis

a. Suppose instead of giving or handing you the oranges, I sell you them.
   i. For the first orange, it costs me $8 to get the orange and you are willing to pay $20. Thus there are many opportunities for us to agree on price
   ii. For the next orange, it costs me $9 and you value it at $19. Again, there are many opportunities to agree on a price (though there are slightly fewer).
   iii. This continues until the 7th orange, where the only price we can agree on is $14.
   iv. Note if we try to exchange an 8th orange, we wouldn't agree on a price.

ORANGE	UTILITY	COST	ORANGE	UTILITY	COST
1st	$20	$8	***7th***	***$14***	***$14***
2nd	$19	$9	*8th*	$13	$15
3rd	$18	$10	*9th*	$12	$16
4th	$17	$11	*10th*	$11	$17
5th	$16	$12	*11th*	$10	$18
6th	$15	$13	*12th*	$9	$19

b. The key idea behind marginal decision making is that people will engage in an action until marginal benefit equals marginal cost

c. Again, the miracle of prices appears. If the price rises, then you will forgo your *least* valuable action. This socially desirable result emerges without a central planner. Prices solve problems.