Elements of Microeconomics: TA Session

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About this session

Some logistics:

- Fridays, 9:00-9:50am, Shaffer 303
- What we'll do: review class material; go over quizzes and/or assignments; answer any questions; do practice problems...
- Slides and (optional) practice problem sets will be made available after each session on Github: https://github.com/pindawang/ElementsMicro_Fall24
- Attendance will be taken for TA sessions; you'll lose 2% of the grade if you miss more than 2 TA sessions

My office hour:

- In-person: Wednesdays, 2:30-3:30pm, Wyman Park W601A
- Zoom: by appointment
- My email: pwang66@jhu.edu

Opportunity Cost

Noel has the following three (mutually exclusive) ways to spend his afternoon:

1. Go to a concert, which costs \$35 and brings him happiness ('utility') equivalent to \$60
2. Go for a free walk in a park, which brings him utility of \$10
3. Get an ice cream, which costs \$5 and brings him utility of \$20

Which of the following changes the opportunity cost of a concert?

- A. The utility of the concert rises to \$70
- B. It is raining, and the utility of the walk falls to \$5
- C. The park is no longer free, with an entry fee of \$2
- D. The utility of the ice cream rises to \$25

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Opportunity Cost - Explained

The "net benefit" of the three choices:

- Concert: $60 - 35 = 25$ dollars
- Park: $10 - 0 = 10$ dollars
- Ice cream: $20 - 5 = 15$ dollars

The opportunity cost of a concert is the net benefit of the best alternative: $\max\{10, 15\} = 15$ dollars

Now let's look at the choices:

- A: This does not change the value of the alternatives
- B: Net benefit of a walk falls to \$5, but opportunity cost of concert is still $\max\{5, 15\} = 15$ dollars
- C: Net benefit of a walk falls to \$8, but opportunity cost of concert is still $\max\{8, 15\} = 15$ dollars
- D: Net benefit of ice cream rises to \$20, opportunity cost of concert changes to $\max\{10, 20\} = 20$ dollars

Thinking at the margin

Liam wants to decide how many cookies to eat. The costs and benefits of cookies is given in the table below:

No. of cookies	1	2	3	4	5	6
Total costs	10	20	30	40	50	60
Total benefits	15	28	39	48	55	60

1. What is the marginal cost of the second cookie?
2. What is the marginal benefit of the second cookie?
3. How many cookies should Liam eat?

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1. What is the marginal cost of the second cookie? 10
2. What is the marginal benefit of the second cookie? 13
3. How many cookies should Liam eat? 3

Thinking at the margin - explained

No. of cookies	1	2	3	4	5	6
Total costs	10	20	30	40	50	60
Total benefits	15	28	39	48	55	60
Marginal cost	10	10	10	10	10	10
Marginal benefit	15	13	11	9	7	5

1. The marginal cost of the second cookie is the total cost of 2 cookies minus the total cost of 1 cookie: $20 - 10 = 10$
2. The marginal benefit of the second cookie is the total benefit of 2 cookies minus the total benefit of 1 cookie: $28 - 15 = 13$
3. We can calculate the marginal benefit minus marginal cost from each cookie: $5, 3, 1, -1, -3, -5$ respectively. Liam should keep eating cookies as long as marginal benefit is above marginal cost. That is to say, he should eat 3 cookies.