

AAE101: Intro to Ag. & Applied Econ.

Discussion Section 6

Professor: Kevin Roth

TA: Erick F Molina

March 7, 2025

Dept. of Agricultural & Applied Economics
Taylor Hall 520, 427 Lorch St, Madison, WI 53706

✉ molinaperez@wisc.edu

Today's goal

- Understand the concept of utility maximization and budget constraints.
- Analyze consumer behavior in response to price changes using budget lines and indifference curves.

Practice Questions

1. You are choosing between two goods, X and Y, and your marginal utility from each is as shown in the following table. If your income is \$18 and the prices of X and Y are \$2 and \$3, respectively, what quantities of each will you purchase to maximize utility? What total utility will you realize?

Units of X	MU_X	Units of Y	MU_Y
1	12	1	15
2	10	2	12
3	8	3	9
4	6	4	6
5	4	5	3
6	2	6	0

2. Alex is a student who spends all of their budget on two goods: pizza and soda. Suppose Alex has \$10 per day to spend on these items. The price of pizza is \$2 per slice and the price of soda is \$1 per can. Alex consumes 3 slices of pizza and 4 sodas. Suppose the price of pizza drops to \$1 per slice and the price of soda remains unchanged. Answer the following:
- (a) How many slices of pizza and sodas can Alex buy with \$10 before the price change?
 - (b) How many can Alex buy after the price change? Draw a budget line with pizza on the X-axis and soda on the Y-axis.
 - (c) Sketch the initial budget constraint (before the price change).
 - (d) Sketch the new budget constraint (after the price change).
 - (e) After the price of pizza decreases, will Alex buy more pizza and less soda, or more of both?
 - (f) Assume pizza is a normal good. What would likely happen?
 - (g) If Alex kept the same level of satisfaction (same indifference curve), how would they adjust their consumption?
 - (h) After adjusting for the substitution effect, Alex's budget can buy more overall. Would this make them consume even more pizza?