

# APEC 3001 Discussion

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# Today's Agenda

- 1 Housekeeping
- 2 Steepness of Indifference Curves (10 minutes)
- 3 Curvature of Indifference Curves (10 minutes)
- 4 Curvature Exercise (15 minutes)
- 5 Corner Solutions in the UMP (10 minutes)
- 6 Questions (5 minutes)

# Housekeeping

- State your presence in the Zoom chat for a record of attendance
- Take a minute to download these slides from [Canvas under Week 7](#)
- [Problem Set 3](#) is due Thursday, March 11th @ 10PM
- Follow link in TA bio on course Canvas page to sign up for [Wednesday office hours](#)
- A [supplemental video recording](#) of yesterday's in-class practice problem is available on Canvas for you to review

## Steepness of Indifference Curves

- The steepness of an indifference curve tells us the rate at which a consumer is willing to trade one good for another
- Let's consider two components of breakfast cereal, sugar and fiber
- An older consumer might have a marginal rate of substitution (MRS) of fiber for sugar greater than one given his/her income and a preference for fiber over sugar
- To switch to a new cereal brand with 1 less gram of fiber, this consumer requires more than 1 gram of additional sugar
- A younger consumer might have an MRS of fiber for sugar less than one given his/her income and a preference for sugar over fiber
- This consumer only requires less than 1 gram of additional sugar in order to switch to a new cereal brand with 1 less gram of fiber
- The older consumer has a steeper indifference curve than the younger consumer implying the older consumer is willing to give up more sugar in exchange for fiber

# Curvature of Indifference Curves

- The curvature of an indifference curve tells us how substitutable and complementary two goods are
- The straighter the indifference curve, the less the MRS changes as we move along the indifference curve, and thus the more substitutable the goods
- An example of goods with almost straight indifference curves might be decaf coffees and decaf lattes
- The more curved the indifference curve, the more the MRS changes as we move along the indifference curve, and thus the more complementary the goods
- An example of goods with very curved indifference curves might be peanut butter and jelly
- You saw the two extremes of these cases yesterday in class (perfect substitutes and perfect complements)

## Curvature Exercise - Figure It Out 4.5

A pizza chain recently offered the following special promotion: "Buy one pizza at full price and get your next three pizzas for just \$5 each!" Assume that the full price of a pizza is \$10, your daily income \$40, and the price of all other goods \$1 per unit.

- 1 Draw budget constraints for pizza and all other goods that reflect your situations both before and during the special promotion. (Put the quantity of pizzas on the horizontal axis.) Indicate the horizontal and vertical intercepts and the slope of the budget constraint.
- 2 How is this special offer likely to alter your buying behavior?
- 3 How might your answer to (2) depend on the shape of your indifference curves?

# Corner Solutions in the UMP

- When analyzing a consumer's optimal bundle in the two good case, we have been dealing with cases where the consumer chooses positive amounts of both goods
- We call this utility maximizing bundle an **interior solution**
- Depending on the consumer's preferences and the relative prices of the goods, a consumer's optimal bundle might include zero amounts of one of the goods
- A utility maximizing bundle with all of one good and none of the other is called a **corner solution**
- I'll show you an example on the whiteboard to illustrate

# Questions

Any remaining questions?



# Additional Support Resources

- Boynton Mental Health Services
- Student Counseling Services
- Let's Talk
- Educational Workshops
- Academic Skills Coaching