

Cardinal vs Ordinal Utility



Cardinal and ordinal utility

A consumer's utility from consumption of a given bundle "A" is determined by a personal *utility function*.

Cardinal utility function

- $U(A)$ is a cardinal number: $U : \text{consumption bundle} \rightarrow \text{reals}$ measured in "utils"

Ordinal utility function

- U provides a "ranking" or "preference ordering" over bundles.

$$U : (A, B) \rightarrow \begin{cases} A \succ B \\ B \succ A \\ A \sim B \end{cases}$$

From the slide page shown in the picture, please extract all the core concepts behind it. Include some humor in your explanation.



This slide introduces the difference between *cardinal utility* and *ordinal utility*. Let's unpack these concepts with a sprinkle of humor:

1. Utility: Your Happiness Meter

- Imagine you're given a basket full of your favorite snacks or maybe gadgets (for the geeks). Utility measures how happy you are with that basket.
- **Utility Function:** This is like your personalized recipe for happiness. It assigns a value to how much satisfaction or happiness you get from consuming a particular bundle of goods.

2. Cardinal Utility: The Numbers Game

- Here, utility is a **number**, specifically a "cardinal" number, meaning it measures your happiness in "utils" (a totally made-up happiness currency, but hey, it works for economists).
- Think of it like a food critic giving exact ratings: "This burger is a 9/10, but that pizza? Definitely a 7."
- Cardinal utility assumes you can say, "I'm *twice* as happy eating two pizzas as I am eating one burger." (Because who doesn't want more pizza?)

3. Ordinal Utility: The Ranking Queen

- Ordinal utility is less about the numbers and more about the **order of preferences**. It's like when someone says, "I prefer tea over coffee, and coffee over soda," but they don't tell you *how much* they love tea more than coffee.
- It's like Tinder swipes for consumption bundles: Swipe right on the better one, left on the worse one, and don't worry about numbers.

4. Preference Notation: The Economist's Gossip

- **$A \succ B$ (A Preferred to B):** "A is the Beyonce of goods, clearly better than B."
 - **$B \succ A$ (B Preferred to A):** "B gets the spotlight now; A's not so hot anymore."
 - **$A \sim B$ (A Indifferent to B):** "Meh, they're both fine. Take either."
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In short:

- **Cardinal utility** is like saying, "I love chocolate ice cream *10 times* more than vanilla."
- **Ordinal utility** just says, "Chocolate > Vanilla. No debate needed."

It's as if cardinal utility cares about the *numbers* on your exam scores, while ordinal utility just checks whether you passed or failed!