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Microeconomics

Utility Analysis

Cardinal and Ordinal approach, Law of Diminishing
Marginal Utility



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Concept of Utility

Measure of satisfaction.

Units- Utils.

A. A measured in numbers.

Economist: Alfred Marshall

B. The measure of satisfaction can be through rating (ranks)

A choice of ranks between apples, oranges & pineapples as rank 3, 1, and 2.

Economist: J.R. Hicks





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Cardinal & Ordinal Approach

Utility is the satisfying power of a commodity.

A measure in terms of numbers – Cardinal

A measure in terms of ranks [Order] – Ordinal



Total Utility

- Total Utility = Total Satisfaction derived from consumption of a commodity.
- First ice-cream 20 Utils, Second Ice-cream 16 utils, 3rd Ice-cream 10 utils.

$$\begin{aligned} \text{TU} &= 20+16+10 \\ &= 46 \text{ Utils} \end{aligned}$$



Marginal Utility

- Additional utility derived from consumption of one more unit of the commodity.

$$MU = TU_n - TU_{(n-1)}$$



Utility Schedule:

Ice-creams Consumed	Total Utility	Marginal Utility
1	20	20
2	36	$36 - 20 = 16$
3	46	$46 - 36 = 10$
4	50	$50 - 46 = 4$
5	50	$50 - 50 = 0$
6	40	$40 - 50 = -10$



MU is
Positive,
TU
Increasing.



TU Max,
MU = 0



Declining TU,
MU Negative





Utility Graph:

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LDMU- Law of diminishing marginal Utility

- Decrease in utility as more & more units of a commodity is consumed.
- Gossen's First law of consumption.

“As we consume more and more units of a commodity, the utility derived from each successive unit goes decreasing”



Assumptions:

- Cardinal measurement of utility
(Economist - Alfred Marshall)
- Consumption of reasonable quantity
- Continuous consumption – Time period
- Rational Consumer
- Price of substitutes and complements are kept constant.





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Consumer Equilibrium

- Session 8

