EE211
Principles of Microeconomics

Chapter 3: Consumer Theory

Recall

- The context of the perfectly competition market:
- Market price is determined by market demand and supply.
- Individuals cannot influence the price changes ==> all are price takers.

Framework

- Consumer maximises satisfaction (which is a subjective matter).
- Subject to income constraint.

Question

- How to do so?

Derivation of Consumer's Equilibrium

- Cardinal Approach: Utility Theory
  - the happiness or satisfaction is assumed to be measurable;
  - the unit of happiness is called 'util'.
- Ordinal Approach: Indifference Curve
  - it is not necessary to measure happiness;
  - it is sufficient if we can rank preferences and indicate what is preferred to another.

Utility Theory

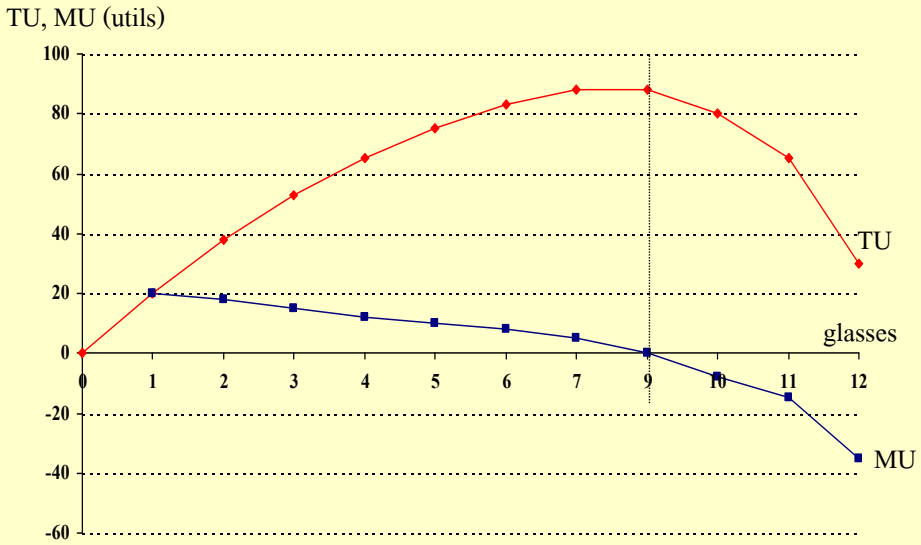
- Consumption of any product yields consumers satisfaction in terms of *total utility (TU)*.
- The change in satisfaction obtained from an extra unit of consumption is called *marginal utility (MU)*, i.e.

$$MU_x = \frac{\Delta TU_x}{\Delta Q}$$

Utility Theory

Champagne (glasses)	TU_C	MU_C	Champagne (glasses)	TU_C	MU_C
1	20		7	85	
2	38		8	88	
3	53		9	88	
4	65		10	80	
5	75		11	65	
6	83		12	30	

Relationship between TU and MU



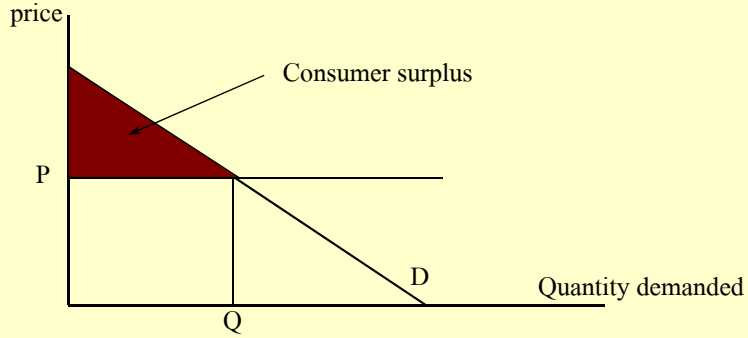
Diminishing Marginal Utility

- When consumption increases,
  - total utility rises
  - but marginal utility falls
- As TU rises --> MU is +
- At Max TU --> MU = 0
- As TU falls --> MU is -

Derivation of Willingness to Pay (in other words, demand curve)

Consumer Surplus

- The difference between what the consumer is *willing* to pay and what he *actually* pays.



Consumer's Optimal Choice

Champagne (glasses)	TU_C	MU_C	Perfume (ounces)	TU_P	MU_P
1	20		1	50	
2	38		2	85	
3	53		3	110	
4	65		4	130	
5	75		5	145	
6	83		6	155	
7	89		7	161	
8	93		8	161	

- Let P_C = \$5, P_P = \$10, and Income = \$65
- Find the optimal choice for this consumer.

Consumer's Optimal Choice

- A consumer who is maximising utility will allocate limited budget so that the utility obtained from the last Baht spent on each product is equal.

$$\frac{MU_1}{P_1} = \frac{MU_2}{P_2} = \ldots = \frac{MU_n}{P_n}$$

Consumer's Optimal Choice

- Other things remain constant, let P_P = \$5, find new optimal choice

Derivation of Demand Curve

Price per ounce	Quantity demanded (ounces)	Total Expenditure
10		
5		

How would you infer about price elasticity of demand for perfume?