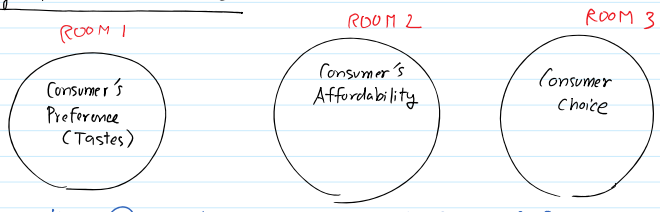
Thursday, September 27, 2018 5:11 PM

Theory of consumer choice



3 questions ① What a consumer wants? → Preferences

② What baskets of goods a consumer can afford? → Budget constraint

③ Given Preferences (1) and Budget constraint (2), which basket maximize consumer's utility (or satisfaction)?

Main Concern

Suppose we have 2 goods: X (meals) & Y (movies)

P_x, P_y, M

To maximize his utility, How many units of x and y he should choose optimally.

Mathematically, Maximize $U(X, Y)$ → objective Function

subject to budget constraint: $P_x \cdot X + P_y \cdot Y \leq M$ → money income

($P_x \cdot X$: expenditure spent on good x; $P_y \cdot Y$: expenditure spent on good y; total expenditure)

$(X^* = ?, Y^* = ?) \rightarrow \max U$

↓

consumer's utility maximization problem (CUMP)

Actually, we have 2 approaches to answer the question above:

① via Cardinal approach (OLD APPROACH) — measurable

Pioneered by Jeremy Bentham (Father of Utilitarianism) (school of thought)

"Utility is measurable" (assumed)

② via Ordinal approach (NEW APPROACH) OR MODERN ECONOMIC THEORY — ordering

"It is enough to study consumer's behavior if he/she can "rank" his/her preferences

Let's start w/ ORDINAL APPROACH:

- To study "Preferences", tool is "INDIFFERENCE CURVES"
- To study "Affordability", tool is "BUDGET LINES"
- To study "Choice", tool is "CONSTRAINT OPTIMIZATION"

(1) Preferences (Tool is Id)

To start w/, we have to make some assumptions about consumer's preference as follows:

(1) He/she must be able to "rank"

(EX) When we offer a consumer 2 baskets: X & Y, he/she must be able to tell us one of the three possible answers:

IS PREFERED TO

① She likes X more than Y: $X \succ Y \iff U(X) > U(Y)$

② She likes Y more than X: $Y \succ X \iff U(Y) > U(X)$

③ X and Y are indifferent: $X \sim Y \iff U(X) = U(Y)$

(2) He/she loves variety (OR Averages are preferred to Extremes)

(F, C) — FOOD, CLOTHES

basket X: (0, 100)
basket Y: (60, 40)
basket Z (100, 0)

$Y \succ X$ and $Y \succ Z$

$\updownarrow$ $\updownarrow$

$U(Y) > U(X)$ $U(Y) > U(Z)$

(3) He/she prefers more of the goods rather than less of the goods

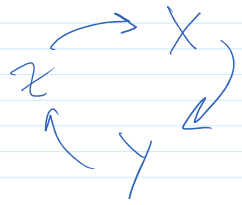
i.e, "More is preferred to less"

or

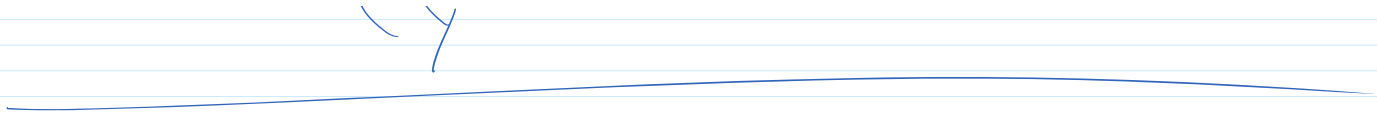
"More is better"

(4) His/her preference is consistent. (Transitivity)

If $X \succ Y$ and $Y \succ Z$, then, to be consistent, it must be the case that $X \succ Z$.

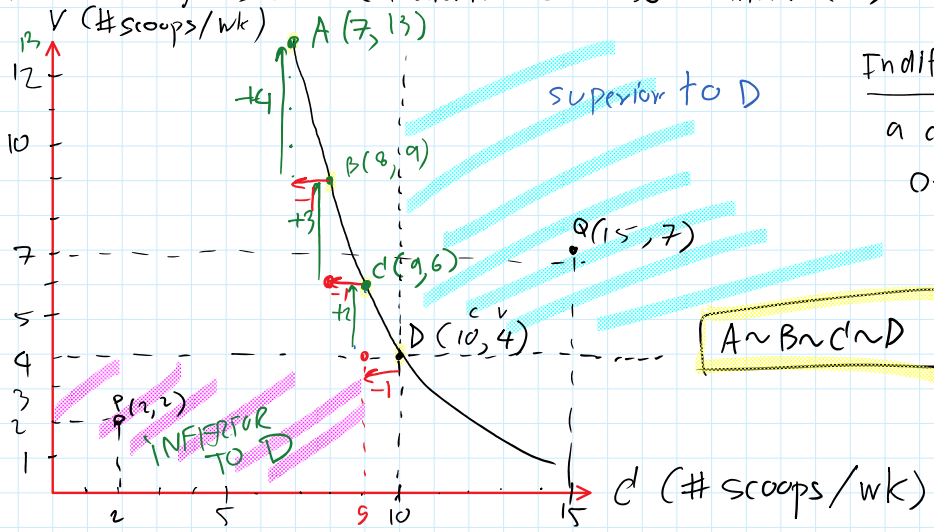


$X \rightarrow Y \rightarrow Z$



Indifference Curves

Consider 2 goods: chocholate (C) & Vanila (V)



Indifference curve:

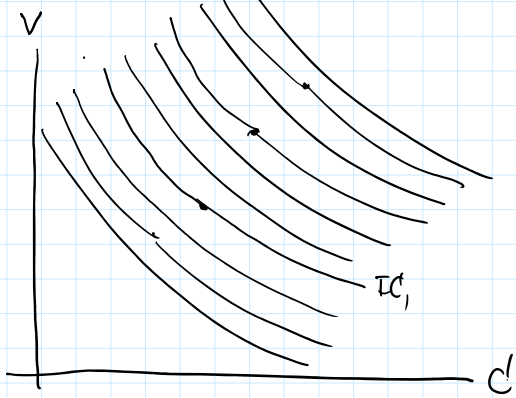
a curve contains all baskets of the two goods that provide the same satisfaction level to the consumer.

$A \sim B \sim C \sim D$

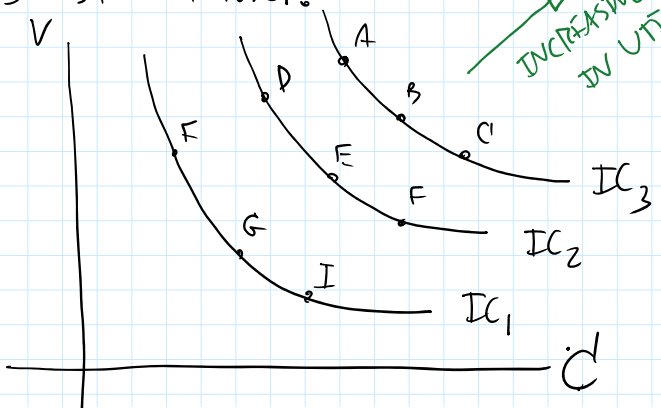
- $D \succ P$
- $Q \succ D$

Properties of ICs

1. ICs are downward sloping.
2. There are millions of ICs on the given space:

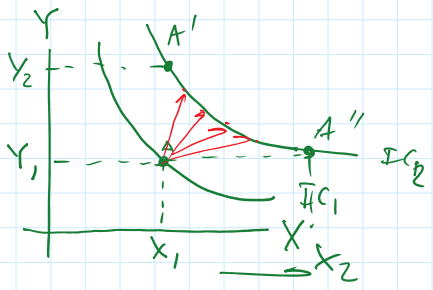


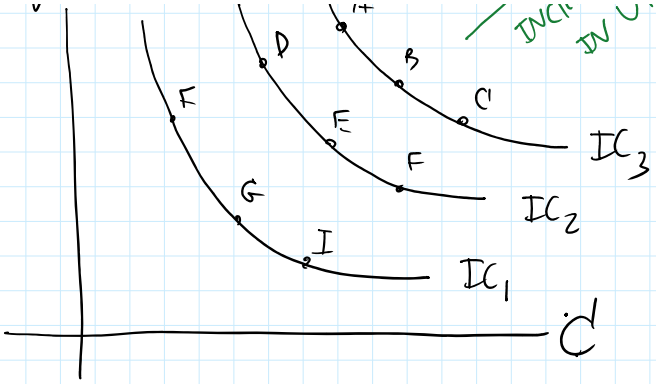
3. The higher the ICs towards NE direction, the higher satisfaction level.

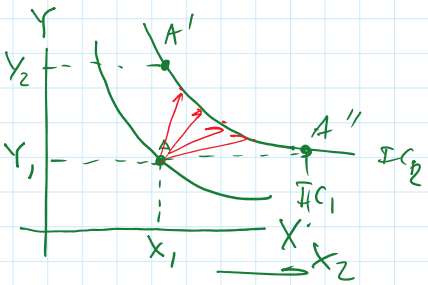


INCREASING IN UTILITY

$U_{\text{ON } IC_3} > U_{\text{ON } IC_2} > U_{\text{ON } IC_1}$




D
B
C
F
E
F
G
I
IC3
IC2
IC1
C


Y
A'
Y2
Y1
A''
IC2
IC1
X
X1
X2