

**WEEK 8: THEORY OF CONSUMER CHOICE**

OBJECTIVES: TO UNDERSTAND CONSUMER'S DECISION MAKING  
 TO SEE HOW A CONSUMER BEHAVES WHEN  
 AN ECONOMIC ENVIRONMENT (EX.  $\Delta P$ ,  $\Delta$ INCOME) CHANGES  
 TO APPLY THE THEORY W/ SOME OTHER DECISIONS

- DECISION TO SAVE/BORROW
- DECISION TO INVEST
- ETC.

**2 APPROACHES**

CARDINAL APPROACH: UTILITY IS MEASURABLE,  
 (UNIT: UTILITY)  
 ORDINAL APPROACH: IT IS ENOUGH TO REQUIRE THAT  
 PEOPLE CAN RANK THEIR  
 PREFERENCES/TASTES

# CARDINAL APPROACH

UTILITY: TOTAL SATISFACTION THAT ONE DERIVES FROM  
 A BASKET OF GOODS AND SERVICES (UNIT: UTILITY)

TOTAL UTILITY (TU) → TOTAL SATISFACTION  
 A CONSUMER GETS

MARGINAL UTILITY (MU) → EXTRA/ADDITIONAL/INCREMENTAL UTILITY  
 FROM { AN EXTRA } UNIT OF GOOD,  
 { AN ADDITIONAL }

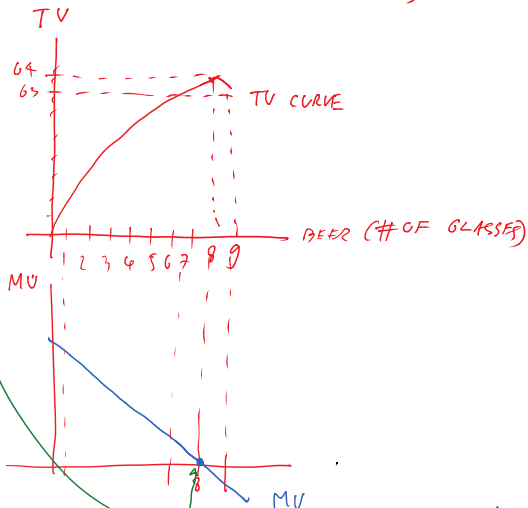
MR. A'S BEER CONSUMPTION

# GLASSES	TU (UTILS)	MU (UTILS)
0	0	15
1	15	13
2	28	11
3	39	9
4	48	7
5	55	5
6	60	3
7	63	3
8	64	1
9	63	-1

FACT#1 AS HE CONSUMES MORE OF  
 BEER, HIS TOTAL UTILITY  
 FIRST RISES, REACHES ITS  
 PEAK, AND THEN FALL

FACT#2 AS HE CONSUMES MORE OF  
 BEER, MARGINAL  
 UTILITY IS DIMINISHING.

(LAW OF DIMINISHING MU)



$MU = \frac{\Delta TU}{\Delta X}$

WHAT IS MU AT X=8?

A CONSUMER'S DECISION MAKING PROCESS

CONSUMER'S UTILITY MAXIMIZATION PROBLEM  
 (UMP)

EXPENDITURES ON GOOD X & Y



STILL,  $\frac{MU_Y}{P_Y} = 7 > \frac{MU_X}{P_X} = 5$ , so HE SHOULD BUY 2<sup>nd</sup> OF Y

TOTAL QUANTITY: Y Y

TU: 8 + 7 = 15 UTILS

MONEY PAID: 2 BAHIT SURAR

MONEY LEFT: 9 - 2 = 7 BAHIT

COMPARE 1<sup>st</sup> OF X VS 3<sup>rd</sup> OF Y

3<sup>rd</sup> ROUND

STILL,  $\frac{MU_Y}{P_Y} = 6 > \frac{MU_X}{P_X} = 5$ , HE SHOULD BUY 3<sup>rd</sup> OF Y

TOTAL QUANTITY: Y Y Y

TU: 8 + 7 + 6 = 21 UTILS

MONEY PAID: 1 + 1 + 1 = 3 BAHIT

MONEY LEFT: 9 - 3 = 6 BAHIT

COMPARE 1<sup>st</sup> OF X VS 4<sup>th</sup> OF Y

4<sup>th</sup> ROUND

SINCE  $\frac{MU_X}{P_X} = 5 = \frac{MU_Y}{P_Y}$ , HE SHOULD BUY BOTH

TOTAL QUANTITY: Y Y Y Y + X

TU: 8 + 7 + 6 + 5 + 10 = 36 UTILS

MONEY PAID: 1 + 1 + 1 + 1 + 2 = 6 BAHIT

MONEY LEFT: 9 - 6 = 3 BAHIT

COMPARE 2<sup>nd</sup> OF X VS 5<sup>th</sup> OF Y.

5<sup>th</sup> ROUND

SINCE  $\frac{MU_X}{P_X} = 4 = \frac{MU_Y}{P_Y}$ , HE SHOULD BUY BOTH

TOTAL QUANTITY: Y Y Y Y Y + X + X

TU: 8 + 7 + 6 + 5 + 4 + 10 + 8 = 48 UTILS

MONEY PAID: 9 BAHIT

MONEY LEFT: 0 BAHIT

① RECALL THAT

$$(X^*, Y^*) = (2, 5)$$

$$\rightarrow TU = TU_X + TU_Y$$

$$= 18 + 30$$

$$= 48 \text{ UTILS}$$

BEST AFFORDABLE  
BASKET.

② AT (2, 5),  $\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y}$   
(4) (4)

③ LET COMPARE (3, 3) VS (2, 5)

$$\begin{aligned} TU &= TU_X + TU_Y \\ &= 24 + 21 \\ &= 45 \text{ UTILS} \end{aligned}$$

$$\begin{aligned} TU &= TU_X + TU_Y \\ &= 18 + 30 \\ &= 48 \text{ UTILS} \end{aligned}$$

$$= 24 + 21$$

$$= 45 \text{ UTILITY}$$

$$= 18 + 30$$

$$= 48 \text{ UTILITY}$$

$$\frac{MU_x}{P_x} < \frac{MU_y}{P_y}$$

(3)                      (6)

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

MONEY SPENT UP

MONEY SPENT UP

SUGGESTS THAT HE SHOULD  
BUY MORE OF Y &  
LESS OF X IF  
HE WANTS TO MAX TU!

# RATIONAL SPENDING RULE : TO MAXIMIZE UTILITY, GIVEN BUDGET  
(OR GOLDEN RULE OF CONSUMPTION, A RATIONAL BUYER MUST  
UTILITY MAXIMIZATION) SPEND SUCH THAT ONCE MONEY IS  
SPENT UP, MARGINAL UTILITY PER PAINT  
FROM THE TWO GOODS  
MUST BE EQUAL, i.e.,

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

IF  $\frac{MU_x}{P_x} > \frac{MU_y}{P_y}$ , HE SHOULD BUY \_\_\_\_\_

IF  $\frac{MU_x}{P_x} < \frac{MU_y}{P_y}$ , \_\_\_\_\_

# DO WE ACTUALLY USE THIS IN OUR LIFE?

EX: QUESTION 1 : 20 POINTS

Vs. QUESTION 2 : 10 POINTS

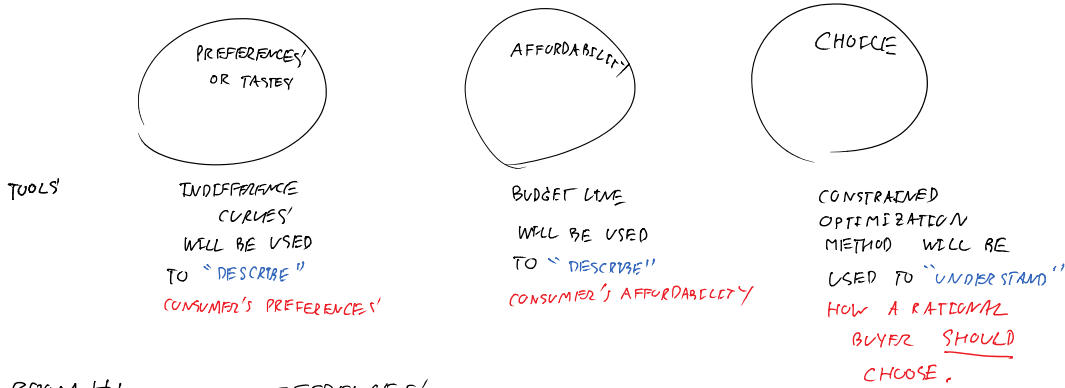
ESTIMATED  
TIME : 10 MINUTE  
TO COMPLETE

: 4 MINUTE

$$\frac{MU}{P} = \frac{20}{10} = 2$$

$$\frac{MU}{P} = \frac{10}{4} = 2.5$$

ORDINAL APPROACH (OR INDIFFERENCE CURVE - BUDGET LINE ANALYSIS)



ROOM #1 PREFERENCES

WE MAKE 4 ASSUMPTIONS FIRST B/F WE START TO OBSERVE A CONSUMER'S PREFERENCES ...

① HE CAN RANK HIS PREFERENCES

i.e., IN CHOOSING BET. A VS. B, HE MUST BE ABLE TO GIVE US 1 OF THE 3 POSSIBLE ANSWERS:

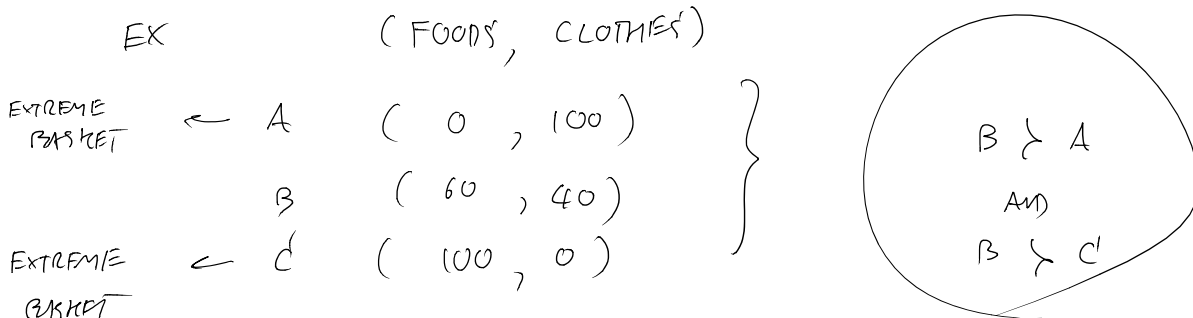
- ① HE PREFERS A OVER B  $(A \succ B)$   $\iff U(A) > U(B)$    
 IS PREFERRED TO
- OR ② HE PREFERS B OVER A  $(B \succ A)$   $\iff U(B) > U(A)$    
 IS PREFERRED TO
- OR ③ HE IS INDIFFERENT BET. A AND B  $(A \sim B)$   $\iff U(A) = U(B)$    
 IS INDIFFERENT TO

② HE PREFERS "MORE OF GOODS" TO "LESS OF GOODS". (MORE-IS-BETTER ASSUMPTION)

i.e., MORE OF GOODS  $\rightarrow$  MORE SATISFACTION.

③ HE LOVES VARIETY OF GOODS.

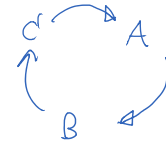
IN OTHER WORDS, "AVERAGE IS PREFERRED TO EXTREME"



④ HIS PREFERENCES ARE "TRANSITIVE".

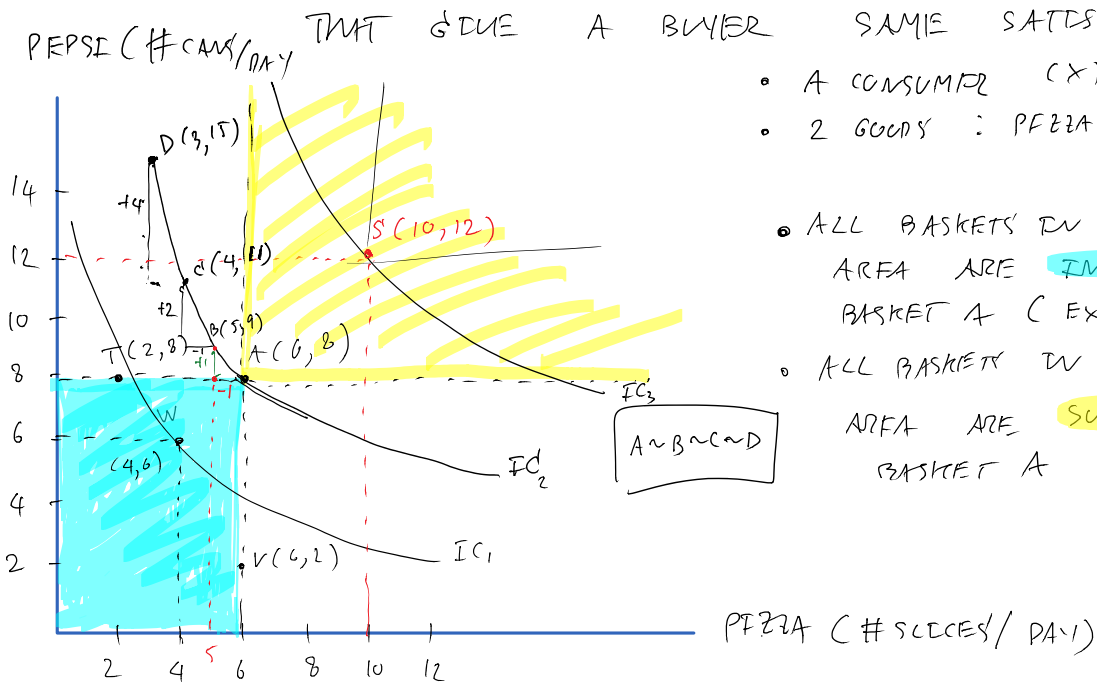
IF  $A \succ B$  AND  $B \succ C$ , THEN, TO BE TRANSITIVE,  $A \succ C$ .

NOTE: WE NEED THIS ASSUMPTION TO AVOID TALKING W/  
A MAN W/ CIRCULAR PREFERENCES:



SUPPOSE THIS GUY FULFILLS OUR 4 ASSUMPTIONS ABOVE,  
WE CAN STUDY HIS "CONSUMPTION BEHAVIOR" NOW.

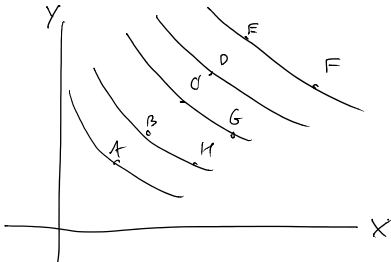
INDIFFERENCE CURVE: A CURVE THAT CONTAINS "ALL BASKETS OF GOODS" THAT GIVE A BUYER SAME SATISFACTION LEVEL.



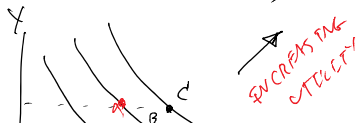
- A CONSUMER (X) (Y)
- 2 GOODS: PEZZA & PEPSI
- ALL BASKETS IN THE BLUE AREA ARE **INFERIOR** TO BASKET A (EX:  $A \succ W$ )
- ALL BASKETS IN THE YELLOW AREA ARE **SUPERIOR** TO BASKET A (EX:  $S \succ A$ )

PROPERTIES OF ICs

① ALL BASKETS MUST HAVE AN IC PASSING THROUGH.

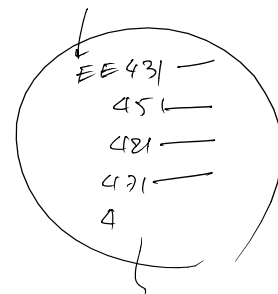


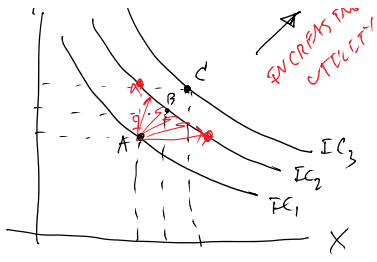
② THE HIGHER THE ICs, THE HIGHER SATISFACTION.



$$\Rightarrow \bar{U}_{IC_3} > \bar{U}_{IC_2} > \bar{U}_{IC_1}$$

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$$\Rightarrow \left| \bar{U}_{IC_3} > \bar{U}_{IC_2} > \bar{U}_{IC_1} \right|$$