WEEK 2 (20.08.13)

LAST WEEK
- MICRO ECONOMICS
- SCARCITY - CHOICE - OPPORTUNITY COST
- PPC
- TOOLS USED IN MICROECONOMICS (3)
  - EQUILIBRIUM
  - CONSTRAINED OPTIMIZATION
  - COMPARATIVE STATIC ANALYSIS

} TODAY

CONSTRAINED OPTIMIZATION

DO YOUR BEST GIVEN YOUR RESOURCES.

CONSIDER MINT AS OUR REPRESENTATIVE CONSUMER.

MINT TRIES TO CHOOSE THE TWO GOODS FOR HER CONSUMPTION: FOOD (F) AND CLOTHES (C). SHE HAS A LIMITED BUDGET.

OBJECTIVE:

MAXIMIZE UTILITY (F, C)	→ OBJECTIVE FUNCTION
SUBJECT TO BUDGET CONSTRAINT	→ HER CONSTRAINT

CONSUMER'S OPTIMIZATION PROBLEM
OR CONSUMER'S UTILITY MAXIMIZATION PROBLEM

MATHEMATICALLY,

P_F = PRICE OF FOODS (BAHT / DISH)
P_C = PRICE OF CLOTHES (BAHT / T-SHIRT)
M = MONEY OR INCOME (BAHT / WEEK)

MINT HAS NO INFLUENCE OVER P_F, P_C, M

Q_F = QUANTITY OF FOODS (UNIT / WEEK)
Q_C = QUANTITY OF CLOTHES (u——")

CHOICE VARIABLES: STH THAT THE DECISION MAKER CAN MAKE A DECISION

MAXIMIZE $U(F, C)$
SUBJECT TO $P_F \cdot Q_F + P_C \cdot Q_C \leq M$

$F^* = ?$, MAX

MAXIMIZE $U(F, C)$

SUBJECT TO $P_F Q_F + P_C \cdot Q_C \leq M$.

$P_F Q_F + P_C \cdot Q_C$: TOTAL EXPENDITURES ON THE TWO GOODS

M: INCOME

$F^* = ?$, $C^* = ?$ → MAX U

EXAMPLE: COST'S MINIMIZATION PROBLEM (FACED BY PRODUCTION MANAGER)

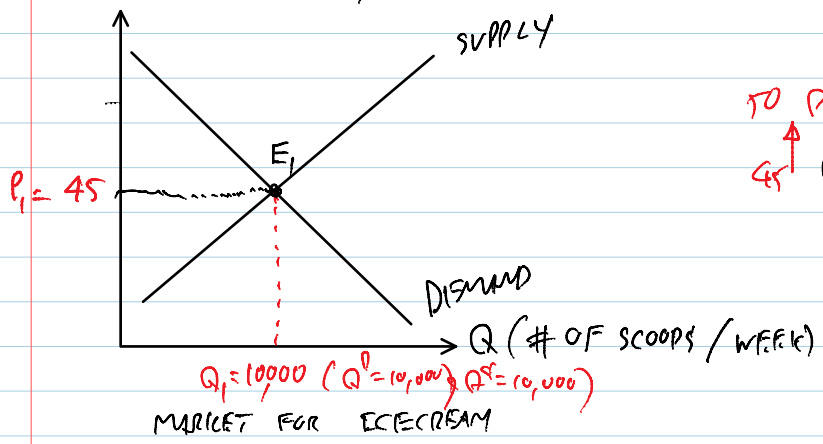
MINIMIZE COST OF PRODUCTION (COST OF INPUTS)

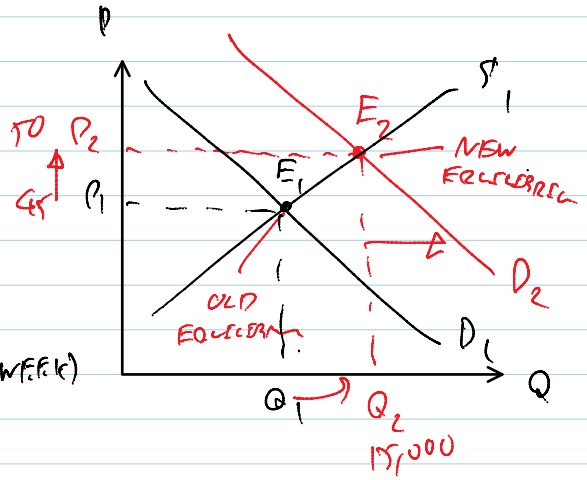
SUBJECT TO REQUIRED OUTPUT BY CEO (1000 CARS/MONTH)

II. COMPARATIVE STATIC ANALYSIS (TWO-SNAPSHOT ANALYSIS OR BEFORE-AND-AFTER ANALYSIS)

CONSIDER SUPPLY AND DEMAND MODEL

PRICE (BATH/SCOOP)





AT EQUILIBRIUM E_1 : (P_1, Q_1)

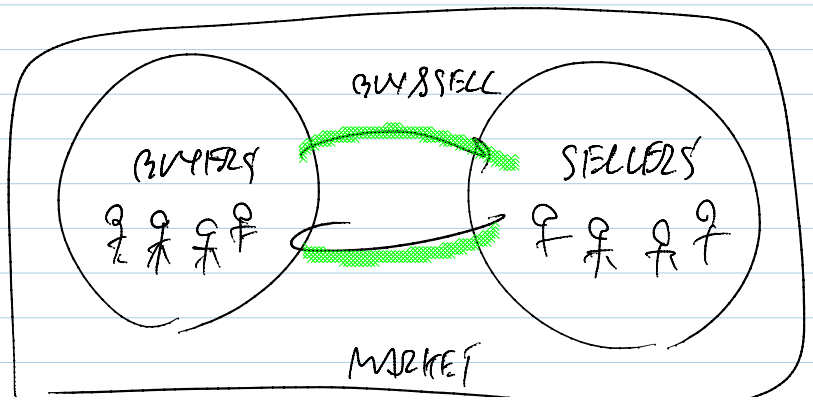
AT THE NEW EQUILIBRIUM : (P_2, Q_2)

MARKET OUTCOME : $P\uparrow$, $Q\uparrow$

↓

MARKET BECOMES MORE ACTIVE.

SUPPLY AND DEMAND



"DEMAND AND SUPPLY"

VS.

"SUPPLY AND DEMAND"

MARKET

VOLUNTARY EXCHANGE

MUTUALLY BENEFICIAL TRANSACTION

OCCURS

- DEMAND (BUYERS' BEHAVIOR IN MARKET PLACE)
- SUPPLY (SELLERS' BEHAVIOR IN MARKET PLACE)

MARKET : A GROUP OF BUYERS AND SELLERS, BUYING AND SELLING GOOD AND SERVICE AT A GIVEN TIME PERIOD.

WHEN WE FIRST STUDY SUPPLY AND DEMAND, LET'S ASSUME THAT MARKET WE ARE STUDYING IS "PERFECTLY COMPETITIVE".

- A LARGE NUMBER OF BUYERS AND SELLERS
- ALL SELLERS SELL THE SAME GOODS

⇓ IMPLY THAT

BOTH BUYERS AND SELLERS ARE "PRICE TAKERS" (NOT PRICE MAKERS, NOT PRICE SETTERS)

FOR BUYERS: BUYERS TAKE PRICE AS GIVEN AND MAKE PURCHASE DECISION.

FOR SELLERS: SELLERS TAKE PRICE AS GIVEN AND MAKE OUTPUT DECISION

DEMAND (BEHAVIOR OF BUYERS)

QUANTITY DEMANDED : "AMOUNT" OF A GOOD OR SERVICE

QUANTITY DEMANDED : "AMOUNT" OF A GOOD OR SERVICE BUYERS' ARE WILLING TO BUY AT A GIVEN PRICE.

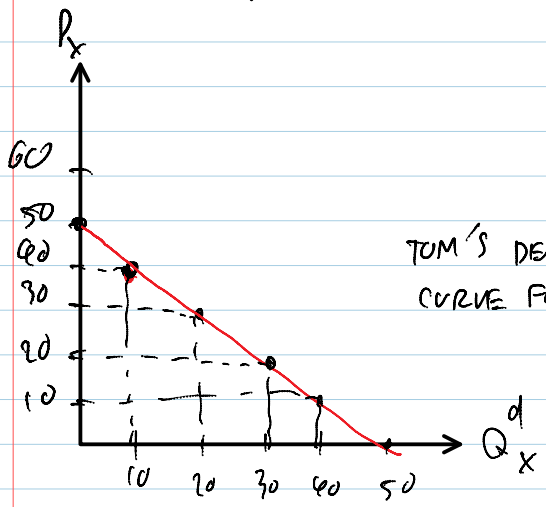
DEMAND SCHEDULE (TABLE) : SHOWS THE RELATIONSHIP BETWEEN QUANTITY DEMANDED AND PRICE.

DEMAND TABLE OF MR. TOM

P_X	Q^d_X
0	50
10	40
20	30
30	20
40	10
50	0

P_X = PRICE OF GOOD X (DOLLAR/UNIT)

Q^d_X = QUANTITY DEMANDED FOR GOOD X (# UNITS / TIME PERIOD)



TOM'S DEMAND CURVE FOR GOOD X

DEMAND CURVE: A GRAPHICAL REPRESENTATION OF THE NEGATIVE RELATIONSHIP BETWEEN QUANTITY DEMANDED AND PRICE.

DEMAND CURVE IS DOWNWARD SLOPING (WHEN LOOKING FROM LEFT TO RIGHT)

DEMAND FUNCTION : $Q^d_X = f(\bar{P}_X)$

Q^d_X ↓ CONSEQUENCE OR DEPENDENT VARIABLE

$\bar{P}_X$ ↓ CAUSE OR INDEPENDENT VARIABLE

LAW OF DEMAND : A CLAIM THAT, WHEN PRICE OF A GOOD RISES, QUANTITY DEMANDED FOR THE GOOD FALLS AND WHEN PRICE OF THE GOOD FALLS, QUANTITY DEMANDED RISES, CETERIS PARIBUS.

(= ALL OTHER FACTORS REMAIN CONSTANT

EX: INCOME, P_Y, WEATHER, ...

AS P_X ↑ , Q^d_X ↓

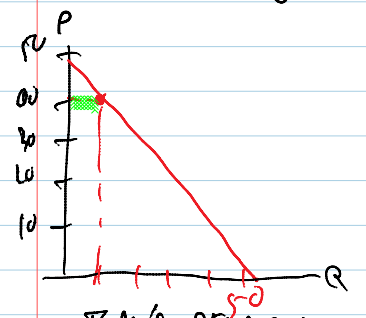
AND AS P_X ↓ , Q^d_X ↑ , CETERIS PARIBUS

INDIVIDUAL DEMAND CURVE Vs. MARKET DEMAND CURVE

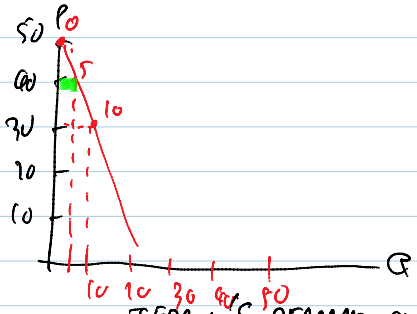
SUPPOSE THAT THERE ARE 2 BUYERS IN THE MARKET:

TOM & JERRY. GOOD X OF ICECREAM.

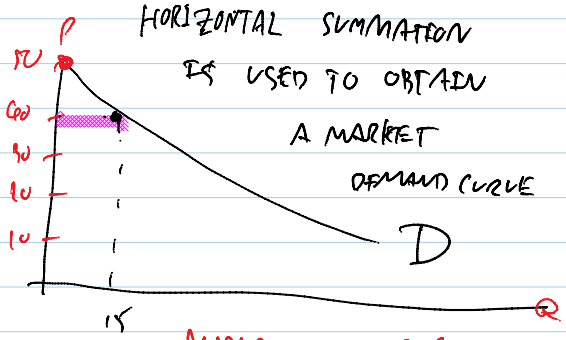
P_X	$Q^d_{X,TOM}$		$Q^d_{X,JERRY}$		Q^D_X (TOTAL) = MARKET QUANTITY DEMANDED AT SEVERAL PRICES
4 → 0	50	+	25	=	75
3 → 10	40	+	20	=	60
2 → 20	30	+	15	=	45
1 → 30	20	+	10	=	30
½ → 40	10	+	5	=	15
¼ → 50	0	+	0	=	0



TOM'S DEMAND CURVE



JERRY'S DEMAND CURVE



HORIZONTAL SUMMATION IS USED TO OBTAIN A MARKET DEMAND CURVE

MARKET DEMAND CURVE

FACTORS THAT DETERMINE DEMAND FOR GOOD X,

$$Q^D_X = f(\bar{P}_X, I, P_Y, \text{WEATHER}, \text{PRICE EXPECTATION}, \text{INCOME EXPECTATION}, \#\text{ OF BUYERS})$$

WHERE Q^D_X = QUANTITY DEMANDED FOR GOOD X (# UNITS / TIME PERIOD)

P_X = PRICE OF GOOD X (RM / UNIT)

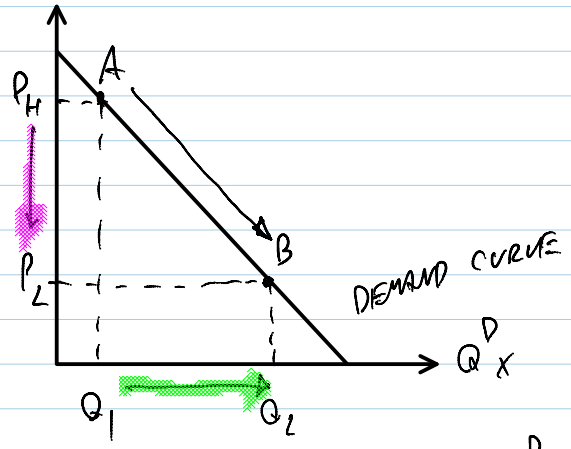
I = INCOME (RM / TIME PERIOD)

P_Y = PRICE OF RELATED GOODS (RM / UNIT)

EFFECT OF P_X ON Q^D_X:

AS P_X ↑ , Q^D_X ↓

AND P_X ↓ , Q^D_X ↑

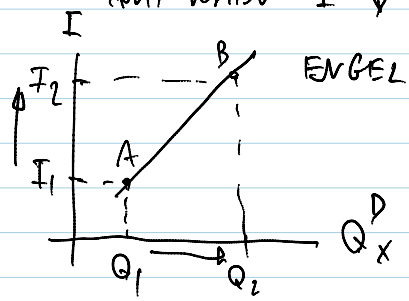


MOVEMENT ALONG THE DEMAND CURVE FROM A TO B B/C PRICE DROPS!

EFFECT OF INCOME(I) ON Q^D_X:

NORMAL GOOD: THE GOOD, FOR WHICH, WHEN PEOPLE GET RICHER, THEY TEND TO BUY MORE AND WHEN THEY GET POORER, THEY BUY LESS:

WHEN I ↑, Q^D_X ↑
AND WHEN I ↓, Q^D_X ↓

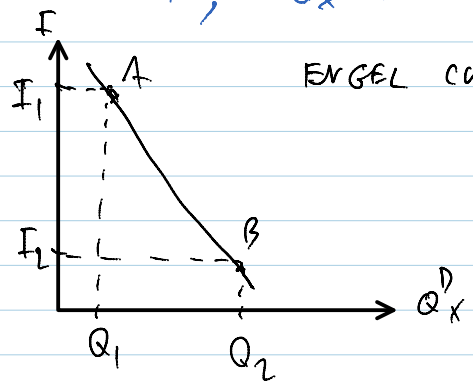


ENGEL CURVE FOR NORMAL GOOD

"UPWARD SLOPING"

INFERIOR GOOD: THE GOOD, FOR WHICH, WHEN PEOPLE ARE RICHER, THEY BUY LESS OF IT, AND WHEN THEY ARE POORER, THEY BUY MORE OF IT.

AS I ↑, Q^D_X ↓ (INFERIOR GOODS)
AND AS I ↓, Q^D_X ↑



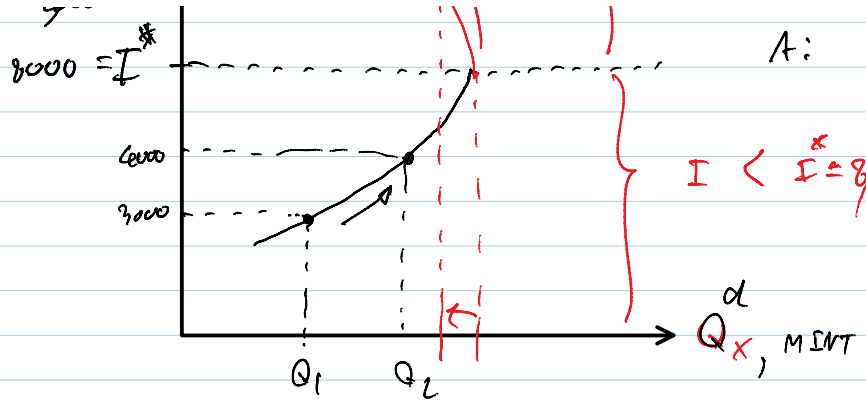
ENGEL CURVE FOR INFERIOR GOOD

"DOWNWARD SLOPING"

$I > I^*$ → INFERIOR GOOD

Q: IS INSTANT NOODLE AN INFERIOR GOOD?

A: IT DEPENDS.



A: IT DEPENDS.

$I < I^{*} = 8000$ → MAMA: IF NORMAL