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Tuesday, August 30, 2016 9:20 AM

SUPPLY : BEHAVIOR OF PRODUCERS' (SELLERS')

QUANTITY SUPPLIED : AMOUNT OF A GOOD OR SERVICE SELLER(S) IS (ARE) WILLING TO PRODUCE AND SELL FOR SOME TIME PERIOD AT A GIVEN PRICE.

- SUPPLY SCHEDULE (TABLE) SHOWS THE RELATIONSHIP BETWEEN QUANTITY SUPPLIED AND PRICE.

A SELLER: HAGEN

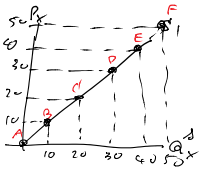
	P_x	Q^S_x
A	0	0
B	10	10
C	20	20
D	30	30
E	40	40
F	50	50

P_x = PRICE OF GOOD X (DOLLARS/UNIT)

Q^S_x = QUANTITY SUPPLIED OF GOOD X (# UNITS/WK)

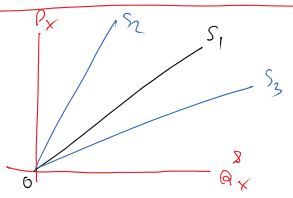
EX: WHEN $P_x = 20$, $Q^S_x = 20$

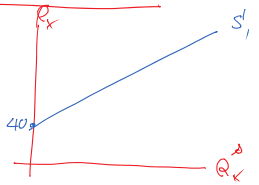
- SUPPLY CURVE SHOWS A POSITIVE OR DIRECT RELATIONSHIP BETWEEN QUANTITY SUPPLIED OF A GOOD (Q^S_x) AND PRICE OF THAT GOOD (P_x).



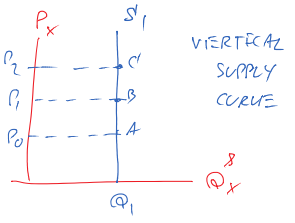
- LAW OF SUPPLY : A CLAIM THAT WHEN PRICE OF A GOOD INCREASES & OTHER FACTORS REMAIN UNCHANGED, QUANTITY SUPPLIED OF THE GOOD WOULD INCREASE, AND WHEN PRICE OF THE GOOD DECREASES & OTHER FACTORS REMAIN UNCHANGED, QUANTITY SUPPLIED OF THE GOOD WOULD DECREASE.

MORE THOUGHTS ABOUT THE SUPPLY CURVE

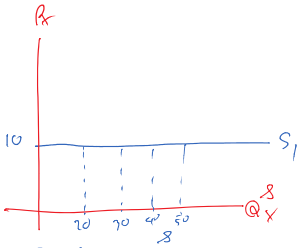




PRICE MUST BE SUFFICIENTLY HIGH TO PURSUADE SELLER(S) TO PRODUCE AND SELL.



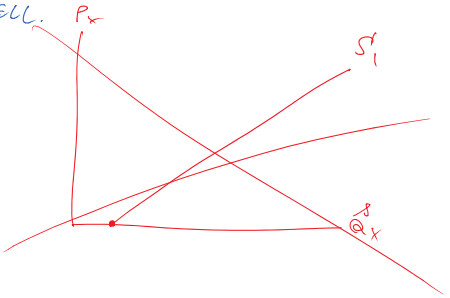
VERTICAL SUPPLY CURVE

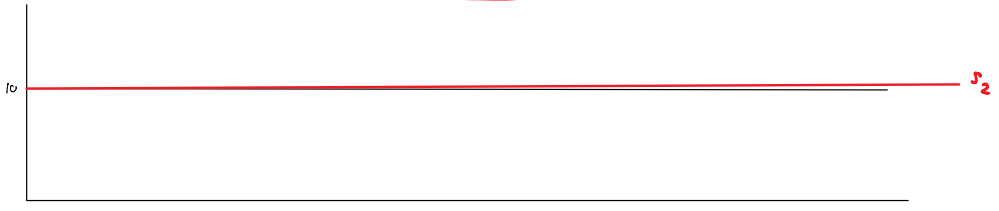


IF $P < 10$, $Q^S_x = 0$

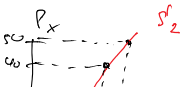
IF $P = 0$, Q^S_x CAN BE AT ANY Q.

* IF $P > 10$, Q^S_x GETS EXTREMELY LARGE

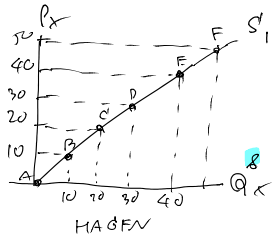




FROM AN INDIVIDUAL'S SUPPLY CURVE TO THE MARKET SUPPLY CURVE



9 D-I-Y.



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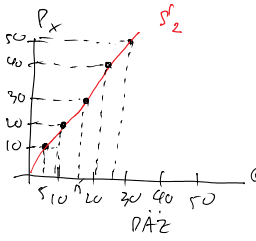
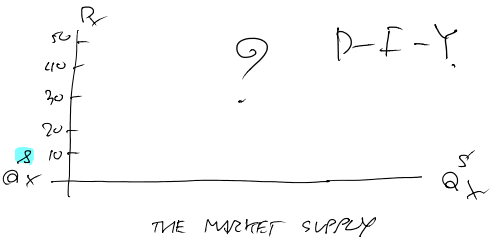


DAZ

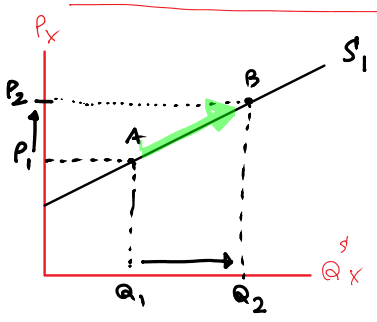
SUPPLY



THE MARKET SUPPLY CURVE OF ICECREAM

? D-F-Y.

MOVEMENTS ALONG THE CURVE Vs. SHIFTS OF THE SUPPLY CURVE



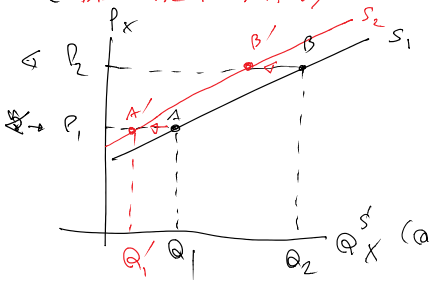
MOVEMENTS ALONG THE SUPPLY CURVE OCCUR WHEN ... PRICE OF GOOD X CHANGE.

(CHANGES IN SUPPLY)

SHIFTS OF THE SUPPLY CURVE

WHEN A SUPPLY CURVE SHIFTS LEFTWARD

(= DECREASE IN SUPPLY)

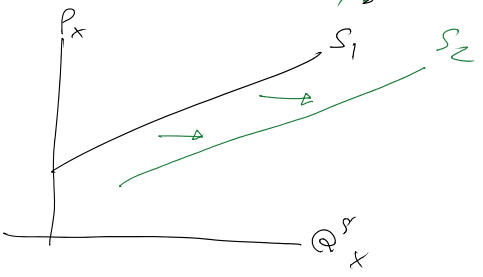


(QUANTITY SUPPLIED OF GOOD X)

WHEN INPUT PRICES OF ICECREAM BECOME MORE EXPENSIVE, THE SUPPLY CURVE SHIFT TO THE LEFT FROM S_1 TO S_2 ∴ SELLERS ARE LESS WILLING TO SELL AT EVERY PRICE!

WHEN A SUPPLY CURVE SHIFTS RIGHTWARD

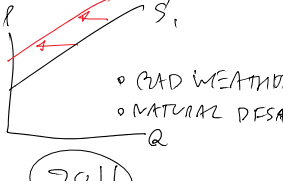
(= INCREASE IN SUPPLY)



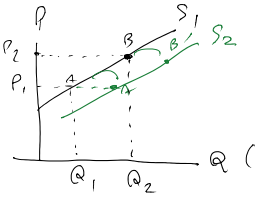
WHEN SUPPLY CURVE SHIFTS RIGHT IT MEANS THAT QUANTITY SUPPLIED INCREASES AT ANY OBSERVABLE PRICE.

FACTORS THAT CAUSE THE SUPPLY CURVE TO SHIFT.

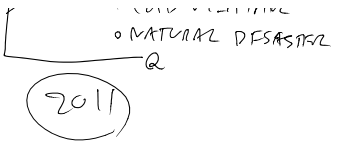
- Δ IN INPUT PRICES
- Δ IN TECHNOLOGY OF PRODUCTION
- Δ IN # OF SELLERS
- Δ IN SELLERS' PRICE EXPECTATION →
- Δ IN WEATHER →



- BAD WEATHER
- NATURAL DISASTER

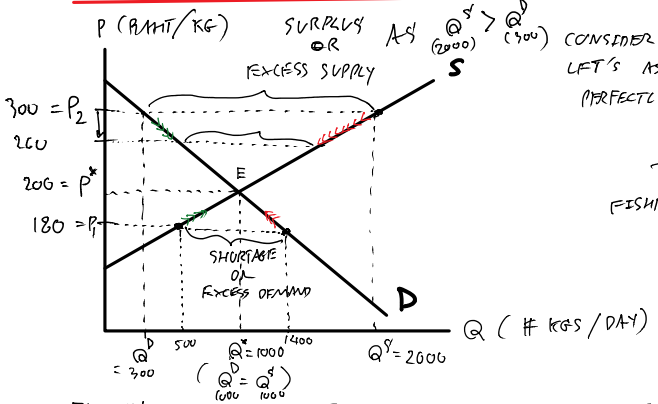


SELLERS EXPECT THAT PRICE OF THE GOOD WILL DROP



SELLERS EXPECT THAT PRICE OF THE GOOD WILL DROP NEXT WEEK

DEMAND, SUPPLY, AND MARKET EQUILIBRIUM



AS Q^S (2000) > Q^D (300)

CONSIDER MARKET FOR SHRIMP. LET'S ASSUME THAT THIS MKT IS PERFECTLY COMPETITIVE.

FISHERMEN Vs. HOUSEWIFE

FACT #1 AT EQUILIBRIUM,

EQUILIBRIUM PRICE (P^*) = 200 BAHT/KG

EQUILIBRIUM QUANTITY (Q^*) = 1000 KGS/DAY

EQUILIBRIUM PRICE : PRICE SUCH THAT MAKES QUANTITY DEMANDED = QUANTITY SUPPLIED

(Q^D) 1000 = (Q^S) 1000

EQUILIBRIUM QUANTITY : QUANTITY THAT AMOUNTS THAT BUYERS WANT TO BUY (Q^D) = AMOUNTS THAT SELLERS WANT TO SELL (Q^S)

= HAPPY BUYERS & HAPPY SELLERS

FACT #2 IF PRICE > P^*, EXCESS SUPPLY OR SURPLUS OCCURS AS Q^S EXCEEDS Q^D!

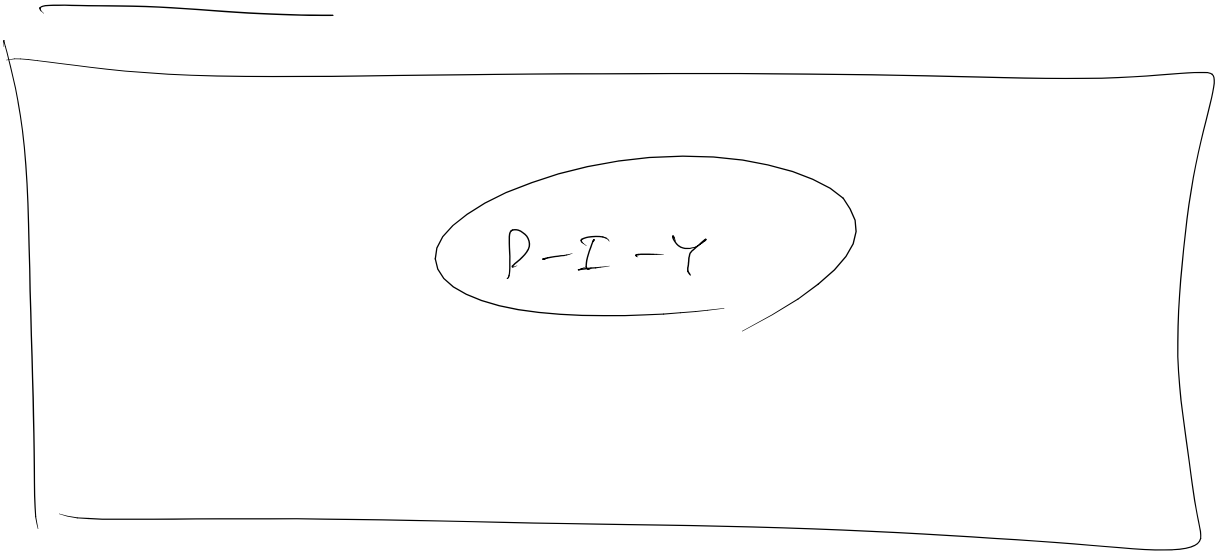
AT P = 300, UNSOLD QUANTITY OF SHRIMP = 2000 − 300 = 1700

MANY SELLERS ARE UNHAPPY... ☹

SOME SELLERS WOULD CUT DOWN THE PRICE TO GET RID OF UNSOLD QUANTITY OF SHRIMP. ONCE PRICE BEGINS TO FALL, Q^D INCREASES AND Q^S DECREASES, AND SO EXCESS SURPLUS BECOMES SMALLER AND SMALLER. PRICE STOPS TO DROP WHEN EQUILIBRIUM IS RESTORED, WHICH OCCUR AT P = P^* = 200. THEN, MARKET IS CLEAR, AGAIN.

THIS IS AN IMPORTANT ROLE OF PRICE IN MARKET ECONOMY.

FACT #3 IF PRICE < P^*, SHORTAGE OR EXCESS DEMAND { RESULTS / OCCURS / ARISES } AS Q^D EXCEEDS Q^S.

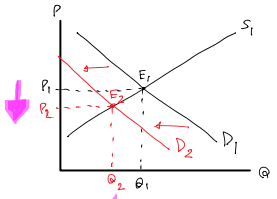

P-I-Y

CHANGES IN MARKET EQUILIBRIUM (3 MAIN CASES)

1. CHANGES IN DEMAND (= SHIFTS OF DEMAND CURVE)
   - 1A: DECREASE IN DEMAND (DEMAND SHIFTS LEFT)
   - 1B: INCREASE IN DEMAND (DEMAND CURVE SHIFTS RIGHT)
2. CHANGES IN SUPPLY
   - 2A: DECREASE IN SUPPLY
   - 2B: INCREASE IN SUPPLY
3. CHANGES IN BOTH DEMAND AND SUPPLY (= DEMAND CURVE & SUPPLY CURVE SHIFT SIMULTANEOUSLY)
   - 3A: BOTH D CURVE AND S CURVE SHIFT LEFT
   - 3B: BOTH " " " RIGHT
   - 3C: D CURVE SHIFTS L & S CURVE SHIFTS R
   - 3D: D CURVE SHIFTS R & S CURVE SHIFTS L

CASE 1 CHANGES IN DEMAND (CURVE)

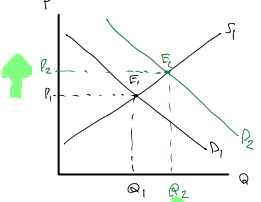
1A DECREASE IN DEMAND



MARKET OUTCOME: P ↓, Q ↓

= MARKET BECOMES LESS ACTIVE

1B INCREASE IN DEMAND

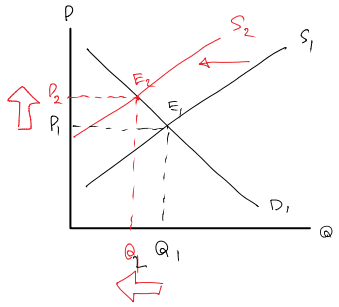


P ↑, Q ↑

= MARKET BECOMES MORE ACTIVE: MORE EXERCISE BEING BOUGHT AND SOLD.

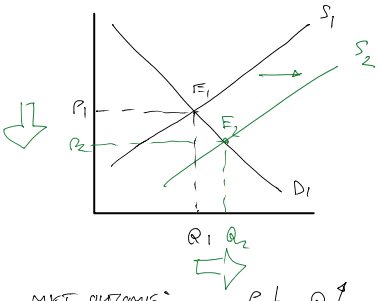
CASE 2 CHANGES IN SUPPLY

DECREASE IN SUPPLY



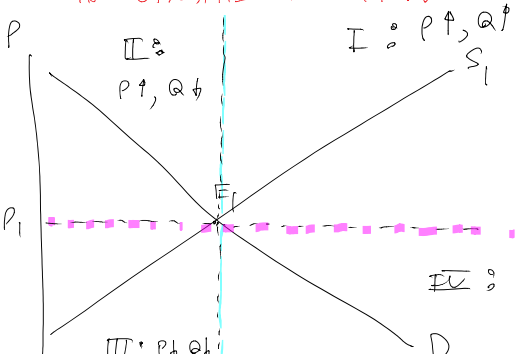
MKT OUTCOME: P ↑, Q ↓

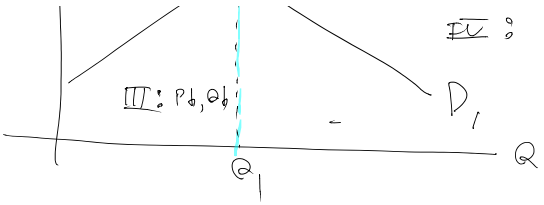
INCREASE IN SUPPLY



MKT OUTCOME: P ↓, Q ↑

NOTICE THAT
- Δ IN DEMAND WILL CAUSE P AND Q MOVING INTO A SAME DIRECTION.
- Δ IN SUPPLY WILL CAUSE P AND Q MOVING INTO AN OPPOSITE DIRECTION

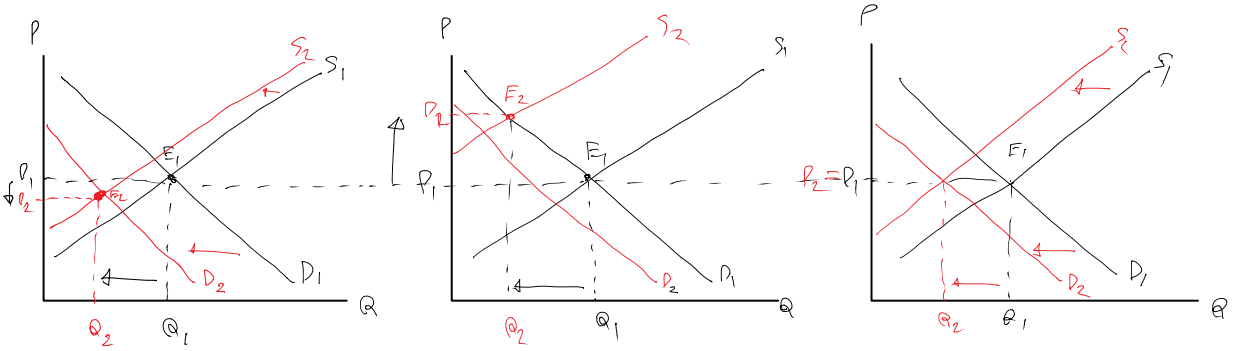




CASE 3A

DECREASE IN DEMAND & DECREASE IN SUPPLY

(= DEMAND CURVE SHIFTS LEFT & SUPPLY CURVE SHIFTS LEFT)

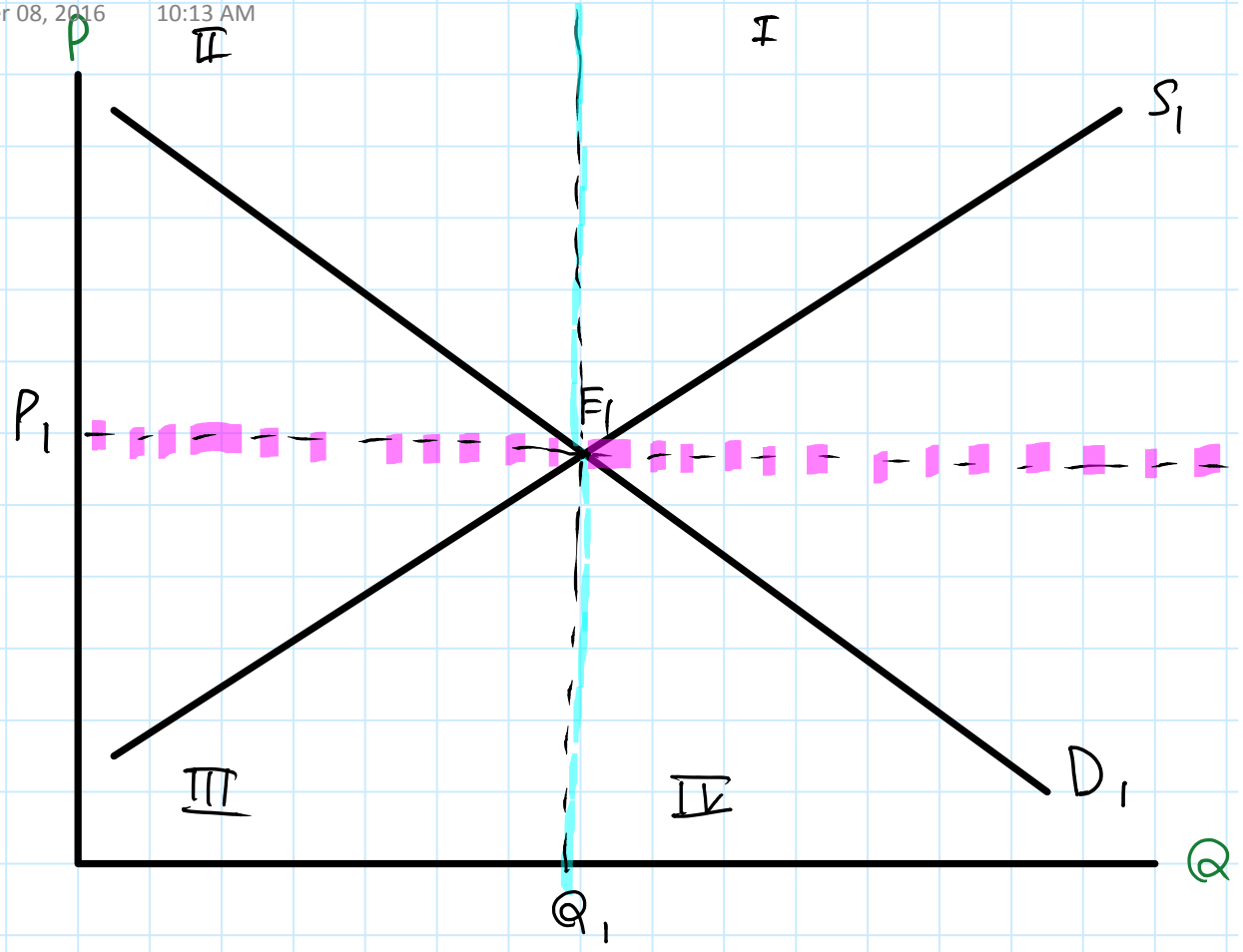


EFFECT ON P: P↓ | EFFECT ON P: P↑ | EFFECT ON P: $\bar{P}$ (UNCHANGED)

EFFECT ON Q: Q↓ | EFFECT ON Q: Q↓ | EFFECT ON Q: Q↓

EFFECT ON P: UNCLEAR AS PRICE MAY GO UP, GO DOWN, UNCHANGED, DEPENDING ON THE RELATIVE MAGNITUDE OF THE SHIFTS OF THE TWO CURVES

EFFECT ON Q: CLEAR, Q↓


P
II
I
S_1
P_1
E_1
III
IV
D_1
Q
Q_1

ELASTICITY: A MEASURE OF RESPONSIVENESS OF ONE VARIABLE TO A CHANGE OF ANOTHER VARIABLE.

$$E = \frac{\%\Delta Y}{\%\Delta X}$$

→ PERCENTAGE CHANGE IN Y

→ PERCENTAGE CHANGE IN X

$$= \frac{\frac{Y_2 - Y_1}{Y_1} \times 100}{\frac{X_2 - X_1}{X_1} \times 100} \equiv \frac{\frac{Y_{NEW} - Y_{OLD}}{Y_{OLD}} \times 100}{\frac{X_{NEW} - X_{OLD}}{X_{OLD}} \times 100}$$

EX: $X_1 = 5$, $X_2 = 4$; $Y_1 = 10$, $Y_2 = 15$

$$\%\Delta X = \frac{X_2 - X_1}{X_1} \times 100 = \frac{4-5}{5} \times 100 = -\frac{1}{5} \times 100 = -20$$

(X FALLS BY 20%)

$$\%\Delta Y = \frac{Y_2 - Y_1}{Y_1} \times 100 = \frac{15-10}{10} \times 100 = \frac{5}{10} \times 100 = +50$$

(Y RISES BY 50%)

$$E = \frac{\%\Delta Y}{\%\Delta X} = \frac{+50}{-20} = -2.5$$

MEANING? $E = -2.5 \Rightarrow$ IF X CHANGES BY 1%, THEN Y WILL CHANGE BY 2.5% IN THE OPPOSITE DIRECTION.

SINCE $\%\Delta Y > \%\Delta X$ (2.5 > 1.0) THEN IT MEANS THAT Y IS QUITE SENSITIVE TO A CHANGE IN X.

RECALL THAT

$\Delta X = X_2 - X_1$ = "ABSOLUTE CHANGE"

$\%\Delta X = \frac{X_2 - X_1}{X_1} \times 100$ = "PERCENTAGE CHANGE"

$\Delta Y = Y_2 - Y_1$

$\%\Delta Y = \frac{Y_2 - Y_1}{Y_1} \times 100$

PRICE ELASTICITY OF DEMAND MEASURES HOW CONSUMERS ARE SENSITIVE OR RESPONSIVE TO A CHANGE IN PRICE.

$$E^D = \frac{\%\Delta Q_X^D}{\%\Delta P_X}$$

$\Rightarrow$ PERCENTAGE CHANGE IN QUANTITY DEMANDED FOR GOOD X

$\Rightarrow$ PERCENTAGE CHANGE IN PRICE OF GOOD X.

LET'S SIMPLIFY THIS RECIPE:

$$E^D = \frac{\%\Delta Q}{} \quad \frac{Q_2 - Q_1}{} \times 100 \qquad Q_2 - Q_1 \qquad P_1$$

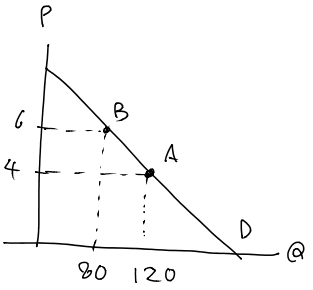
LET'S SIMPLIFY THIS EXPRESSION:

$$E^D = \frac{\%\Delta Q}{\%\Delta P} = \frac{\frac{Q_2 - Q_1}{Q_1} \times 100}{\frac{P_2 - P_1}{P_1} \times 100} = \frac{Q_2 - Q_1}{Q_1} \times \frac{P_1}{P_2 - P_1}$$

$$= \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1}$$

$$E^D = \frac{\Delta Q}{\Delta P} \times \frac{P_1}{Q_1}$$

EX:



LET'S CALCULATE E^D...

- MOVEMENT FROM A TO B:

$$\%\Delta P = \frac{6-4}{4} \times 100 = \frac{2}{4_2} \times 100 = +50$$

$$\%\Delta Q = \frac{80-120}{120} \times 100 = \frac{-40}{120_3} \times 100 = -33.33$$

$$E^D = \frac{\%\Delta Q}{\%\Delta P} = \frac{-33.33}{+50} = -0,66$$

- MOVEMENT FROM B TO A:

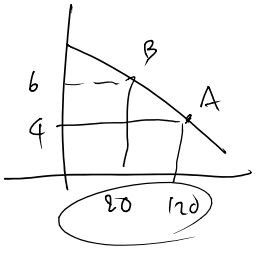
$$\%\Delta P = \frac{4-6}{6} \times 100 = \frac{-2}{6_3} \times 100 = -33.33$$

$$\%\Delta Q = \frac{120-80}{80} \times 100 = \frac{40}{80_2} \times 100 = +50\%$$

$$E^D = \frac{\%\Delta Q}{\%\Delta P} = \frac{+50}{-33.33} = -1.5$$

MIDPOINT APPROACH TO AVOID THE PROBLEM ABOVE:

$$E^D = \frac{\%\Delta Q}{\%\Delta P} = \frac{\frac{Q_2 - Q_1}{\left(\frac{Q_1 + Q_2}{2}\right)} \times 100}{\frac{P_2 - P_1}{\left(\frac{P_1 + P_2}{2}\right)} \times 100}$$



$$E^D = \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

$$E^D = \frac{120 - 80}{4 - 6} \times \frac{4 + 6}{120 + 80}$$

$$= \frac{40}{-2} \cdot \frac{10}{200} = -\frac{400}{400} = -1.0$$