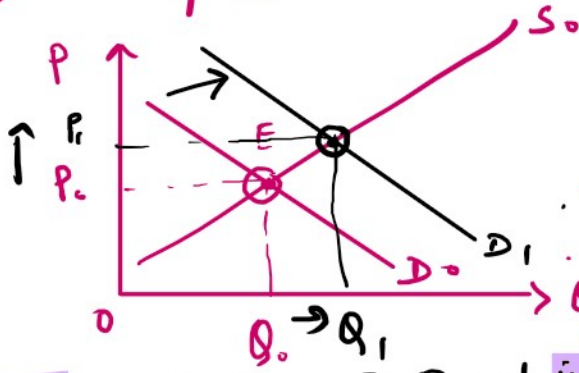


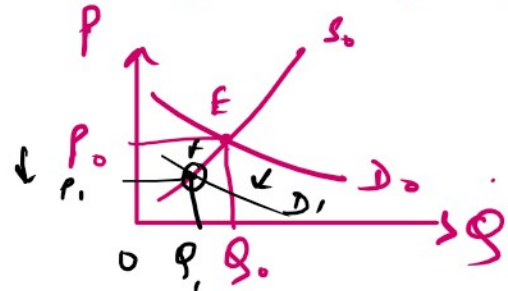
# Changes in Market Equilibrium

① Only (demand increases), supply remain same.



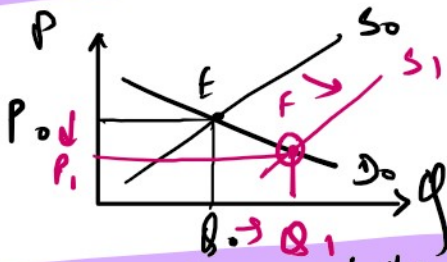
(Both equil price & Quant increases)  
(same) direction

② demand decreases, supply same



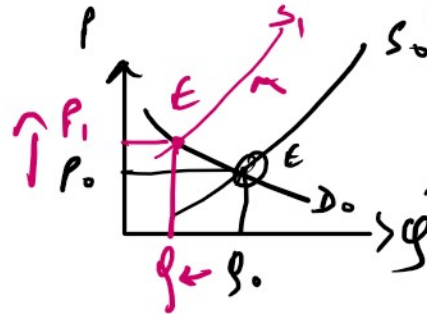
(Both equil price & quant decreases)

Case 3) supply (increase), while demand remain same



(equil price ↓ while equil quantity ↑)

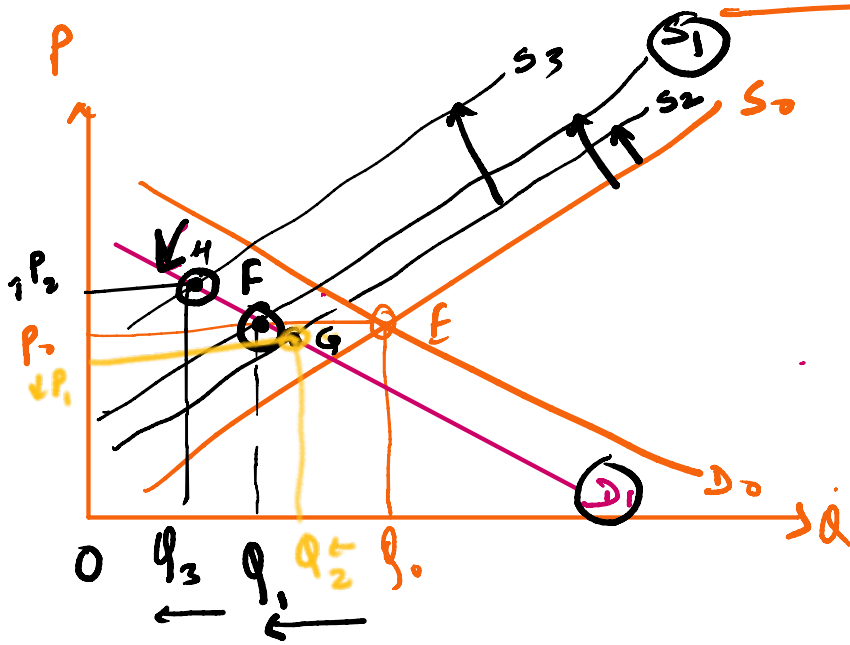
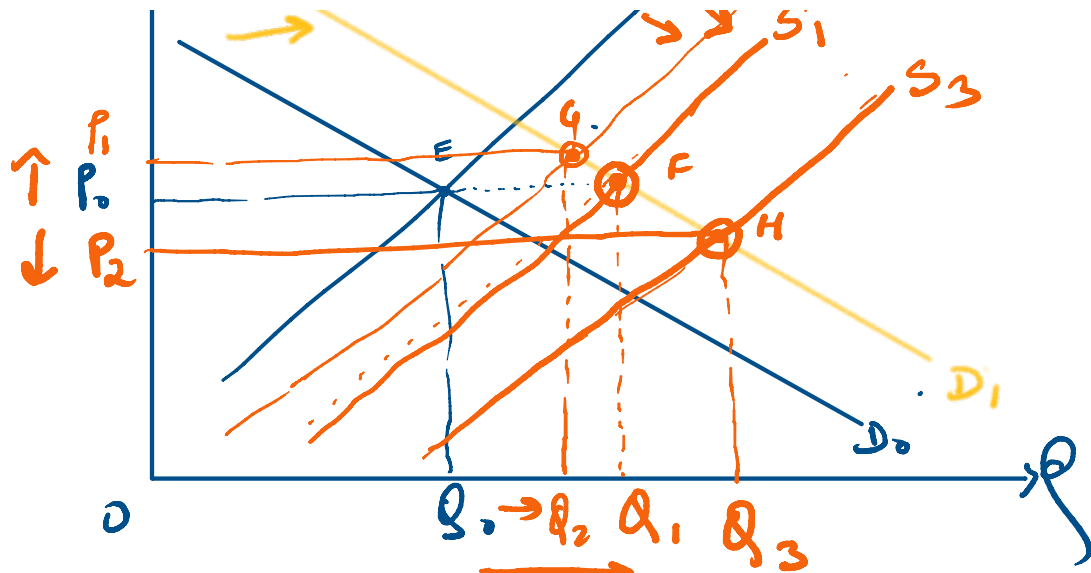
Case 4) Supply decreases, while demand remain same.



(equil P ↑ and equil Q ↓)

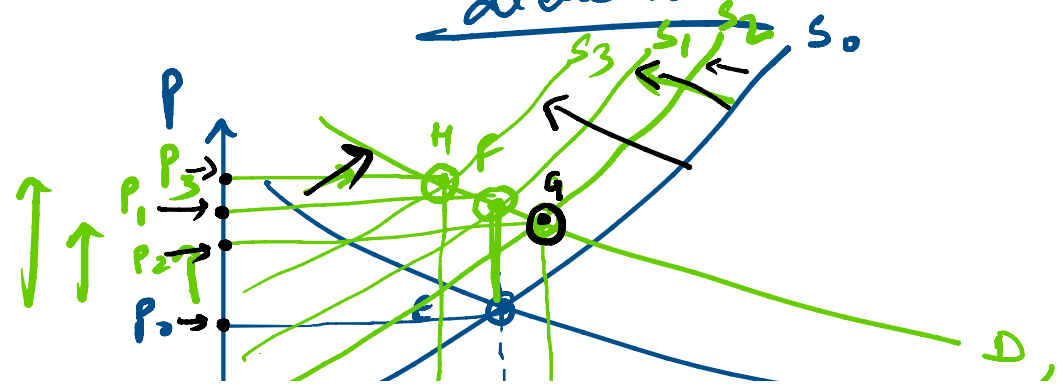
Case 5 > if both demand and supply increases

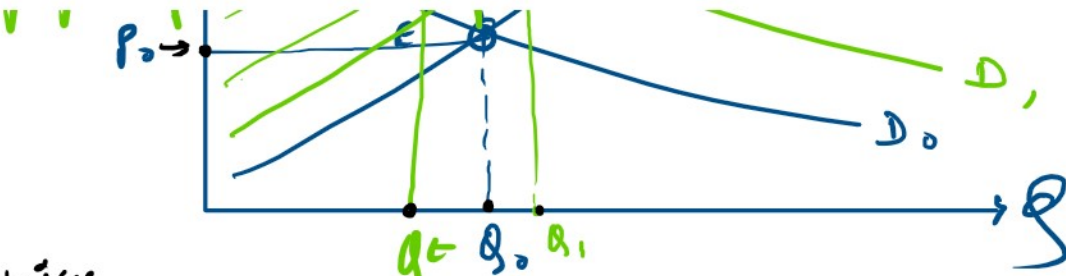




Conclusion:  
 If demand and supply changes in same direction then change in equilibrium quantity can be determined but change in equilibrium price is uncertain - it can rise, fall or remain unchanged.

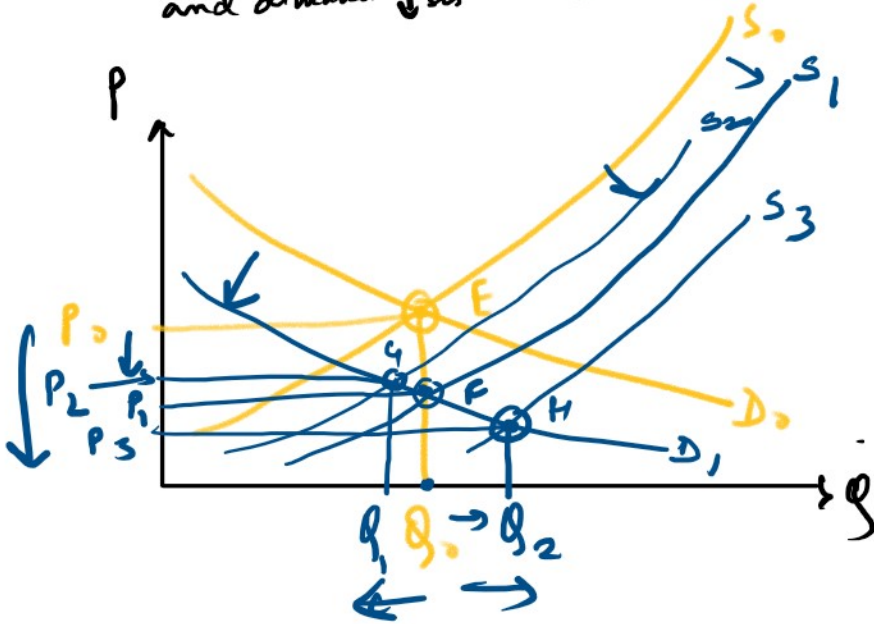
Case 6 : Demand increases and Supply decreases.





\* supply ↑ and demand ↓.

$Q_0 \leftarrow Q_1$



Conclusion:

If demand and supply changes in opposite direction, then equilibrium price change is certain but change in equilibrium quantity is uncertain - may ↑, ↓ or remain unchanged.

## Exceptions to Law of Demand:

### ① Giffen Goods/effects:

For certain low-income communities, when price of a commodity (say potato) ↑, people tend to reduce consumption of other commodities which are more expensive (say meat) to increase the consumption of potato.



Giffen goods

price of potato falls, the



Giffen goods are subset of inferior goods.

When the price of potato falls, the consumer's purchasing power increases, which means the consumer's real income has increased. Potato is an inferior good, consumption of potato will decrease.

Demand curve acts upon price effect

$$\textcircled{PE} = SE + IE$$

-ve

SE  $\rightarrow$  -ve  
 IE  $\rightarrow$  +ve  
 Law of demand  
 -ve SE > IE +ve  
 downward sloping  
 (Normal goods)

And in this case  $\textcircled{IE}$  is more than  $\textcircled{SE}$  (dominant). Therefore

demand curve is upward sloping in case of Giffen goods



$\Rightarrow$  All Giffen goods are inferior goods but the converse is not true. Explain.

OR Difference between inferior goods and substitution

# OR Difference between inferior and substitution goods.

(ii) Conspicuous Consumption: to "show-off" (buys expensive)

(iii) Bandwagon Effect: purchase influenced by the class/society to which he belongs.

(iv) Snob Effect: to show he or she does not belong to group of poor people, consumer do not purchase a commodity if price falls.


(v) Veblen Effect: Quality depends on price.  
Higher the price & higher is the quality.

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\*

## Statistics :

Topic : Central Tendency



Average                      Median                      Mode

1. AM
2. GM
3. HM

### Arithmetic Mean

(a) Simple mean :

Let  $x_1, x_2, \dots, x_n$  be 'n' no. of obs.  
then simple mean,  $\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$

(b) Weighted mean : Let  $x_1, x_2, \dots, x_n$  be 'n'  
no. of obs with corresponding frequencies  
 $f_1, f_2, \dots, f_n$

$$\text{such that, } N = \sum_{i=1}^n f_i$$

and weighted mean,  $\bar{x} = \frac{1}{\sum f_i} \sum_{i=1}^n x_i f_i$

### ② Geometric Mean

(a) simple GM =  $\frac{(x_1 \cdot x_2 \cdot \dots \cdot x_n)^{1/n}}{(\prod_{i=1}^n x_i)^{1/n}}$

$$(a) \text{ simple GM} = \left( \prod_{i=1}^n x_i \right)^{1/n}$$

$$(b) \text{ weighted GM} = \left( x_1^{f_1} x_2^{f_2} \dots x_n^{f_n} \right)^{1/N}$$

where  $N = \sum f_i$

$$= \left( \prod_{i=1}^n x_i^{f_i} \right)^{1/N}$$

### ③ Harmonic Mean:

$$a) \text{ Simple HM} = \frac{n}{\frac{1}{x_1} + \frac{1}{x_2} + \dots + \frac{1}{x_n}} = \frac{n}{\sum_{i=1}^n \frac{1}{x_i}}$$

$$b) \text{ weighted HM} = \frac{\sum f_i}{\frac{f_1}{x_1} + \frac{f_2}{x_2} + \dots + \frac{f_n}{x_n}} = \frac{\sum f_i}{\sum_{i=1}^n \frac{f_i}{x_i}}$$

————— \* —————