Chapter 02: *Government Intervention In Markets (Price Control)*

Price Control

- There are two ways government intervenes market for price control:
    - Direct Price Control (Price Ceiling, Price Floor)
    - Indirect Price Control (Taxes, Subsidies)

Direct Price Control

- A price floor is the minimum price that can be charged. An ***effective*** (or binding) ***price floor*** is one that is set above equilibrium price.
- A price ceiling is the maximum price that can be charged. An ***effective*** (or binding) ***price ceiling*** is one that is set below equilibrium price.

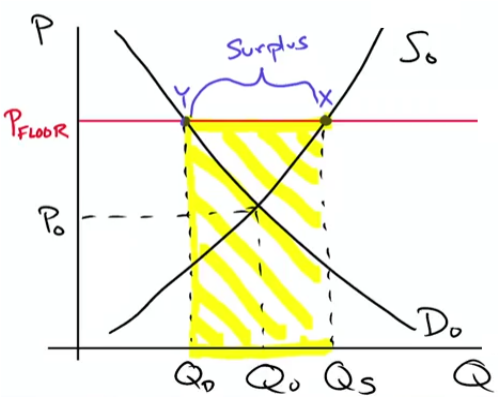
Price Floor Example:

Government sets price floor for milk. Po & Qo is the free market equilibrium price and quantity.
Price floor is set at Pfloor which increases the supply but reduces the demand, therefore:

Surplus = Qs - Qd.

This surplus is then purchased by the Government which is area of rectangle in yellow:

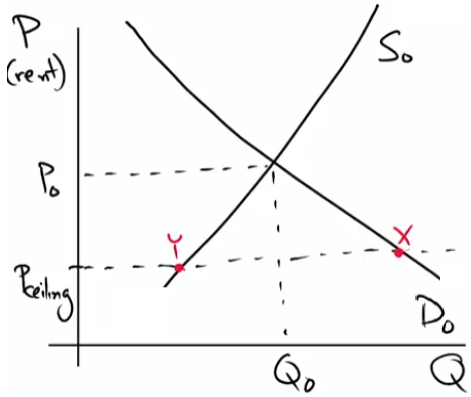
Gov. Purchase = Pfloor * (Qs-Qd)



Such action is taken when government believes that a commodity is too important and if price goes down a threshold suppliers may stop making it.

Price Ceiling Example:

- There are Qo apartments demanded & supplied at Po rent without any price control.
- Government fixes rent prices at Pc.
- At this lower price, consumers would now demand X apartments but suppliers are only willing to supply Y apartments.
- There will be shortage of X-Y apartments in the market at this price.
- Government takes such actions when it believes prices are high for consumers.



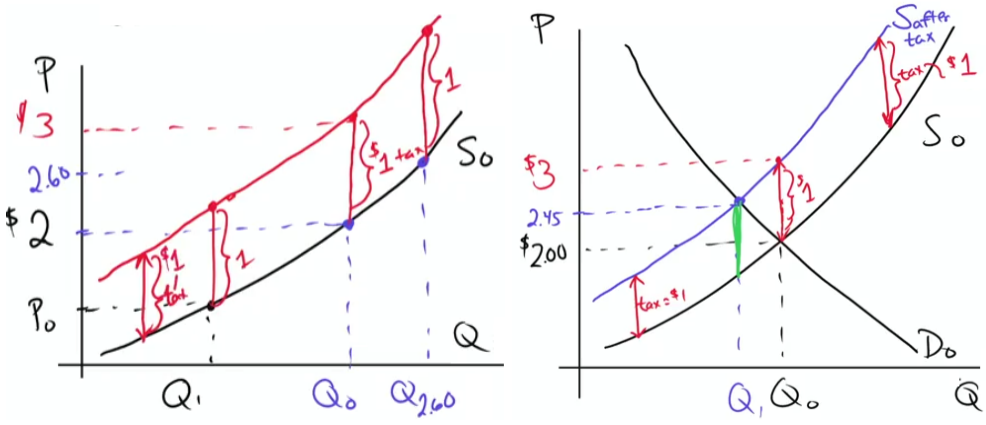
- Those consumers who manage to find an apartment at this lower price gain, However those consumers (who are unable to find apartment) and producers lose out.
- Capping of Swiss Franc in past is another example of Price Ceiling.

Indirect Price Control

- One of the indirect price control method is ***Taxation***.
- Excise tax is a per unit tax. An opposite to this is Subsidy.

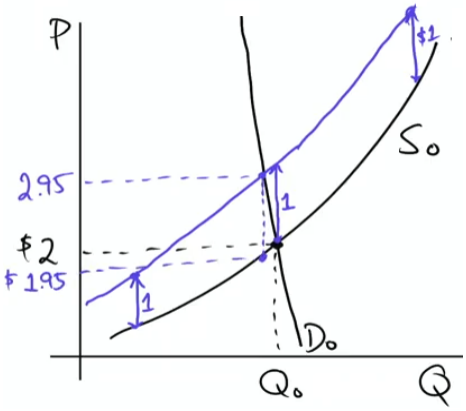
Example

- If price of gas is $2 per gallon and $1 tax is added, supply curve will shift vertically by $1.
- If we find a new equilibrium price on Supply Demand curve, we will find out that the price will not go up by whole $1. Instead the increase will be less due to new lower supplies and less demand because of the tax.



Incidence of Taxation:

- The term means “who pays what share of tax”. In the above example the consumer is paying $0.45 whereas the supplier $0.55 of excise tax.
- Incidence of taxation depends on the shape of the curve. e.g. if the demand curve is steep, it means demand decreases slightly when the prices rise.
- Therefore, consumer share in example below is $0.95 and supplier’s $0.05 of the tax.



Elasticity of Demand

- It is the responsiveness of quantity demanded to changes in price.

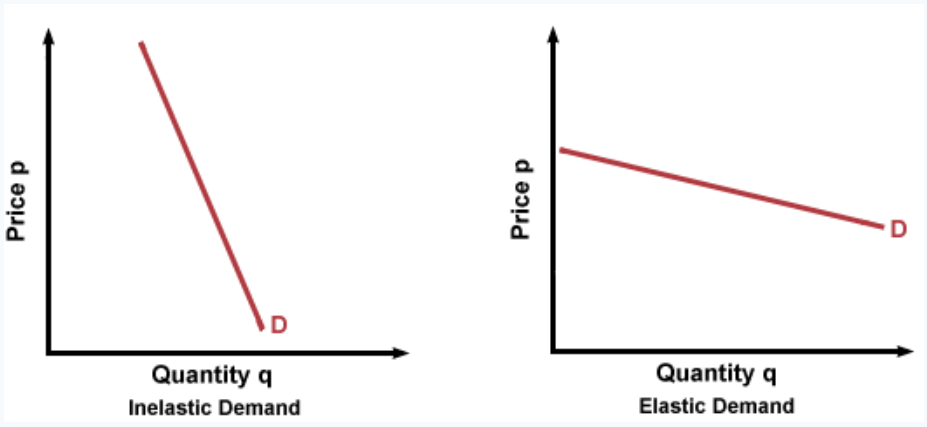
  E = %age change in Quantity/% change in Price = $\frac{\%\Delta Q}{\%\Delta P}$

- The price elasticity of demand for goods with close substitute is higher than price elasticity of demands for goods with no close substitutes.

Classification of Elasticity of Demand

- Inelastic if $|E| < 1$
- Elastic if $|E| > 1$
- Unit Elastic if $|E| = 1$

- In the example below product on left is inelastic as it has very low change in demand as compared to the price. Product 2 is elastic.



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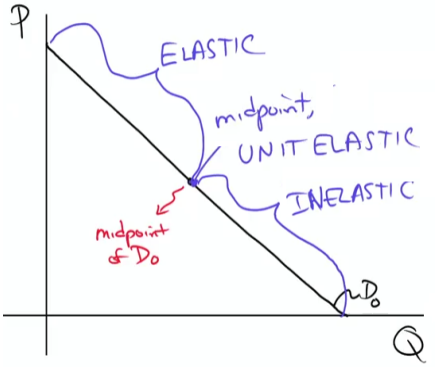
Elasticity Along A Linear Demand

- Elasticity of demand can be written as a product of two ratios as below:

$$E = \frac{\%\Delta Q}{\%\Delta P} = \frac{\Delta Q/Q}{\Delta P/P} = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

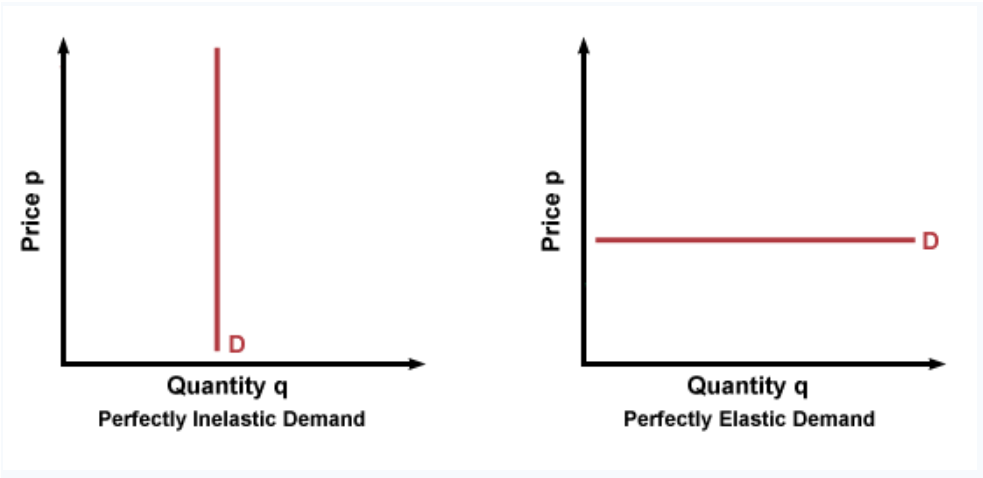
- In a linear function, first term is the inverse of slope and it is always going to be constant, whereas the second ratio P/Q changes all along the curve.
- Therefore every point on a linear demand curve (which is not horizontal or vertical) has a different elasticity.



- Reason market 1 was Inelastic and market 2 Elastic in previous examples is that the graphs were not complete. Market 1 was showing bottom half and market 2 only left half.

- As the difference between the two prices or quantities increases, the accuracy of the PED decreases for 2 reasons:
    - PED is not a constant. It can vary at different points along the demand curve due to its percentage nature.
    - Percentage changes are not symmetric, instead percentage change between any two values depends on which one chosen as the starting value and which one as the ending value. For example, if quantity demanded increases from 10 units to 15 units, the percentage change is 50%, but in reverse it is -33.3%.

Perfectly Elastic & Inelastic Case



References:
Lectures by Prof. Larry DeBrock
https://en.wikipedia.org/wiki/Price_elasticity_of_demand
http://www.investopedia.com/terms/p/priceelasticity.asp
http://www.economicsonline.co.uk/Competitive_markets/Price_elasticity_of_demand.html

Notes by Fraz Tajammul