

# Aggregate Demand and Marginal Revenue

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February 28, 2008

## 0.1 Demand And Marginal Revenue

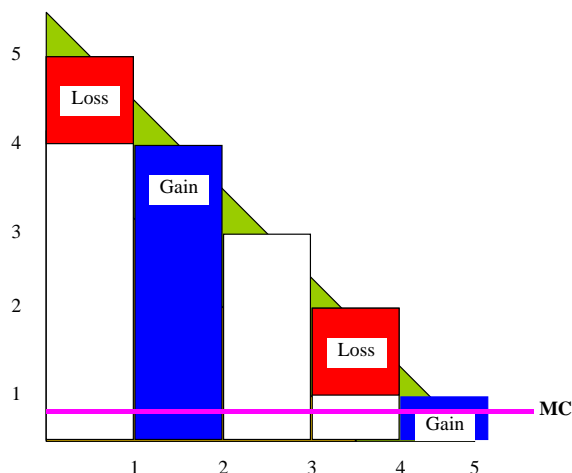
Marginal revenue is the sum of the gains and the loss for a given change in price.

$$MR = Gain - Loss \approx \Delta Q \cdot \bar{P} - \Delta P \cdot \bar{Q}$$

Elasticity is:

$$\varepsilon = \left| \frac{\Delta Q \cdot \bar{P}}{\Delta P \cdot \bar{Q}} \right|$$

Notice that before the middle (where  $\varepsilon > 1$ ) of a linear demand curve, gains outweigh losses, because quantity increases faster than price decreases:  $\varepsilon > 1$ . After the middle (where  $\varepsilon < 1$ ), losses outweigh gains, because quantity increases more slowly than price decreases:  $\varepsilon < 1$ .



Note that with the MC curve, all of the gain in the 5 unit is lost.

The demand curve can be interpreted as either the demand of one individual for many units, or the demand of many individuals for each unit. Under the 2nd interpretation, we see that even if a monopolist could figure out the reservation price of individuals, if he couldn't prevent resale, then the person that he wanted to sell one unit at a high price for, e.g.,  $P=5$  would have an incentive to try to buy it from one the monopolist sold a unit for a low price. Thus, the monopolist would face competition from his own sales. Multiple per unit prices are not sustainable when there is either imperfect information or resale opportunities. In those cases, a monopolist would have to sell at a single price to everyone. This is a non-price discriminating monopolist.

## 0.2 Aggregate Demand Curves and Aggregate Marginal Revenue:

When we sum the High and Low demands, then at the kink ( $P = 4$ ), gains suddenly "double" for the same loss, so MR jumps also.

