## **Quadrant II - Notes**

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## **CONSUMER AND PRODUCER SURPLUS**

## **CONSUMER SURPLUS**

Surplus means an excess of something. Its an amount of something left over when requirements have been met. Consumers buy goods because the purchase makes them better off. Consumer surplus measures how much better off individuals. Different consumers place different values on the consumption of particular goods, the maximum amount they are willing to pay for those goods also differs.

Individual consumer surplus is the difference between the maximum amount that a consumer is willing to pay for a good and the amount that the consumer actually pays. Suppose, for example, that a student would have been willing to pay Rs 100 for a rock concert ticket even though she only had to pay Rs 80. The Rs 20 difference is her consumer surplus. When we add the consumer surpluses of all consumers who buy a good, we obtain a measure of the aggregate consumer surplus.

Consumer surplus can be calculated easily if we know the demand curve. To see the relationship between demand and consumer surplus, let's examine the individual demand curve for concert tickets. Although the following discussion applies to this particular individual demand curve, a similar argument also applies to a market demand curve.

On the X axis in figure 1 we measure the number of tickets and on the Y axis we measure the price per ticket. Suppose a student wants to buy movie tickets. On the X axis we measure the number of tickets and on the Y axis we measure price per ticket. The student wants to watch the movie so badly that she is willing to pay a maximum amount of ₹200 for the ticket. However, the market price of the ticket is fixed at ₹80. So now her consumer surplus is ₹200 minus ₹80, which gives you ₹120, i.e. the blue portion. Thus, the ticket is worth purchasing because it generates ₹120 of surplus value above and beyond its cost. The second ticket is also





worth buying because she is willing to pay ₹180 now but the market price of the ticket is fixed at ₹80, so her consumer surplus is ₹180 minus ₹80 which is equal to ₹100. In a similar manner, the third ticket generates a surplus of ₹80 i.e. ₹160 minus ₹80. For the fourth ticket, the student is willing to pay ₹140 while the ticket costs ₹80. Hence, the consumer surplus is ₹60. In a similar manner, the fifth ticket generates a surplus of ₹40. For the sixth ticket, she is willing to pay ₹100 while the market price is ₹80 giving her a surplus of ₹20. Thus, the total consumer surplus is ₹120 + ₹100 + ₹80 + ₹60 + ₹40 + ₹20, which gives you ₹420 which is indicated by the blue triangle. In a similar manner aggregate consumer surplus of all the consumers in the market can be calculated by measuring the area below the market demand curve and above the price line.

Firms can reduce consumer surplus if they have market power. Another way to reduce consumer surplus is to engage in price discrimination.

## **PRODUCER SURPLUS**

Producer surplus is a measure of producer welfare. It is like a reward that more than covers the cost of production of the producers. It is measured as the difference between what producers are willing and able to supply a good for and the price they actually receive

It is the difference between what producers are willing and able to supply a good for and the price they actually receive. Producer surplus is the additional private benefit received by producers.



Fig.2.

On the X axis in figure 2, we measure the number of hamburgers, and on the Y axis we measure price. The supply curve shows the amount that producers willingly produce and supply to the market at various prices. This price at which producers are willing to sell, covers their cost of production and gives them enough profit to stay in business. The current market price for hamburgers is ₹100. However, a producer whose cost of production is very low is willing to sell one hamburger for ₹50. But since the market price is ₹100, he has to sell it at ₹100. This gives him a producer surplus of ₹50, i.e. ₹100 minus ₹50. Similarly, the producer is willing to sell the second hamburger for ₹60 because his cost of production is fairly low. But he actually receives a price of ₹100, which is the market price. So now his producer surplus is ₹40. The third hamburger he is willing to sell for ₹70, but he gets the market price of ₹100, giving him a surplus of ₹30. Similarly, the fourth hamburger gives him a surplus of ₹20. The fifth hamburger he is willing to sell for rupees 90 but he receives ₹100, which is the market price, thus giving him a producer surplus of ₹10.

Thus, his total producer surplus will be  $\mathbf{\xi}50 + \mathbf{\xi}40 + \mathbf{\xi}30 + \mathbf{\xi}20 + \mathbf{\xi}10$  which equals  $\mathbf{\xi}150$  and this is indicated by the orange triangular portion. The aggregate producer surplus for the entire

market can be determined in a similar manner. It is indicated by the area above the supply curve and below the market price.

Consumer surplus and producer surplus together make up for the total economic surplus received by the consumers and producers respectively while they interact in a free market economy.