# Section 8: The Other Price Arrangements to Eliminate Deadweight Loss

A monopolist’s turning consumer producer to producer surplus is not the only price arrangement that can eliminate deadweight loss. In this section, we will introduce the others.

(3) Membership Fee or Door Money

A monopolist may find it still too troublesome to charge more than one price for different part of goods. Can he only charge a single price, but at the same time eliminate deadweight loss? The answer is yes. One kind of this price arrangement is that the monopolist charges a single price, but requires consumers to pay a membership fee before entering the door which is equal to the amount of deadweight loss (FEH). There is no deadweight loss, because it has already been recovered in the form of membership fee.

There are many clubs run in the form of membership (such as golf clubs, yacht clubs, etc.), as well as Disneyland, into which tourists must buy entrance tickets first and pay additional fees for each amusement facility. These are all the price arrangement of membership fee or door money to recover the deadweight loss.

The monopolist needs to determine the amount of membership fee or door money besides charging the single price, so there is higher transaction cost. However, as long as the revenue increase from recovering the deadweight loss by this price arrangement is higher than the additional transaction cost, it is worth it.

(4) The Pricing of All-or-Nothing

A monopolist can charge a single price, but at the same time stipulates the quantity that the consumer must buy, otherwise he is not allowed to buy. Either buy all or none, so this price arrangement is called the pricing of all-or-nothing.

The left panel and the right panel of Fig.16-3 respectively show two different pricing of all-or-nothing (P<sub>a</sub>). The P<sub>a</sub> in the left panel is lower than the monopolistic price (P<sub>m</sub>), but it stipulates that consumers must buy the quantity of Q<sub>a</sub> instead of Q<sub>m</sub>. As long as OA’B’ and OAB are congruent triangles, the deadweight loss can be eliminated while the consumer surplus of P<sub>a</sub>BAB’P<sub>c</sub> is turned to producer surplus.

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![figure16-3](./image/figure16-3.jpg)

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Figure 16-3

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The P<sub>a</sub> in the left panel is lower than the monopolistic price (P<sub>m</sub>), but higher than the P<sub>c</sub> of price-taking. The price of all-or-nothing can be equal to that of price-taking, as shown in the right panel of Fig.16-3, but the quantity Q<sub>a</sub> that consumers must buy will be much larger than the Q<sub>c</sub> of price-taking. As long as OA’B and OAB are still congruent triangles, the monopolist can eliminate all deadweight loss which is the consumer surplus (AOB) turned to producer surplus.

In fact, the price of all-or-nothing can even be lower than that of price-taking! Readers can draw their own deduction by imitating Fig.16-3. Tips: OA’B’ and OAB should be drawn such that they are congruent triangles, and the stipulated quantity for consumers must be very large.

As for which combination of price of all-or-nothing and stipulated quantity a monopolist will choose, it depends on whether the total revenue (P<sub>a</sub>×Q<sub>a</sub>) has been maximized under specific constraints (including the shape and position of specific demand curve and supply curve). As shown in Fig.16-3, it is estimated visually that the total revenue of the pricing of all-or-nothing in the right panel is larger than that in the left panel.

Obviously, both the "all or nothing" pricing method and the charging of a single price and an unlimited amount are to set a price without adding any additional transaction costs. However, "all or nothing" requires a fixed amount (limited amount) in addition to pricing, so on the whole, this pricing method will still be higher than charging a single price and an unlimited amount. However, since the "all or nothing" pricing method can eliminate dead angle losses and extract consumer surplus, that is, when the monopoly earns more than a single price and is unlimited, there is no reason not to adopt it.

If a monopolist uses the pricing of all-or-nothing, he needs to determine the stipulated quantity for consumers besides charging the single price, so there is higher transaction cost. However, as long as the revenue increase from turning some of the consumer surplus to producer surplus by this price arrangement is higher than the additional transaction cost, it is worth it.

The above is a theoretical explanation for the pricing of all-or-nothing, but what is more important is there is such behavior in reality. In the market, many products are packaged. For example, the capacity of bottle for oil actually stipulates consumers to buy the specified quantity. In principle, consumers can also buy bulk oil which is almost only sold in farmer’s markets without brands. Brands are precisely the entry threshold for monopolistic products, while the products without brands are in the market of price-taking where the pricing of all-or-nothing is not needed.

In addition, different packages are often available for the same brand product. Take the bottled oil as an example, there are generally small, medium and large pack sizes which are different combinations of all-or-nothing price and quantity designed by the monopolist to meet different needs of consumers. The larger pack size it is, the lower the average price per unit. The quantity discount mentioned in section 7 has a similar effect, so the influence of them in reality is often mixed.

Some may wonder: Few producers have specialized in economics. How do they know the marginal cost of a good and the marginal use value of consumers, and draw the above geometric figure to determine the combination of the all-or-nothing price and quantity?

In reality, neither do producers need to draw any geometric figure nor understand economics. What they need to do is to observe what the peers do and imitate them, or find out the suitable combination of the all-or-nothing price and quantity through trial and error.

Different brands of products with similar grades usually have the same packaging capacity. Because they are of the same grade, which means that their target customers are the same, and the demand curves for them are roughly the same in shape and position, and the most suitable combination of the all-or-nothing price and quantity for such customers should also be the same. Those who have just entered the industry can reduce the information cost by following the packaging capacity of the peers.

As for a brand-new product without peer experience, the producers can put a number of different packages on the market as trial and error. If a certain package turns too much consumer surplus to producer surplus (the area of OA’B’ in Fig.16-3 is larger than OAB), consumers will be reluctant to buy because the stipulated quantity is too large. On the contrary, if a certain package turns too little consumer surplus to producer surplus (the area of OA’B is smaller than OAB), the revenue of the producer will be too low. Then the producer can gradually find out the most suitable package which is consistent with Fig.16-3.

It is logically similar to the example of idiots building gas stations mentioned in Lecture 3. The idiots do not need to be really rational, just as producers in reality do not need to really understand economics, the survival of the fittest in the market will ensure that behaviors consistent with economics can survive.