Topic 4 - The limits of monopoly power: the durable-good problem.

Consumers are ready to buy a durable good today but can always wait and purchase it tomorrow. Once they have bought a durable good, they do not need to buy in the near future. Given this, current demand is affected by the expectations of future prices, the degree of patience of consumers and the way they value the good. The demand faced by the firm in each period depends on how many consumers did not purchase the good in the previous periods.

Suppose demand today is $D(p)$. The monopolist is tempted to set a price $p^M$ that maximizes $D(p) \cdot p - C(D(p))$. If consumers buy the corresponding quantity $q^M = D(p^M)$, then demand tomorrow is $D(p) - D(p^M) < D(p)$. Tomorrow, the best choice of the monopolist is to choose a quantity that maximizes $(D(p) - D(p^M)) \cdot p - C(D(p) - D(p^M))$ at a price per unit $p^{MM} < p^M$. If agents are sufficiently patient, they wait and buy tomorrow rather than today. So, the monopolist cannot charge $p^M$ today. In order to sell some units today it must decrease the price in order to induce consumers to buy. Overall, the monopolist competes against itself.

Overall, if all consumers are infinitely patient, the monopolist cannot do better than charging the competitive price. Given consumers are heterogenous in tastes and degrees of patience, the optimal pricing strategy of the firm is to use intertemporal price discrimination.

Solutions: product differentiation, exploit impatience of consumers.