Controversies over Antitrust Policy

The effects of some business practices that are illegal under antitrust law are not obvious.

Three examples:

1. Resale price maintenance. Suppose Superduper Electronics sells DVD players to retail stores for $300, but requires the retail stores to charge $350. A retailer who charges less than $350 might lose its business with Superduper. This is resale price maintenance.

   It seems anticompetitive – prevents retailers from competing on price. Courts have often considered retail price maintenance as a violation of antitrust laws.

   But some economists claim that resale price maintenance is not aimed at reducing competition: If Superduper had market power, it could use that power to charge a higher wholesale price. Then resale price would automatically be higher.

   Superduper has no reason to discourage competition among retailers – Superduper would be worse off if its retailers were a cartel than if its retailers were competitive.

   Resale price maintenance may have a legitimate goal: Superduper may want its retailers to give customers a knowledgable sales force and a pleasant showroom. Without resale price maintenance, customers could find out about the good in one store but buy it in another where it is cheaper, but without the information provided.

   Another reason may be that the wholesaler doesn’t want an old product to compete with newer versions of its product.

   Example: Used textbooks, used cars have resale price maintenance so people will buy the newer cars.

2. Predatory pricing: Setting prices so low that they drive other firms out of business, then setting monopoly prices. This is illegal in antitrust law.

   Some economists claim that predatory pricing is rarely a good business strategy. For it to work, prices must be below cost. But the predator could be hurt by this more than the prey.
3. Tying: Forcing buyers to buy two or more goods together. Suppose Makemoney movies produces two new movies, Spiderman and Hamlet. It offers theaters the two movies together at a single price instead of separately.

the Supreme Court banned this practice, reasoning that the seller could use the high demand for one product to force buyers to buy another product for which there is low demand.

But many economists don’t believe this argument. Suppose theaters are willing to pay $20,000 for Spiderman and nothing for Hamlet. Then the most a theater would pay for the two together is $20,000, just as for Spiderman alone. Tying does not increase demand for a good.

Why does tying occur? Price discrimination. Suppose there are two theaters: City theater willing to pay $15,000 for Spiderman and $5000 for Hamlet, and Country theater willing to pay $5000 for Spiderman and 15,000 for Hamlet.

If Makemoney charges separate prices for the two movies, it can do best by charging $15,000 for each and selling one of each. By tying the two, it can charge each theater $20,000 for the two movies and make more profit.

Markets for factors of production

Demand for labor

Labor demand is a derived demand: Labor is an input for other goods that are consumed, not a final good to be consumed itself.

Consider a firm: An apple orchard. Every week the apple orchard owners decide how many workers to hire to maximize profit.

Assume the firm is competitive and profit-maximizing. It is competitive both in the market for apples and in the market for workers. So it takes both price of apples and wage as given.

Relationship between production function and marginal product of labor

The only decision the firm must make is how many workers to hire. That determines how many apples it produces.

How does the quantity of workers hired affect the amount of apples picked?
The production function determines the relationship between amount of input and amount of output, i.e. number of workers hired and number of apples picked. (We are assuming there is only one input, workers. The other inputs – number of trees, land, tractors, etc., are held fixed.)

The graph shows a hypothetical production function: quantity of apples graphed as a function of quantity of workers. This production function has diminishing marginal product – the slope gets less steep as quantity of workers increases.

When considering whether to hire an additional worker, the firm must consider how much more profit the worker would bring in. This (marginal) profit is additional revenue the worker will bring in minus the cost of the additional worker.

The cost of the additional worker is the wage. The additional revenue the worker will bring in is the price of the product (apples) times the marginal product of the worker.

The price of the product times the marginal product of the worker is called value of the marginal product of labor, or marginal revenue product of labor.
The firm hires workers up to the point where value of the marginal product of labor equals the wage. \( P \times MPL(L) = W \).

From this equation we can get the labor demand curve of the firm. The labor demand curve gives amount of labor a firm demands as a function of wage. The firm chooses the quantity of labor that satisfies the above equation.

The labor demand curve is downward-sloping. Assume that \( MPL \) is a decreasing function of \( L \). Assume that \( P \) remains constant. Then as \( W \) increases, \( MPL(L) \) has to increase in order for \( P \times MPL(L) \) to equal \( W \). For \( MPL(L) \) to increase, \( L \) must decrease. So the amount of labor hired by the firm decreases as wage increases.

If \( MPL \) were not a decreasing function of \( L \), then it would be possible to increase the amount of labor hired and get more profit, contradicting the claim that \( L_0 \), the solution to \( P \times MPL(L) = W \) is the profit-maximizing amount of labor.

If we graph the value of the marginal product as a function of labor, we get the firm’s labor demand curve. This is because the firm hires \( L \) amount of labor such that \( P \times MPL(L) = W \). So if we graph \( P \times MPL(L) \) as a function of \( L \), it is the same as if we graphed \( W \) as a function of \( L \) (or \( L \) as a function of \( W \)).

Input demand and output supply: Two sides of the same coin

The firm’s decision of how much output to produce is closely related to its decision how many workers to hire, as the amount of workers hired determines how much output is produced.

Marginal cost of an additional unit of output (\( MC \)) is related to marginal product of labor (\( MPL \)) by \( MC = W/MPL \), where \( W \) is the wage.

Suppose an additional worker costs $500 and has a marginal product of 50 bushels of apples. Then the additional cost of 50 bushels is $500, or the additional cost of one bushel is $500/50 = $10.

Thus, diminishing marginal product is equivalent to increasing marginal cost.

The profit-maximizing firm chooses the quantity of labor \( L \) so that \( P \times MPL(L) = W \). Dividing both sides of the equation by \( MPL \), we get \( P = W/MPL(L) \), which is equal to \( MC \). So we get \( P = MC \), the equation that determines a competitive firm’s profit-maximizing quantity.
When a competitive firm hires labor up to the point where the value of the marginal product equals the wage, it also produces up to the point where price equals marginal cost.