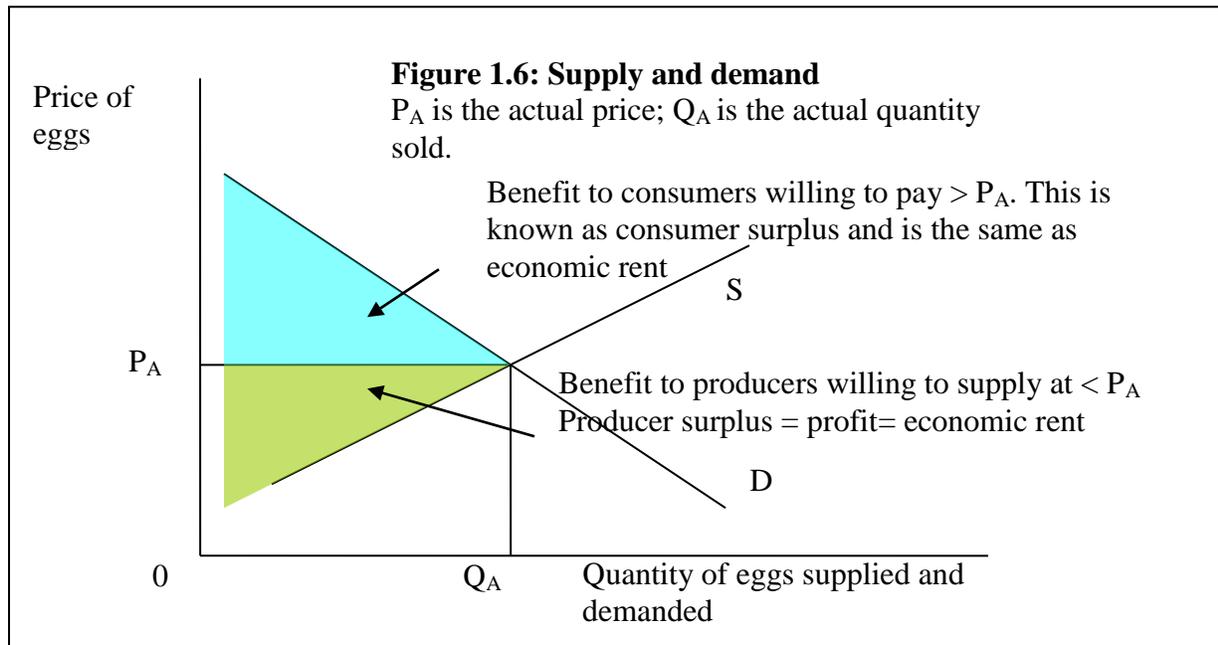


## 2. Monopolists, Oligopolists and Cartels

As shown in Section 1, on Demand and Supply, when demand equals supply in a competitive market — one with many sellers and buyers — both buyers and sellers receive a surplus or economic rent. Buyers' rent is usually called "consumer surplus", and sellers' rent is usually called "producer surplus". This was illustrated in figure 1.6 reproduced below.



In some markets, there are only one or a few sellers or buyers. A market with a single seller is called a *monopoly* (from Greek *monos*- "single" + *polein*- "sell"). For example, for many years the Bell Corporation had a monopoly of telephone services in the United States. A market with only a few sellers is called an *oligopoly* (Greek *oligos*- "few"). For example, the world automobile industry is an oligopoly. A market with a single buyer is called a *monopsony*; (Greek *opsonia*- "purchase"). For example, a coal company in an Appalachian town is a *monopsonist* for coal miners, that is, it is the only employer of miners. A market with only a few buyers is an *oligopsony*. For example, the nuclear armed nations are oligopsonists for nuclear weapons.

In addition, sometimes groups of sellers or buyers obtain a government license to organize themselves to behave like a monopoly or monopsony. These groups are called *cartels* (probably from Latin *cartellus*, "charter").

Monopolists, monopsonists et al. enjoy *market power*. That is, they can use their position to increase their share of economic rent at the expense of unorganized buyers or sellers — and ultimately at the expense of the public. How do they do it? They do it by withholding, or, what amounts to the same action, asking a higher price and accepting lower sales.

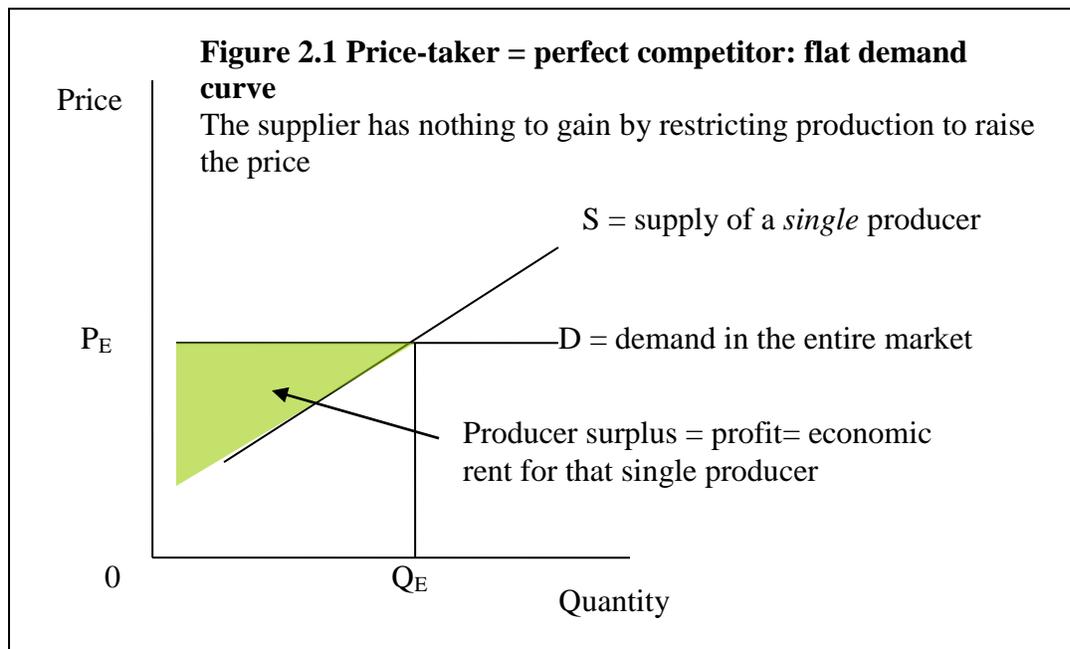
In a truly competitive market, a seller is a *price taker*. That is, there's a single market price for the seller's product; if the seller tries to raise prices even a little bit, buyers will go elsewhere. For example, there's only a single national price for red hard winter wheat #2, on September 28

2009 (not including shipping). Sellers of small quantities of publicly traded stocks and bonds are also price-takers.

Most sellers in most markets are to some degree *price-makers*. That is, there is a range within which they can choose prices without either losing all sales, or getting more orders than they can handle. They have to figure out a price that maximizes long-term profits.

We represent a seller graphically with an ordinary supply and demand diagram. However the supply curve, instead of representing the sum of supply curves of a large number of sellers, represents only one seller. Remember that a seller's supply curve is the marginal cost of increasing sales at each quantity supplied. The curve rises from left to right as the seller hits supply constraints.

Figure 2.1 shows a price-taker; figure 2.2 shows a price-maker. Although the overall demand curve in the price-taker's market slopes down, to him, as a small player, it "looks" flat. The price-maker, however, "sees" a slope. If he raises his price from  $P_E$  to  $P_1$ , his quantity sold falls from  $Q_E$  to  $Q_1$ . If the price-taker were to try such an increase, he would lose all sales.



### Simple Monopoly

So how does a price-maker choose his price? Recall that the demand curve represents the marginal benefit to purchasers. However, this is not the marginal benefit to suppliers. A supplier's revenue is price x quantity. His marginal benefit of an increase in price is his marginal revenue, which is approximately increase in price x quantity, plus price x decrease in quantity, or  $MR = \Delta P \cdot Q + P \cdot \Delta Q$ . So a supplier logically raises his price until marginal revenue equals marginal cost. That makes him a monopolist. However, he will lose money if he tries to raise price further—because the loss in sales will outweigh the gain in price.

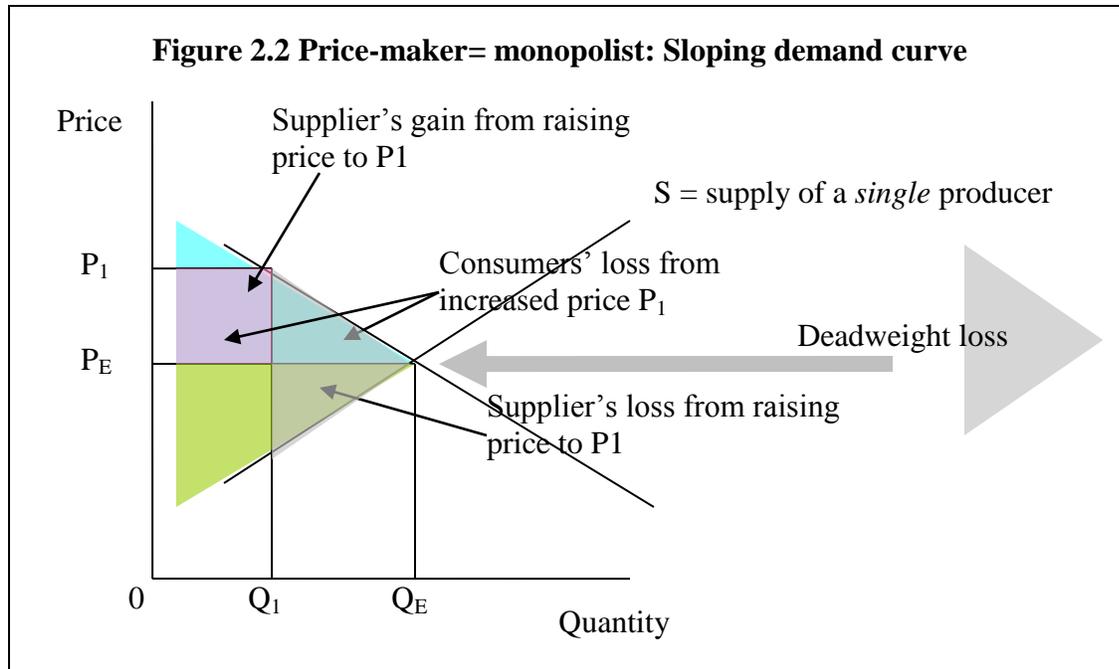


Figure 2.2 shows what happens when a supplier raises his price from  $P_E$  to  $P_1$ . Before he raises the price (or, what is equivalent, reduces production) the supplier gains the green rent triangle and the consumers gain the blue rent triangle as in Figure 1.6. By raising the price, the supplier takes the purple rectangle away from the consumers, but loses the grey-green triangle. Purple minus grey-green is his “monopoly rent.” The consumers lose the purple rectangle plus the grey-blue triangle. The grey-green and grey-blue triangles together constitute what we call “deadweight loss”. That is, in order to gain the purple rectangle of rent, the supplier destroys the grey-blue and grey-green triangles. Resources that could have gone to produce consumer satisfaction and supplier profits have been withheld to allow the supplier to carve out a piece of consumers’ rent.

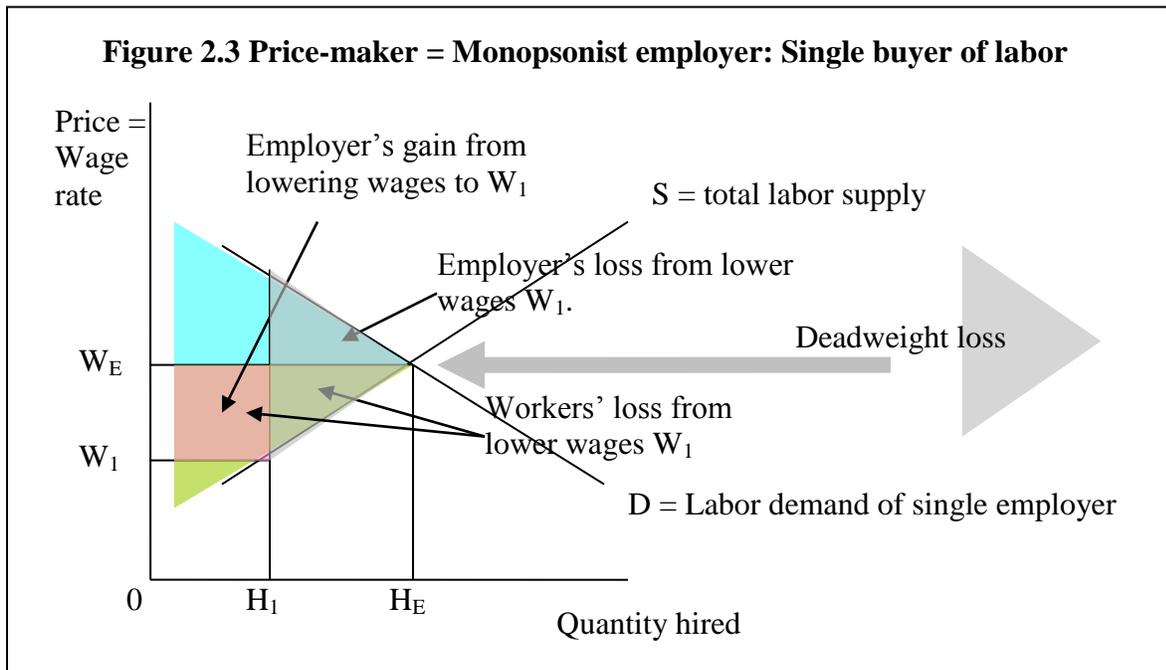
For a simple monopolist, the most profitable price-quantity combination is the one that equates his supply with marginal revenue, not with demand. Marginal revenue is the small increase in revenue a monopolist gets by selling a bit less at a slightly higher price, in effect moving leftward up the demand curve. As long as the higher price compensates for lost volume, the monopolist gains from restricting output.

In the real world, most suppliers have a bit of monopoly power. For example, the corner store can charge more than the supermarket because its location is more convenient and it keeps open longer hours. But suppliers may nonetheless not exercise full monopoly power, for many reasons, including fear of attracting competition, or desire not to offend consumers.

### Simple Monopsony

Figure 2.3 illustrates a common form of monopsonist: the employer in a “company town.” By holding down wages and hiring fewer than the most productive number of employees, this employer transfers rent to itself from employees. The salmon rectangle is the transferred rent. In the process, the employer destroys both some of its consumer rent, the grey-blue triangle, and

some of the workers' rent: the grey-green triangle. The two greyed out triangles together represent deadweight loss.



Another common form of monopsonist is the “marketing board” in some third-world countries, Africa especially. All producers of export crops, such as cotton and cacao, are required to sell to the marketing board, which can hold down the prices it pays farmers in order to extract rent for the rulers of the country.

### Oligopoly

In an oligopoly situation, a few suppliers—maybe three or four—dominate a market. The suppliers could be the supermarkets in a town, or the US auto industry. Suppliers in an oligopoly know each other and watch each others' behavior. It's in their collective interest to behave like a monopoly by restricting output to raise prices. However it's in the interest of any one of them to cut prices and take business away from the others. Usually oligopolists reach a tacit agreement as to how the market is to be shared among them. They restrict output, but not as much as if they were a true monopoly. Sometimes the largest member of the oligopoly acts as a “price leader” setting prices for the others to follow.

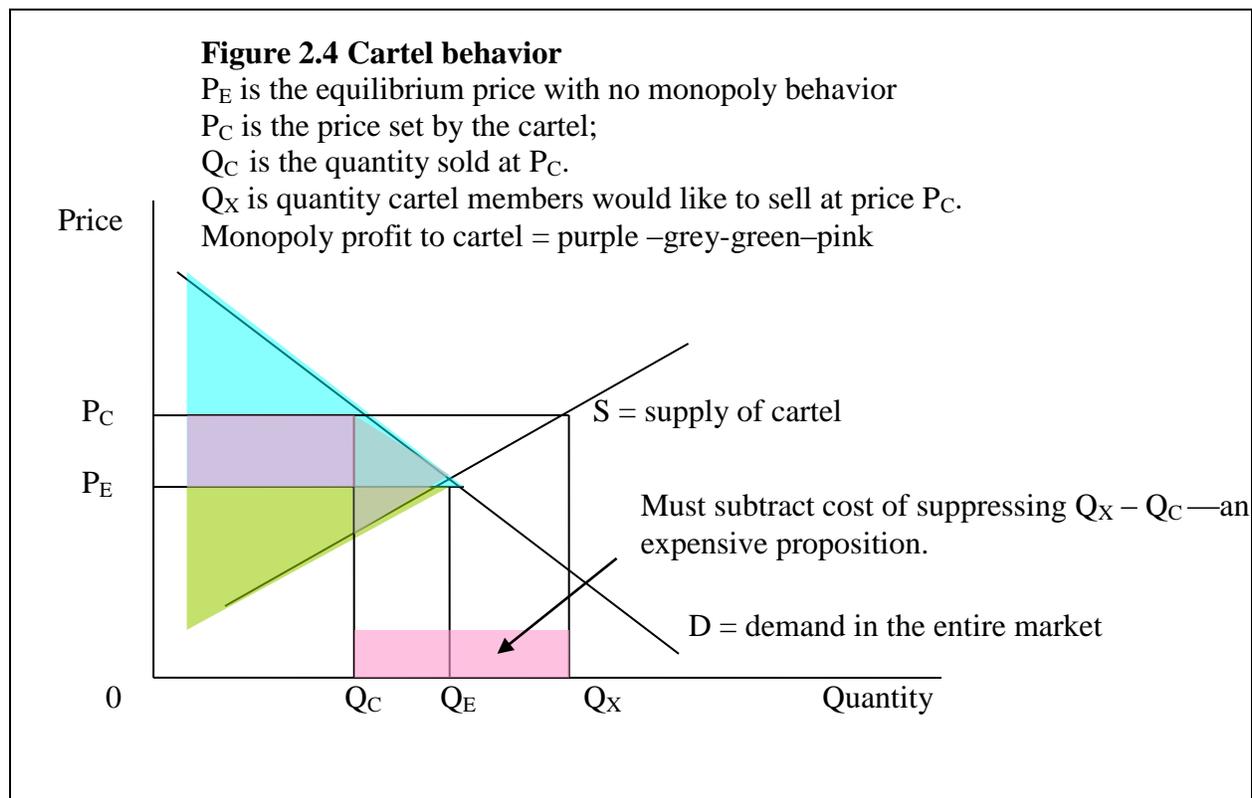
The same arguments hold in reverse for oligopsonists. Until 1960, the world's major oil companies acted as oligopsonists towards Saudi Arabia, Iran, and other oil producing countries.

### Cartel

A cartel is a formal legal organization of suppliers with some power to force all suppliers to join, pay dues, restrict output and otherwise follow organization policy. An oligopoly may be a cartel,

but a cartel is not necessarily an oligopoly—that is, a cartel may have many small members.\* For example the US Agricultural Adjustment Act of 1933, a Depression-era emergency measure, created cartels of agricultural suppliers under so-called “marketing orders.” Those cartels are still with us today. The Sunkist cartel controls California and Arizona Citrus growers; Sun Maid controls California raisin growers. OPEC, the Organization of the Petroleum Exporting Countries formed in 1960, is a cartel whose members are governments. Labor unions are cartels; they restrict membership to raise members’ wages. Many professional organizations, such as the American Medical Association, are also cartels.

Cartels have a “discipline” problem, especially cartels with a large membership. The more they restrict production to drive up prices, the greater the temptation for some members to cheat and for non-members to horn into the market. Moreover, cartels often restrict production by wasteful and environmentally destructive methods. For example, fruit producers may be forced to destroy “undersized” fruits, or pull up every other fruit tree. Oil producers reduce the eventual yield of wells by slowing production. As shown in Figure 2.4, cartels can easily wind up losing more money trying to control output than they gain in monopoly rent.



### Monopolistic competition

In the classical competitive model, all suppliers deliver an identical product, such as “hard red spring wheat.” Most real world suppliers, even in the same market, deliver slightly different

\* The term cartel is sometimes misapplied to oligopolies which enter illegal price-fixing agreements. The term is also routinely misapplied to the major drug traffickers of Latin America. These may be oligopolies, but their murderous competition and lack of a government license surely disqualified them as cartels.

products. That's why we have different brands of butter, of clothing, of automobiles. Suppliers intend to create mini-monopolies of their particular variety of product, reinforced by advertising. They try to compete not just by price but also by specialization to some "segment" of the market. For example, "organic" farmers sell premium-priced food to health-conscious consumers. Suppliers also segment the market by location; I'm likely to go to the nearest supermarket, the nearest gas station, or the nearest bank. Specialized products and location give suppliers some wiggle room to raise prices a bit to extract some rent from customers.

### **Natural monopoly**

A "natural monopoly" can arise where there are large economies of scale, and often large capital investments, in providing a product or service in *a given location*. Water and electric supply and distribution projects are examples of natural monopolies requiring high up-front investments. Yet the marginal cost of supplying water or electricity is very low, so low that suppliers may not be able to cover fixed costs by charging only marginal cost. Because such natural monopolies offer such a large potential for extracting rent from consumers, they are usually either operated by government, or heavily regulated. Some services, such as police and fire protection or health and education, require a high degree of coordination in a location and/or provide large spillover benefits, that is, positive externalities. In developed countries, such services are almost always provided by government.

### **Land monopoly**

Henry George often uses the term "monopolization" as a synonym for "appropriation" of land—which was the classical term for "privatization." But why are natural resources like land or broadcast spectrum a monopoly? In a famous debate with Henry George, the great British economist Alfred Marshall asked George how there could be a land monopoly when there were thousands of land owners, who were not conspiring to withhold land and raise prices. George answered that if one person owned a whole island, obviously the other residents would be at that person's mercy. A better answer would include the following points:

- 1) Every piece of land differs from its neighbors, in location if nothing else. Suppose I own a piece. My neighbor wants to expand his holding, perhaps in order to enjoy economies of scale in his operations. I'm in a powerful monopoly position to extract rent. To expand, my neighbor must pay up or go elsewhere and start over. Developers trying to assemble a city block run into such local monopolists all the time.
- 2) A piece of land, or a slice of spectrum in a particular location, is a "natural monopoly" in this sense: If two or more independent entities were to share the land or spectrum, they would interfere with one another, that is, they would impose externalities on one another. The argument does not apply to "market externalities"; for example, taxis licensed to operate in New York City *compete* with each other more than bump into each other. Libertarians often overextend the externality argument into a claim that privatization solves all problems.
- 3) Most land, and almost all high quality land in any society, belongs to a small influential group of families or corporations. Members of this group can act in concert almost as if they were a true monopoly. In particular, when these landowners withhold or underuse land—for whatever reasons—they have the same effect as an intentional monopolist.