Monopoly

A Single-Price Monopolist

Cost and Revenue in the Short Run

A monopolist faces the (downward-sloping) market demand curve.

If the monopolist charges the same price for all units sold, its total revenue (***TR***) is:

$$\boldsymbol{TR = p \times Q}$$

Avenue and Marginal Revenue

Average revenue (***AR***) is total revenue divided by quantity:

$$AR = TR/Q = (p \times Q)/Q = p$$

Marginal revenue (***MR***) is the revenue resulting from the sale of an additional unit of production:

$$MR = \Delta TR/\Delta Q$$

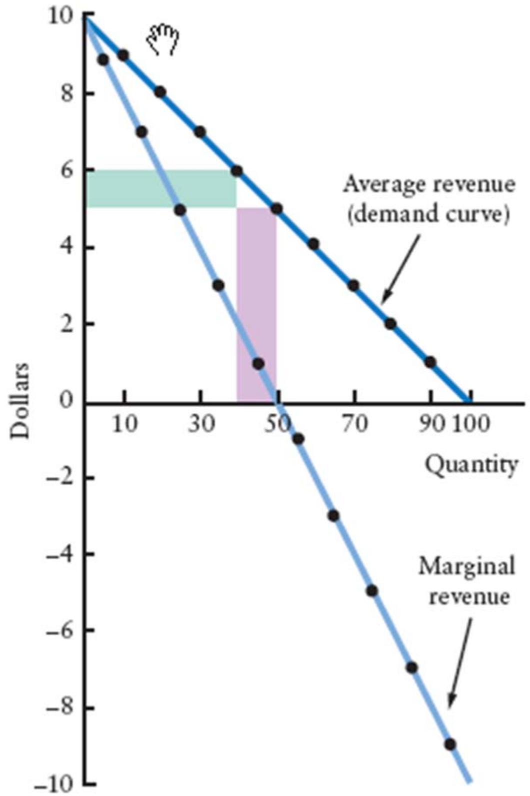
The monopolist must reduce the price to increase sales – therefore the ***MR*** curve is below the demand curve.

A Monopolist's Average and Marginal Revenue

Computing Average and Marginal Revenue

(1) Price (average revenue)	(2) Quantity Sold Q	(3) Total Revenue ($p \times Q$)	(4) Change in Total Revenue (ΔTR)	(5) Marginal Revenue ($\Delta TR/\Delta Q$)
10	0	0		
9	10	90	90	9
8	20	160	70	7
7	30	210	50	5
6	40	240	30	3
5	50	250	10	1
4	60	240	–10	–1
3	70	210	–30	–3
2	80	160	–50	–5
1	90	90	–70	–7
0	100	0	–90	–9

Average and Marginal Revenue Curves

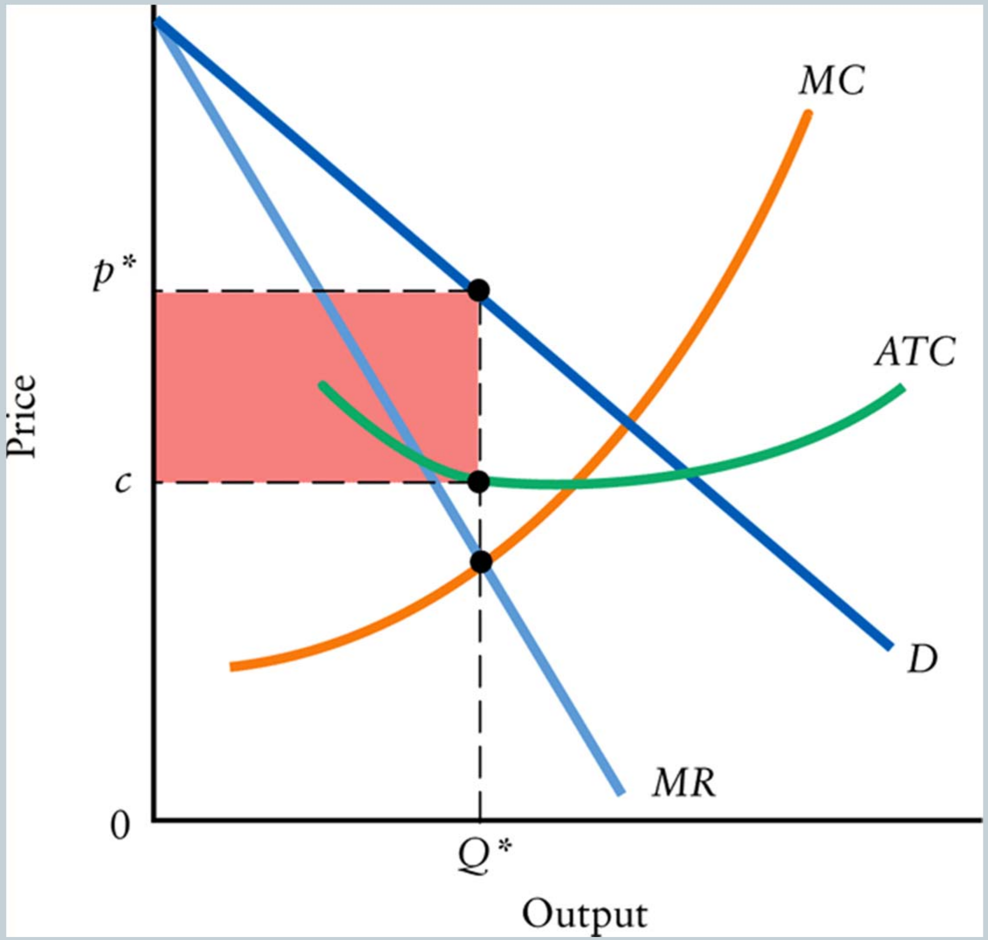


Short-Run Profit Maximization

Two general rules about profit maximization

1. The firm should not produce at all unless its revenues exceed its variable costs.
2. If the firm does produce, it should produce a level of output such that its marginal revenue equals its marginal cost.

Short-Run Profit Maximization for a Monopolist



Nothing guarantees that a monopolist will make positive profits in the short run, but if it suffers persistent losses, eventually it will go out of business.

Monopolist’s Profit-Maximizing Behavior

There is no unique relationship between market price and the quantity of output supplied.

➔ A monopolist does not have a supply curve

The monopolist is the only producer in an industry.

➔ A monopolist is the industry.

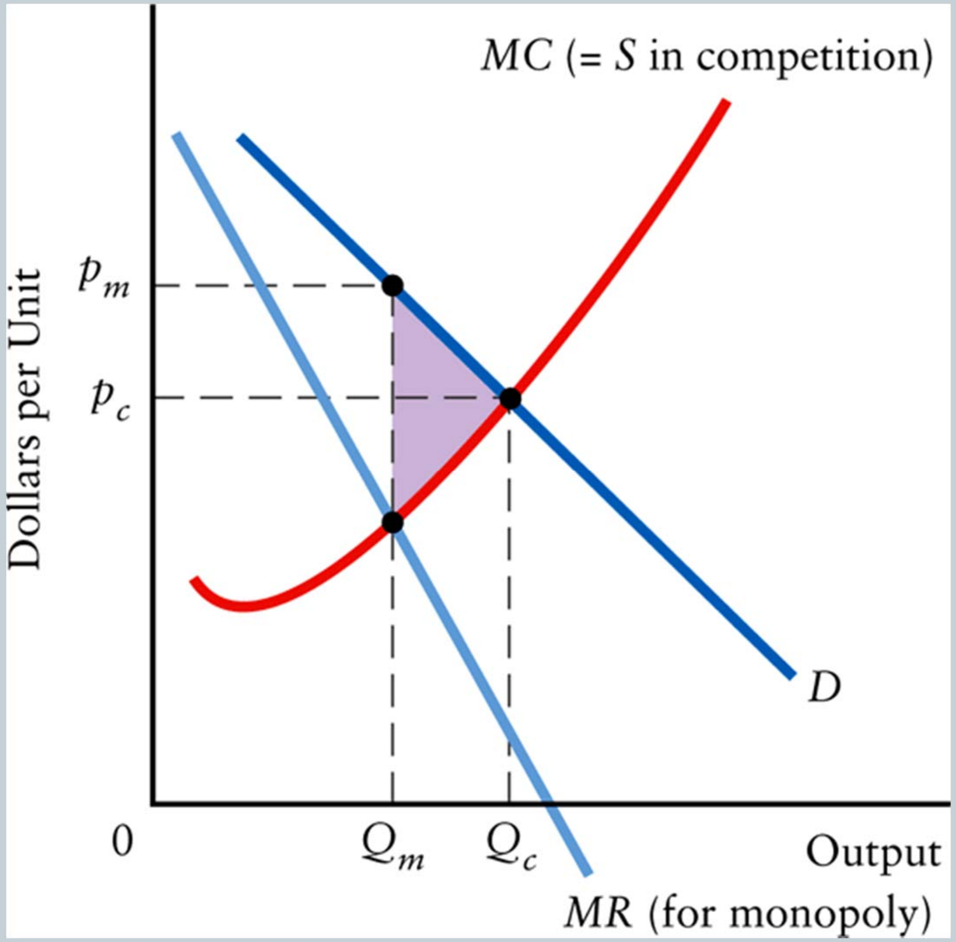
Competition and Monopoly Compared

Unlike a competitive firm, the monopolist does not have a supply curve because it <u>chooses</u> its price.

The monopolist is the industry, so that its profit-maximizing conditions is the equilibrium of the industry.

In a perfectly competitive industry price equals MC. But a monopolist produces at a lower level of output, with price exceeding MC.

The Inefficiency of Monopoly



A monopolist restricts output below the competitive level and thus reduces the amount of economic surplus generated in the market. Therefore, the monopolist creates an inefficient market outcome.

Entry Barriers and Long-Run Equilibrium

Despite incentives to enter, effective entry barriers allow monopoly profits to persist in the long run.

Entry barriers are of two types:

- "natural" – such as economies of scale

- "created" – by advertising campaigns or

– by government regulation

The Very Long Run and Creative Destruction

In the very long run, technological changes and innovations can circumvent effective entry barriers.

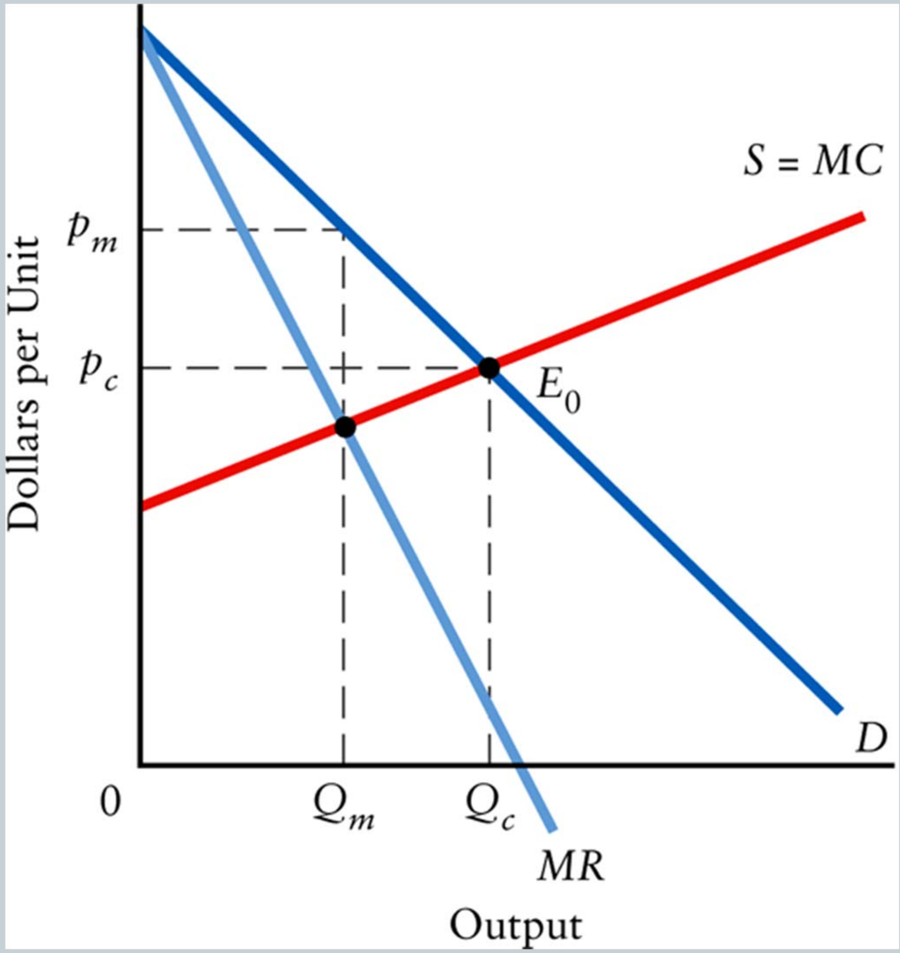
1. A firm may be able to develop a new production process that avoids a patent upon which a monopolist relies to bar the entry of competing firms
2. A firm may compete by producing a somewhat different product satisfying the same need as the monopolist's product.
3. A firm may get around a natural monopoly by inventing a technology that produces at a low minimum efficient scale and allows it to enter the industry and still cover its full costs.

A monopolist’s entry barriers are often circumvented by the innovation of production processes and the development of new goods and services. Such innovation explains why monopolies rarely persist, except those that are protected through government character or regulation.

Cartels As Monopolies

An organization of producers who agree to act as a single seller in order to maximize joint profits.

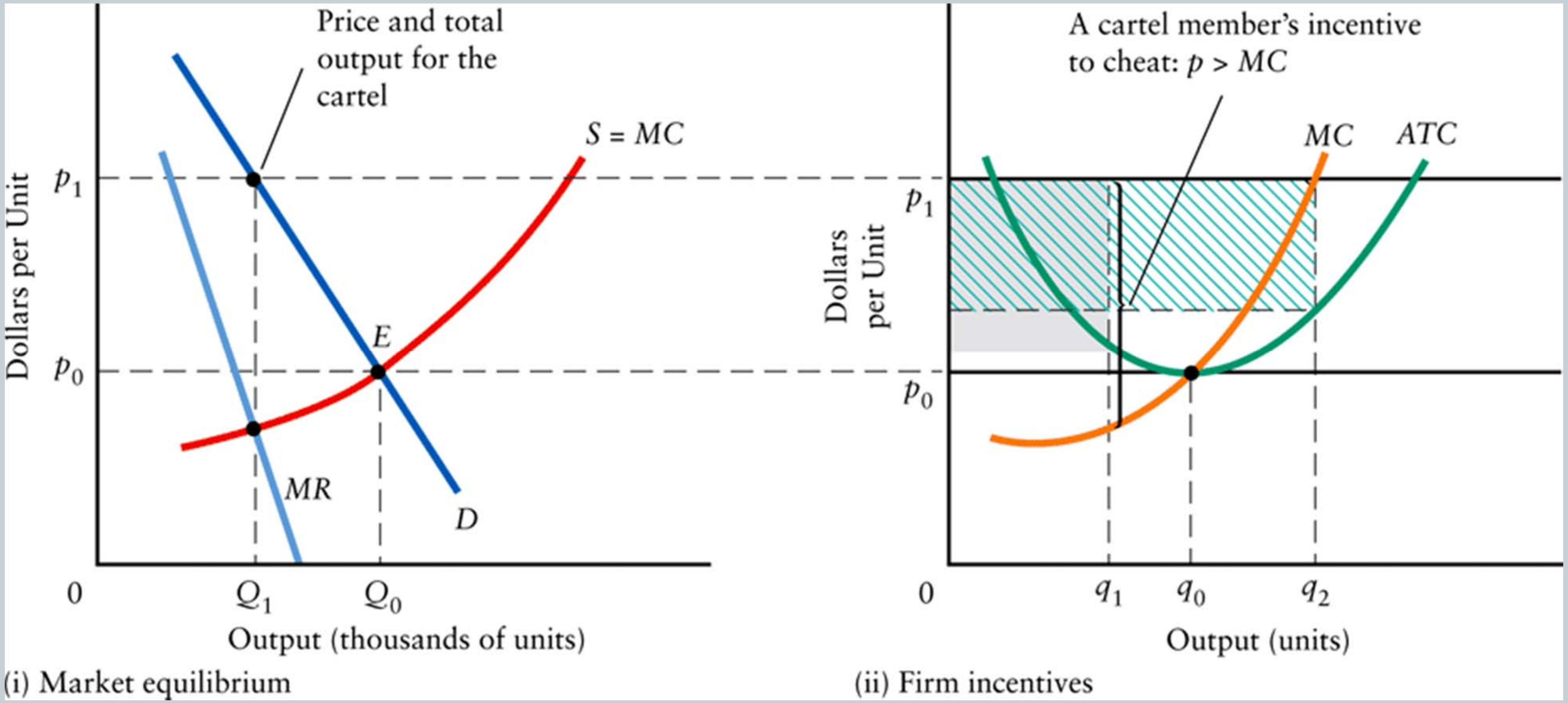
The Effect of Forming a Cartel in a Competitive Industry



Problems of Cartels Face

- Ensuring that members follow the behavior that will maximize the cartel members' joint profits
- Preventing these profits from being eroded by the entry of new firms

A Cartel Member's Incentive to Cheat



Enforcement of output restrictions

Cartel tends to be unstable because of the incentives for individual firms to violate the output restriction needed to sustain the joint-profit-maximization (monopoly) price.

Restricting entry

- An industry that is able to support a number of individual firms presumably has no overriding natural entry barriers
- Thus, if it is to maintain its profits in the long run, a cartel of many separate firms must create barriers that prevent the entry of new firms that are attracted by the cartel's profits
- Successful cartels are often able to license the firms in the industry and to control entry by restricting the number of licenses

Source:

- Lipsey, Ragan, and Storer (2008)