Perfect Competition

Production in a Price-Taker Market

4 General Market Structures

	# of Firms	Product Differentiation	Barriers to Entry/Exit	Market Power	LR profits
Perfect Competition	Many	None. Homogeneous product	None	No market power, price taker	None
Monopolistic Competition	Many	Differentiated, but similar products	Small	Very little	None
Oligopoly	Few	Products are interdependent	Substantial	Considerable, but shared	Yes, potentially
Monopoly	One	No close substitutes	Insurmountable	Considerable market power	Likely

Perfect Competition

The **distinguishing characteristic** of perfect competition is that **firms** in that market structure are **price-takers** on the product market.

Price-takers face a market price that is **not affected by the amount of product** that any one seller offers to sell. So a price-taker can **sell as much as the seller desires** to sell at the **given market price**.

Price-Taking Markets

It's a nice **simplifying assumption**, but are there a lot of **price-taker markets** out there? **Yes!**

Agricultural crops (corn, wheat, soy), cattle ranchers, chicken farmers, precious metals (silver, gold), energy commodities (coal, oil, natural gas), most corporate stocks/bonds, rates of interest on commercial paper and money markets, foreign exchange markets, unskilled labor markets.

Price-Taking, Clarified

The price in price-taking markets changes, but it changes when large numbers of sellers (or all of them) adjust to some new circumstance. **The price is set at the market level**. Each of the firms in that industry views that market price as a given that no one of them is able to move. The sheer number of sellers is relevant, but not especially.
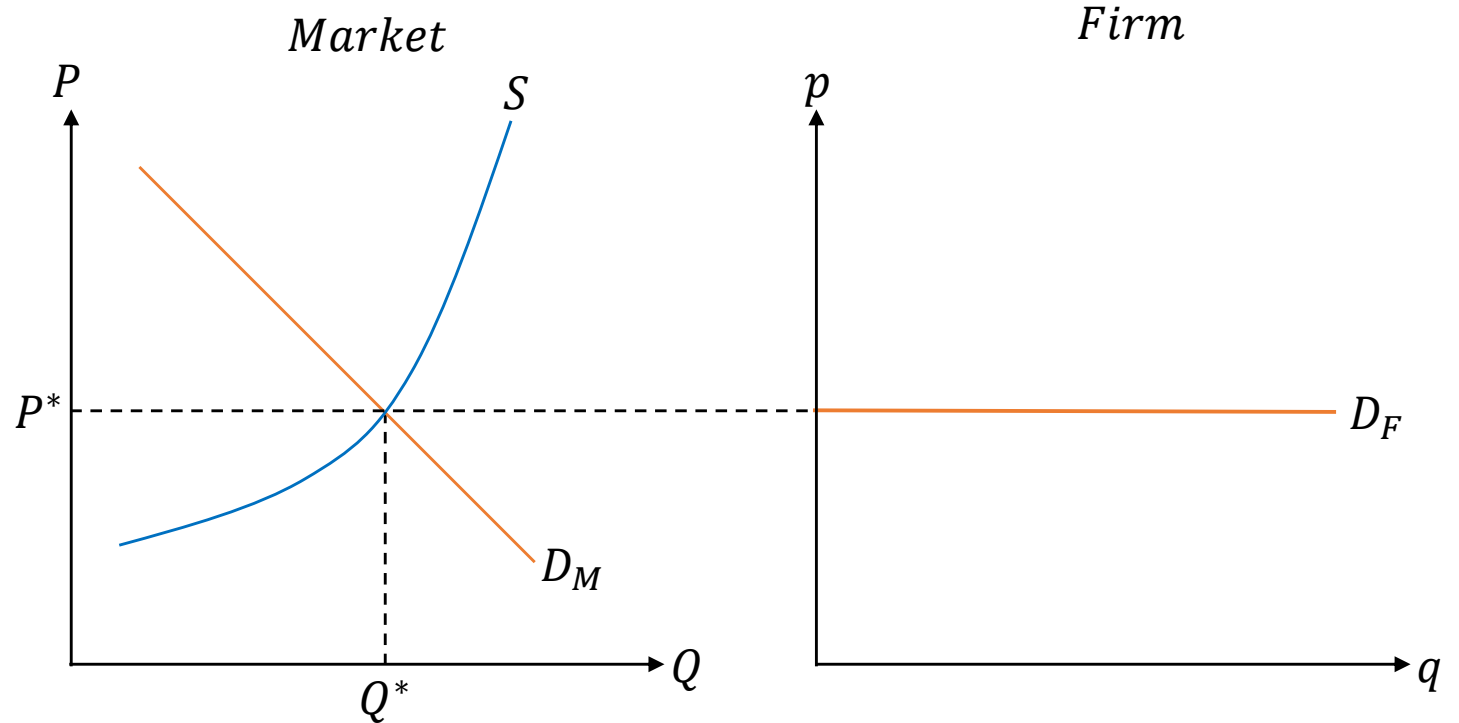
Two things alone are necessary to create price-taking:

1. Homogeneity of the good/service
2. No barriers to entry/exit

Our Perfect Competition Model

The **market supply** and **demand** determine the price the firm faces.

The **firm** treats this **price** as a **horizontal** (perfectly elastic) **demand** curve for its product.

Market

P

S

P^*

D_M

Q^*

Q

Firm

p

D_F

q

Profit Maximization

$$Profit = Revenue - Cost$$

To **maximize profits**, we take the **marginal values** and set them equal to zero to find maximum, or

$$MR - MC = 0$$

This implies **profits are maximized** when $MR = MC$.

Marginal Revenue for Price-Takers

Price-takers can sell **all the output they want** at the **prevailing price**. This means that for each unit, they earn **the market price**.

The change in their revenue for changing output (**marginal revenue**) is, therefore, **the market price**.

Their **average revenue** is also **the market price**.

Profit Maximizing for Price-Takers

From the last two slides, it follows that **price-takers will maximize profits when** $p = MC$.

This means that the firm will choose output where **the price** hits **the marginal cost curve** (in the short run).

The **size of their profits**, however, will **depend on average costs**.

(SR) Profit Maximizing and Measuring

For any price (p), the output decision (q^*) corresponds to the **intersection of price and MC**.

Profits are found by the **vertical distance** between p and the **value of ATC** for that value of q. This **area** is shaded transparent blue in this example.
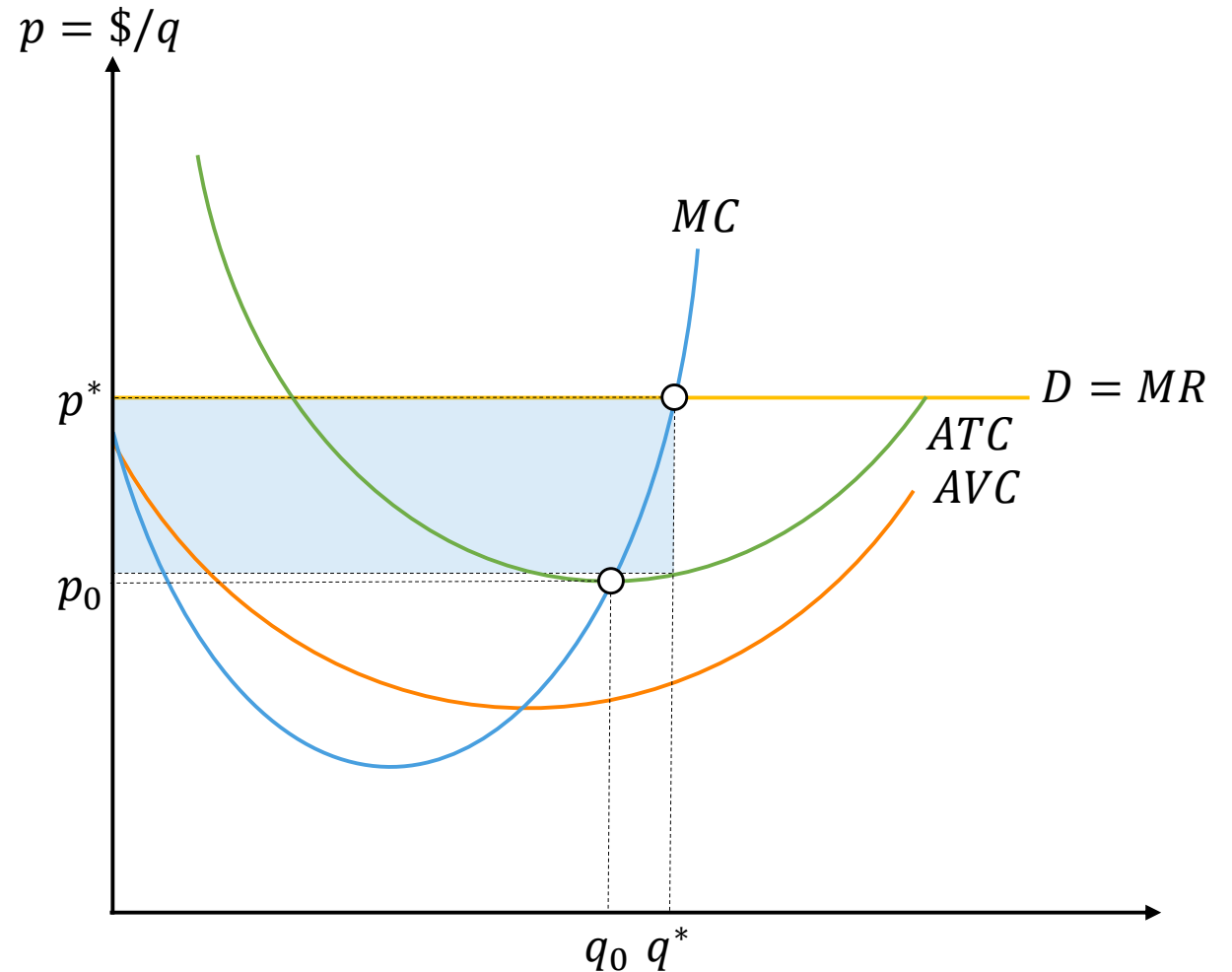
The Problem of Loss

For any price (p), the output decision (q^*) corresponds to the **intersection of price and MC.**

In this case, however, the market price, p^*, is **below** the ATC, implying **short-run losses.** Since this price is still above the AVC, the firm should **continue to operate**, but will either need to **restructure** or **leave** the industry.
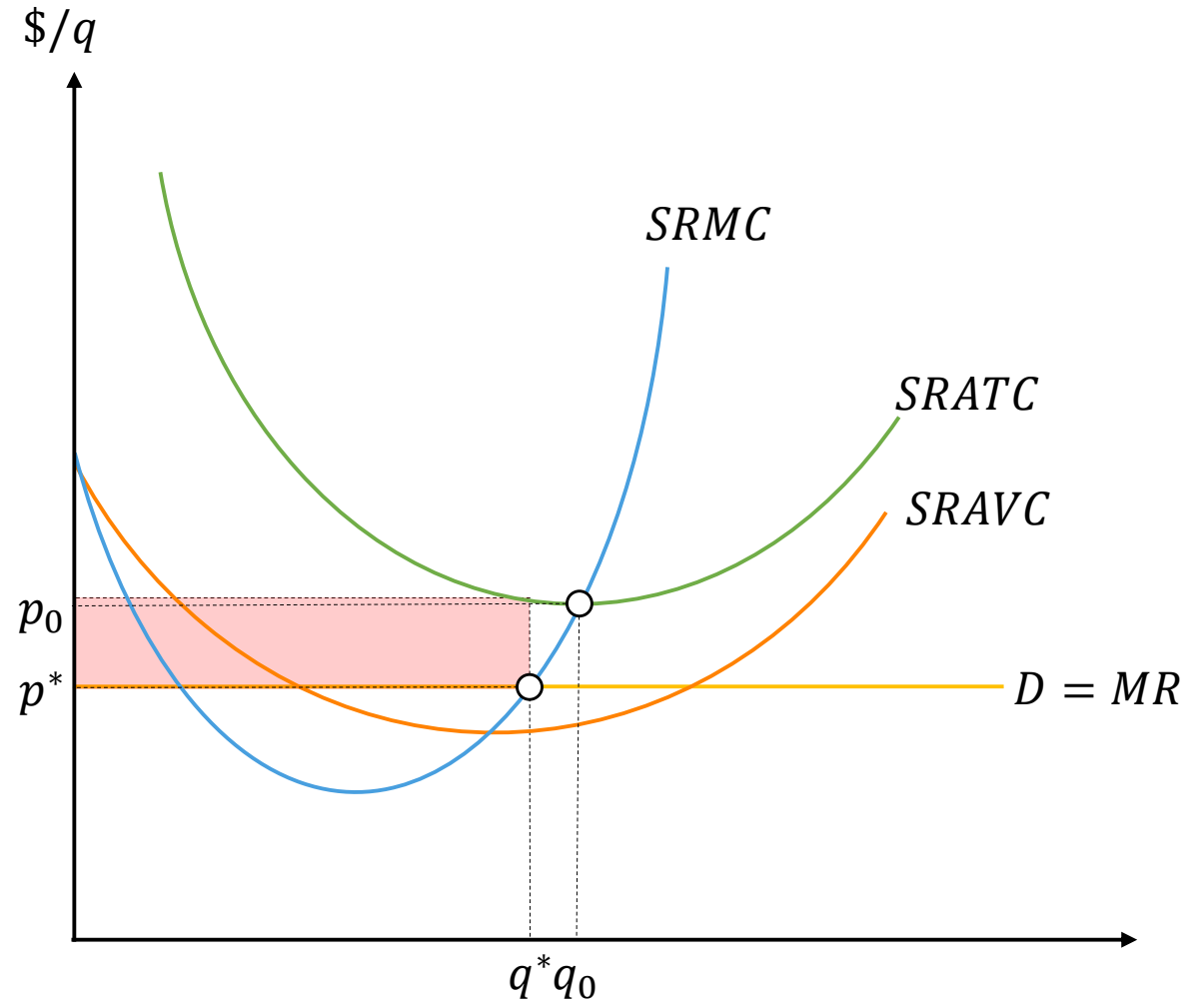
When the perfectly competitive firm is maximizing profit in the short run, it will

A. choose the quantity that maximizes total revenue.

✔ B. produce at the point where marginal revenue equals marginal cost.

C. also minimize its marginal cost.

D. also minimize its total cost.

0% 0% 0% 0%

choose the quantity that… produce at the point wh… also minimize its margin… also minimize its total c…
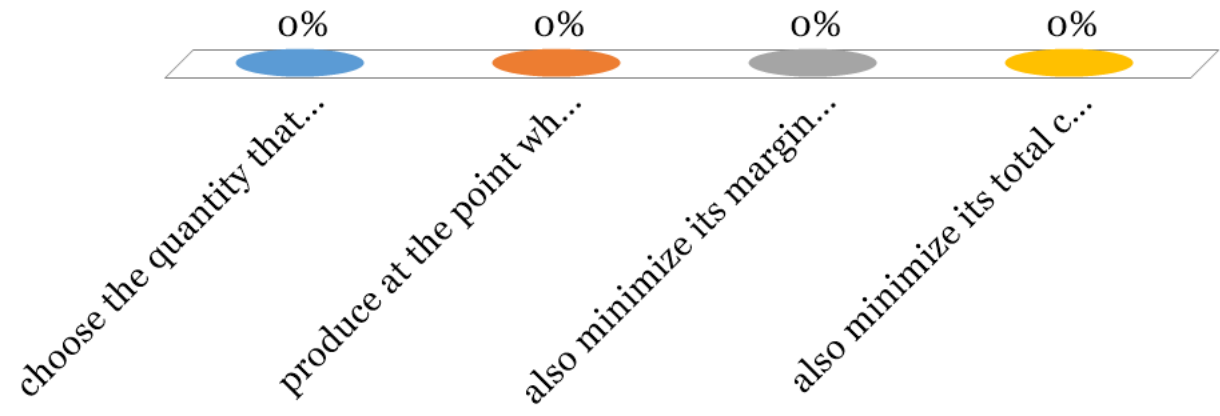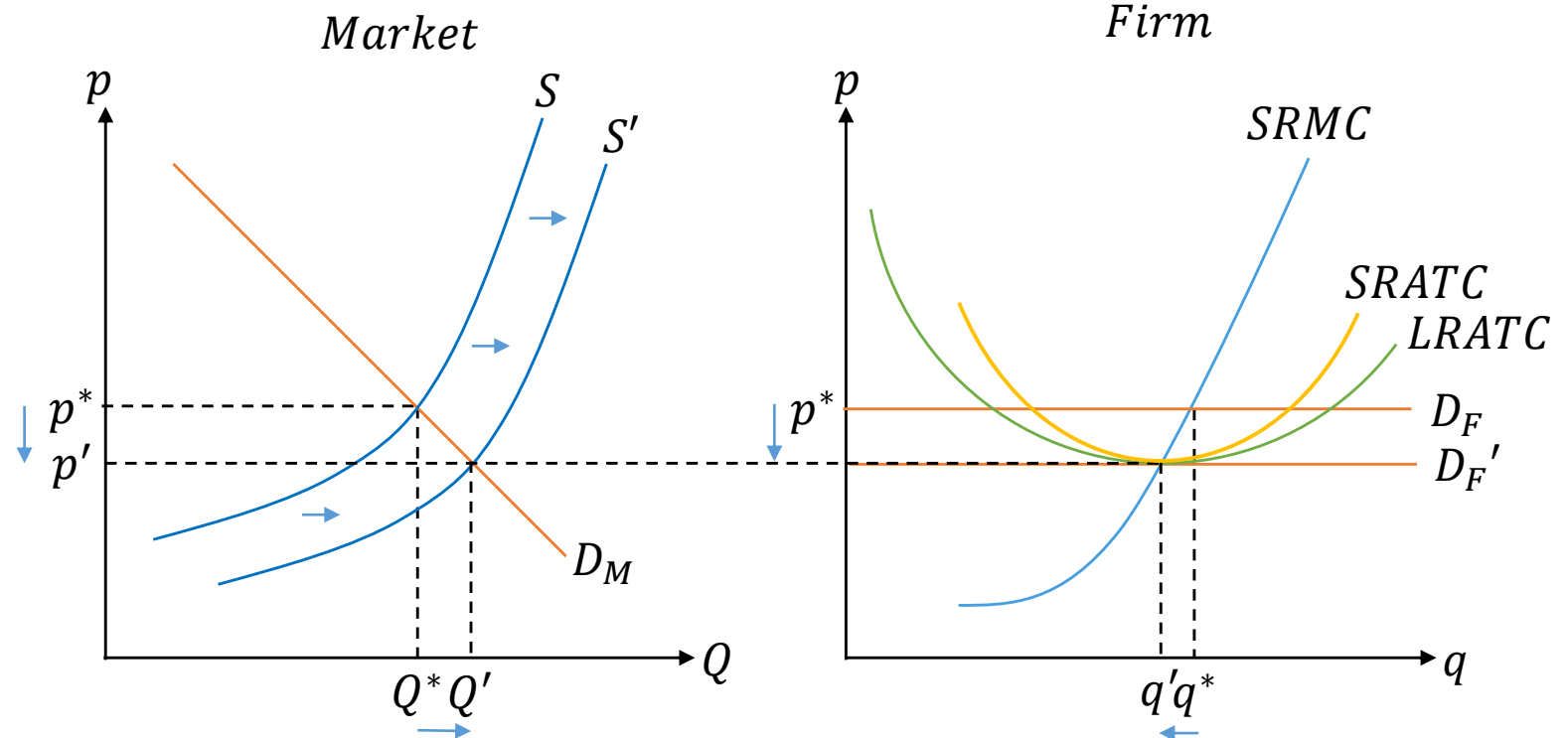
Normal Profit

In economics, there is a concept called "**normal profit**" which means making **zero economic profit**. In the short run and long run, this means a **market price at the minimum of *ATC* curves**.

While firms might be able to earn **super-normal** (literally, above normal, or above zero) profits in **the short run**, **entry and exit** (a long-run phenomenon) will tend to **push all profits down toward zero in the long run**.

Eliminating SR Profits

Suppose firms are making **short-run profits** because p^* is above the ATC curves at q^*.
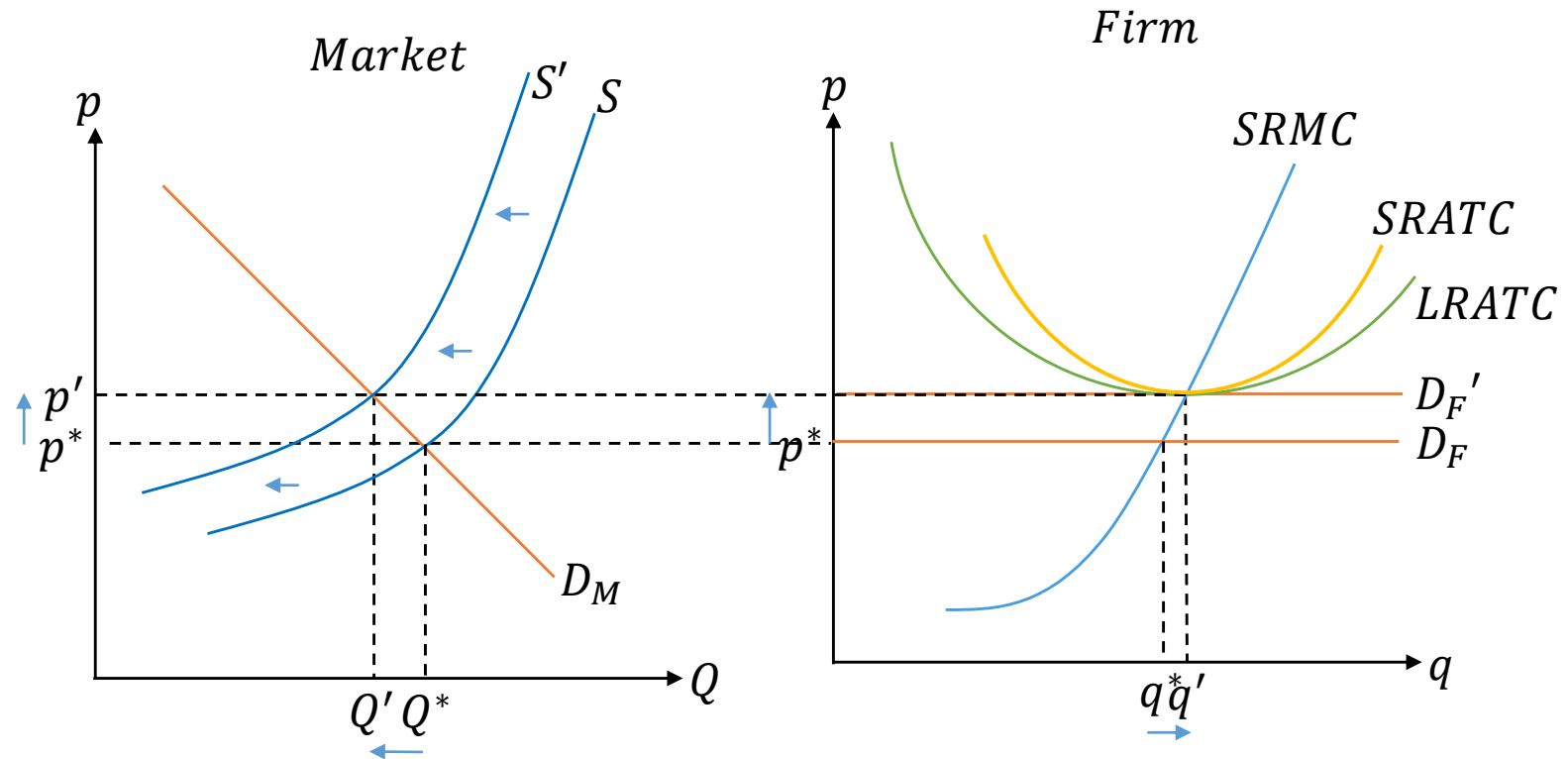
Firms will enter, shifting S to **the right**, putting **downward pressure** on p until profits are driven to 0.

Market

Firm

Clearing SR Losses

Suppose firms are **suffering losses** because p^* is below the ATC curves at q^*.

Firms will exit, shifting S **to the left**, **pulling p up** until losses are eliminated and profits are normal, i.e. zero.

A Side Note on Optimal SR Selection

In the previous two slides, $SRMC$ pass through the lowest point on $SRATC$ and $LRATC$ because **managers have selected** the specific **short-run scenario** that corresponds to the **lowest point on the** *LRATC*.

Any other short run scenario would have higher average costs and would **be inefficient**, causing the firm to **lose money in the short run**. **Adjustments would be necessary** to stay in (i.e., not exit) the industry.

Competition will **push managers** to **discover** this **lowest-cost short-run** mix of fixed and variable costs.

Perfect Competition and Efficiency

Our model of **perfect competition** describes a world of efficiency. [perfectly] Competitive markets **maximize joint surplus** (with a **heavy bent** toward high **consumer surplus**) and achieve **Pareto** efficiency.

Because of this, perfect competition is often considered a **normative** (desirable) **benchmark** for the **performance of all markets**. We will have to ask whether that is reasonable.