

# Perfect Competition and the >> Supply Curve

## Section 1: Perfect Competition

Suppose that Yves and Zoe are neighboring farmers, both of whom grow organic tomatoes. Both sell their output to the same grocery store chains that carry organic foods; so, in a real sense, Yves and Zoe compete with each other.

Does this mean that Yves should try to stop Zoe from growing tomatoes or that Yves and Zoe should form an agreement to grow less? Almost certainly not: there are hundreds or thousands of organic tomato farmers, and Yves and Zoe are competing with all those other growers as well as with each other. Because so many farmers sell organic tomatoes, if any one of them produced more or less, there would be no measureable effect on market prices.

When people talk about business competition, the image they often have in mind is a situation in which two or three rival firms are intensely struggling for advantage. But economists know that when a business focuses on a few main competitors, it's actually a sign that competition is fairly limited. As the example of organic tomatoes suggests, when there is enough competition it doesn't even make sense to identify your opponents: there are so many competitors that you cannot single out any one of them as a rival.



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A **price-taking producer** is a producer whose actions have no effect on the market price of the good it sells.

A **price-taking consumer** is a consumer whose actions have no effect on the market price of the good he or she buys.

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A **perfectly competitive market** is a market in which all market participants are price-takers.

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A **perfectly competitive industry** is an industry in which producers are price-takers.

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We can put it another way: Yves and Zoe are **price-taking producers**. A producer is a price-taker when its actions cannot affect the market price of the good it sells. As a result, a price-taking producer considers the market price as given. When there is enough competition—when competition is what economists call “perfect”—then every producer is a price-taker. And there is a similar definition for consumers: a **price-taking consumer** is a consumer who cannot influence the market price of the good by his or her actions. That is, the market price is unaffected by how much or how little of the good the consumer buys.

## Defining Perfect Competition

In a **perfectly competitive market**, all market participants, both consumers and producers, are price-takers. That is, neither consumption decisions by individual consumers nor production decisions by individual producers affect the market price of the good.

The supply and demand model, which we introduced in Chapter 3 and have used repeatedly since then, is a model of a perfectly competitive market. It depends fundamentally on the assumption that no individual buyer or seller of a good, such as scalped tickets to a hockey game or organic tomatoes, believes that he or she can affect the price at which he or she can sell or buy the good.

As a general rule, consumers are indeed price-takers. Instances in which consumers are able to affect the prices they pay are rare. It is, however, quite common for producers to have a significant ability to affect the prices they receive, a phenomenon we’ll address in Chapter 14. So the model of perfect competition is appropriate for some but not all markets. An industry in which producers are price-takers is called a **perfectly competitive industry**. Clearly, some industries aren’t perfectly competitive; in later chapters we’ll see how to analyze industries that don’t fit the perfectly competitive model.

Under what circumstances will all producers be price-takers? In the next section we will see that there are two necessary conditions for a perfectly competitive industry and that a third condition is often present as well.

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A producer's **market share** is the fraction of the total industry output represented by that producer's output.

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## Two Necessary Conditions for Perfect Competition

The markets for major grains, like wheat and corn, are perfectly competitive: individual wheat and corn farmers, as well as individual buyers of wheat and corn, take market prices as given. In contrast, the markets for some of the food items made from these grains—in particular, breakfast cereals—are by no means perfectly competitive. There is intense competition among cereal brands, but not *perfect* competition. To understand the difference between the market for wheat and the market for shredded wheat cereal is to understand the two necessary conditions for perfect competition.

First, for an industry to be perfectly competitive, it must contain many producers, none of whom have a large **market share**. A producer's market share is the fraction of the total industry output represented by that producer's output. The distribution of market share constitutes a major difference between the grain industry and the breakfast cereal industry. There are thousands of wheat farmers, none of whom account for more than a small fraction of 1 percent of total wheat sales. The breakfast cereal industry, however, is dominated by four producers: Kellogg's, General Mills, Post, and Quaker Foods. Kellogg's alone accounts for about one-third of all cereal sales. Kellogg's executives know that if they try to sell more corn flakes, they are likely to drive down the market price of corn flakes. That is, they know that their actions influence market prices, simply because they are so large a part of the market that changes in their production will significantly affect the overall quantity supplied. It makes sense to assume that producers are price-takers only when an industry does *not* contain any large players like Kellogg's.




Second, an industry can be perfectly competitive only if consumers regard the products of all producers as **equivalent**. This clearly isn't true in the breakfast cereal market: consumers don't consider Cap'n Crunch to be a good substitute for Wheaties. As a result, the maker of Wheaties has some ability to increase its price without fear that it will lose all its customers to the maker of Cap'n Crunch. Contrast this with the case


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A good is a **standardized product**, also known as a **commodity**, when consumers regard the products of different producers as the same good.

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of a **standardized product**, sometimes known as a **commodity**. Consumers regard the output of one wheat producer as a perfect substitute for that of another producer. Consequently, one farmer cannot increase the price for his wheat without losing all his sales to other wheat farmers. So the second necessary condition for a competitive industry is that the industry output is a standardized product. 

## Free Entry and Exit

All perfectly competitive industries have many producers with small market shares, producing a standardized product. Most perfectly competitive industries are also characterized by one more feature: it is easy for new firms to enter the industry or for firms that are currently in the industry to leave. That is, no obstacles in the form of government regulations or limited access to key resources prevent new producers from entering the market. And no additional costs are associated with shutting down a company and leaving the industry. Economists refer to the arrival of new firms into an industry as *entry*; they refer to the departure of firms from an industry as *exit*. When there are no obstacles to entry into or exit from an industry, we say that the industry has **free entry and exit**. 

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There is **free entry and exit** into and from an industry when new producers can easily enter into or leave that industry.

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Free entry and exit is not strictly necessary for perfect competition. In Chapter 4 we described the case of New Jersey clam fishing, where regulations have the effect of limiting the number of fishing boats. Despite this, there are enough boats operating that the fishermen are price-takers. But free entry and exit is a key factor in most competitive industries. It ensures that the number of producers in an industry can adjust to changing market conditions. And, in particular, it ensures that producers in an industry cannot artificially keep other firms out.

To sum up, then, perfect competition depends on two necessary conditions. First, the industry must contain many producers, each having a small market share.



Second, the industry must produce a standardized product. In addition, perfectly competitive industries are normally characterized by free entry and exit.

How does an industry that meets these three criteria behave? As a first step toward answering that question, let's look at how an individual producer in a perfectly competitive industry maximizes profit. ■ 