

# Introduction to Economic Theory and the Market Economy

We attempt to understand the “real world” economy by building *models*, using the models to derive hypotheses, and testing the models by observing data.

Models abstract certain features of reality by making simplifying assumptions.

Example (Physics): Model describing the time for a ball to hit the ground when dropped from a tower.  
Assume: no air resistance, constant force of gravity.

Example (Economics): The local gasoline market.  
Assume: all gas stations sell the same homogeneous product, consumers know the prices charged at each station, all stations charge the same price.

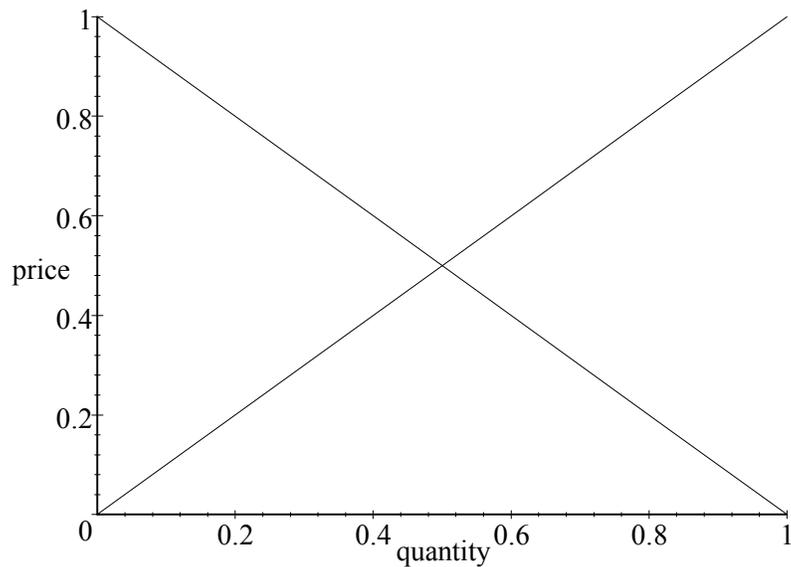
More detailed and realistic models are not necessarily better: for example, a road map.

The key is whether the model's assumptions are reasonable. Above gasoline market model may be reasonable if you want to study the effect of gasoline taxes on gasoline consumption, but not if you want to study price variation across stations.

Economic models tend to be difficult to test: (1) you can't control the US monetary policy for 20 years because you want to run an experiment and see what would happen. (2) Some questions involve many, many variables. Behavior on one market is connected to behavior on every other market. More like meteorology than physics.

Everyone works from a model in how they organize and evaluate data, whether implicitly or explicitly. For example, understanding causality from correlations in data requires a model. Is one variable causing the other, or is an omitted variable causing both? Even timing can be misleading: buying a crib is often followed by the birth of a child.

## The Model of Supply and Demand

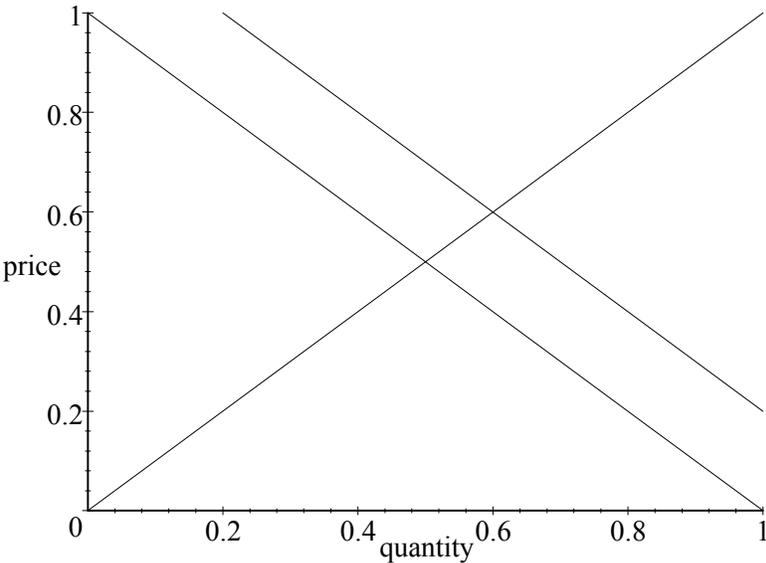


Assume: Consumer purchases are represented by a downward sloping demand curve. Output supplied by firms is represented by an upward sloping supply curve. Price is taken as given, outside the control of an individual consumer or firm. The outcome will be where supply equals demand (firms can sell as much as they want).

Market forces push us to the “equilibrium” where supply equals demand. Equilibrium is stable.

Comparative statics: how does the equilibrium change when a parameter of the model changes?

If demand increases (tomatoes prevent cancer), the price and quantity both go up.



If supply increases (influx of foreign tomato pickers), the price goes down and the quantity goes up.

Increase in demand vs. increase in quantity demanded.

## Scarcity and Resource Allocation

Because we have limited resources, the economy faces *scarcity*. People would prefer to consume more than the economy is capable of producing.

Therefore, the economy must solve the problem of *resource allocation*: (1) how much of each good to produce, (2) how to produce it, and (3) how to distribute the production to consumers.

There are *tradeoffs*: producing more oranges requires reallocating resources away from the production of apples.

An economic system produces an allocation that is *efficient* or *Pareto optimal* if:

(1) (efficiency in production) It is impossible to produce more of all goods, either by eliminating waste in the production of some good, or by reallocating resources (capital, labor, land, etc.) from one good to another.

(2) (efficiency in distribution) It is impossible to make all consumers better off, either by altering the mix of output produced, or by reallocating existing output across consumers.

## The Market Economy with Perfect Competition

The Perfectly Competitive Market Economy is one of many possible economic systems.

–Private ownership of initial resources

–Self-interested behavior by individual consumers and firms

–Trade takes place on markets (for inputs and outputs), where consumers and firms are *price takers*

–No externalities (pollution).

Adam Smith's *invisible hand*: the perfectly competitive market economy is Pareto optimal. Self interested behavior leads to an efficient outcome. Any efficient outcome can be achieved through markets.