

Shifts in Supply and Demand

1. Expanding what is endogenous
2. Supply shifts.
3. Demand shifts.
4. Three-step method.
5. Double shifts.

The Curves Become Endogenous

Now the model changes, so that the supply and demand curves become endogenous.

When particular exogenous variables change, the model *predicts* that the *endogenous* supply or demand curve shifts left or right.

As a second step, after the curve shift(s), the model *predicts* a new endogenous P and Q.

Change in exogenous variables

- ⇒ S & D curve shifts (first prediction)
- ⇒ new P and Q. (second prediction)

Shifts in Supply & Demand

The supply curve shifts in response to any *exogenous* variable that affects how much sellers want to supply. (It does not shift in response to changes in the *endogenous* price of the same good.)

The demand curve shifts in response to any *exogenous* variable that affects how much buyers want to demand. (It does not shift in response to changes in the *endogenous* price of the same good.)

Ceteris Paribus

Usually we study the impact of changing *one* exogenous variable. Usually this variable affects the supply curve or the demand curve but not both.

Economists use the Latin phrase “ceteris paribus” to mean “assuming that all other exogenous variables remain fixed.”

Changes in demand (D) versus changes in quantity demanded (Q_D)

When economists say that *demand increases*, they mean that the demand curve (D) shifts to the right.

When economists say that the *quantity demanded increases*, they mean that the quantity demanded at the market price (Q_D) increases.

Two principles governing supply shifts

Anything that reduces costs (lower input prices or superior technology) increases supply.

New capacity increases supply.

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New capacity increases supply.
(This includes new entrants.)

Costs Include Opportunity Costs

If the opportunity costs of inputs that are already owned rise (because their value in other uses rises), then supply falls.

Exogenous Variables Affecting Supply (from firms)

Variables:

- Technology (affects costs)
- Prices of inputs (affect costs)
- Prices of substitute outputs
- New capacity or entry (or exit)
- Expectations of future prices

These variables affect the position of the supply curve.

Changes in Downstream Demand

If the demand for a product increases, then the demand for its inputs usually increases.

Example: if the demand for steel (the downstream market) rises, then the *demand* for iron (the upstream market) rises.

(We have previously discussed how changes in costs (the *upstream* market) affect *supply* (the *downstream* market.)

Three-step Method

Step 0 (initial condition): The initial values of the exogenous variables set the initial positions of the supply and demand curves,

Step 1 (which curve shifts?): Some exogenous variable changes. Does it directly affect the suppliers or the demanders (or both)?

Step 2 (which way does it shift?): Increases in supply or demand are shifts *right*. Decreases in supply or demand are shifts *left*.

Step 3 (what happens to equilibrium P and Q?): How does the exogenous shift in supply or demand (or both) affect equilibrium P and Q?

Changes in Income

Higher incomes cause the demand for most goods to *increase*.

Substitutes and Complements

Two goods are substitutes (used instead of one another) if an increase in the price of one causes the demand for the other to *rise*.

Two goods are complements (used together) if an increase in the price of one causes the demand for the other to *fall*.

Preferences

Preferences are what make you happy. Economists typically do not attempt to explain preferences.

(1) Demand may shift because consumers' preferences shift.

(2) Demographic changes may shift demand.

Exogenous Variables Affecting Demand (from consumers)

Variables:

- Tastes (preferences)
- Prices of substitutes & complements
- Income and wealth
- Demographics
- Expectations of future prices

These variables affect the position of the demand curve.

Double Shifts

If supply and demand both shift (typically from separate causes), then usually either the effect on price or the effect on quantity is ambiguous.