# Basics of Economics

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## 1 Supply and Demand

A market is any arrangement that enables buyers and sellers to get information and do business with each other. One solution to the question of how scarce resources should be allocated is the mechanism of a competitive market.

Markets have two parts, the **demand side**, which entails consumers that way to buy, and the **supply side**, the sellers and producers.

### 1.1 Demand

You demand something if you want it, can afford it, and have definite plans to buy it. The **quantity demanded** of a good or service is the amount that consumers plan to buy during a particular time period at a particular price.

#### 1.1.1 The Law of Demand

The Law of Demand states that, ceteris paribus, the higher the price of a good, the smaller the quantity demanded. The lower the price of a good, the larger the quantity desired. **Demand** refers to the entire relationship between the price of a good and the quantity demanded of that good. It is determined by preferences, income, and the price of other goods. Two factors for the Law of Demand are:

**The Substitution Effect:** When the price of a good increases, people seek substitutes for it, so the quantity demanded decreases.

**The Income Effect:** When the price of a good increases relative to income, people cannot afford all of the goods they could previously, so the quantity demanded of the good decreases.

#### 1.1.2 The Demand Curve

The demand curve shows the relationship between the quantity of a good and its price when all other influences on a consumer's planned purchases remain the same. It represents the willingness to pay for each quantity. The price along

the demand curve is the highest price a consumer is willing to pay for that unit (Marginal Benefit Curve).

## 1.2 Supply

A firm supplies a good or service if it has the resources and technology to produce that good, can make a profit from producing that good, and has definite plans to produce and sell it. The **quantity supplied** of good or service is the amount producers plan to sell during a particular time period at a particular price. For any given price, the quantity supplied tells us how much firms are willing to sell at that price.

### 1.2.1 The Law of Supply

The Law of Supply states that, ceteris paribus, producers are willing to supply a good if they can at least cover their marginal costs. This results from the general tendency for the marginal cost of producing a good to increase as the quantity supplied increases.

### 1.2.2 The Supply Curve and Supply Schedule

The supply curve shows the relationship between the quantity supplied of a good and its price when all other influences on a producer's plans remain the same. Example supply curve:

| Price of iPhones | Quantity Supplied (in thousands) |
|---|---|
| 0 | 0 |
| 150 | 10 |
| 300 | 20 |
| 450 | 30 |
| 600 | 40 |

## 1.3 Market Equilibrium

Equilibrium is a situation in which opposing forces balance each other. A market equilibrium occurs when the price balances the plans of buyers and sellers.

### 1.3.1 Equilibrium Price $P^*$

$$Q_S \ at \ P^* = Q_D \ at \ P^*$$

The equilibrium price is the price at which the quantity demanded equals the quanitity supplied. The equilibrium quantity is the quantity bought and sold at that price. At prices below the equilibrium price there is excess demand, or shortage. At prices above the equilibrium price there is excess supply, or surplus.

At prices *above* the equilibrium, a surplus forces prices down. At prices *below* the equilibrium, a shortage forces prices up. The equilibrium point is stable, as there is no pressure on prices to change.

### 1.3.2 Predicting Changes in Price and Quantity

The demand curve shifts constantly. At the original price, there is either a surplus or shortage. The price rises or falls to restore the equilibrium and the quantity supplied moves along the supply curve.

The supply curve also shifts. At the original price, there can also be a surplus or shortage. The price rises or falls to restore the equilibrium and quantity demanded moves along the demand curve.

### 1.3.3 Changes in Demand

Changes in demand occur when factors other than the price influence buying plans.

**Prices of Related Goods:** Prices of related goods can affect demand. A **substitute** is a good that can be used in place of another good. A **complement** is a good that is used in conjunction with another good.

- A rise in the price of a substitute increases demand for the good.
- A decrease in the price of a substitute decreases demand for the good.
- A rise in the price of a complement decreases the demand for a good.
- A decrease in the price of a complement increases the demand for a good.

**Expected Future Prices:** Expected future prices also affect demand. If people expect the price to increase in the future, they will demand more now. Conversely, if people expect the price to decrease in the future, they will demand less now.

**Income:** For some goods, demand increases when income increases, but not all goods. The demand of a **Normal Good** increases when income increases. The demand of an **Inferior Good** decreases when income increases.

**Expected Future Income and Credit:** Demand can increase if people expect to earn more income in the future.

**Population:** The larger the population is, the larger the demand is for all goods.

**Preferences:** If preferences change, demand will shift.

### 1.3.4 Changes in Supply

Changes in supply occur when any factor other than the price influences selling plans.

**Prices of Factors of Production:** If the price of a factor of production rises, the minimum price that a producer is willing to accept for producing each quantity must also rise.

**Prices of Related Goods:** Prices of related goods can affect supply. A **subsitute in production** is a good that can be produced using the same resources. A **complement in production** is a good that must be produced in conjunction with another good.

- An increase in the price of a substitute in production increases the supply of a good.
- A decrease in the price of a substitute in production decreases the supply of a good.
- An increase in the price of a complement in production increases the supply of a good.
- A decrease in the price of a complement in production decreases the supply of a good.

**Expected Future Prices:** If the price of a good is expected to increase in the future, the supply of it today decreases.

**Number of Suppliers:** The larger the number of suppliers of a good, the greater the supply is of the good.

**Technology:** Advances in technology increase supply.

**State of Nature:** A natural disaster can decrease supply.

You can find all my notes at `http://omgimanerd.tech/notes`. If you have any questions, comments, or concerns, please contact me at alvin@omgimanerd.tech