

Microeconomics

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1 Foundations of Economics

1.1 Fundamental Problem of Economics

Human beings have many wants and needs. The physical objects they want or need are called *goods* (e.g., food, clothing, books), while the non-physical activities are called *services* (e.g., education, health care, entertainment).

The study of economics arises because people's needs and wants are unlimited, but the *resources* needed to satisfy them are limited. Resources are inputs used to produce goods and services, and for this reason are also known as *factors of production*. Factors of production do not exist in abundance; they are *scarce*.

Definition 1.1: Scarcity

Scarcity is the situation in which available resources, or factors of production, are finite, whereas wants are infinite. There are not enough resources to produce everything that human beings need and want.

As a result of scarcity, choices need to be made. Resource scarcity forces society to make a choice between available alternatives. Another important consequence of scarcity is avoiding waste in using resources. If resources are not used effectively and are wasted, they will end up producing less. Finally, scarcity gives rise to *opportunity cost*.

Definition 1.2: Opportunity Cost

Opportunity cost is defined as the value of the next best alternative that must be given up or sacrificed in order to obtain something else.

When a consumer chooses to use her \$100 to buy a pair of shoes, she is also choosing not to use this money to buy books. The foregone books are the opportunity cost.

1.2 Assumptions in Model-Building

Economists primarily make two assumptions when building models:

1. Ceteris Paribus
2. Rational Agents

Definition 1.3: Ceteris Paribus

A Latin expression that means ‘other things equal’. In the context of economics, it is saying that all other things are assumed to be constant or unchanging in order to study the effect of one independent variable on a dependent variable.

Definition 1.4: Rational Agents

Rational economic decision-making. This means that individuals are assumed to act in their best self-interest, trying to maximise (make as large as possible) the satisfaction they expect to receive from their decisions.

1.3 What is Microeconomics?

Definition 1.5: Microeconomics

Microeconomics is concerned with the behaviour of consumers, firms and resource owners, who are the most important economic decision-makers in a market economy.

2 Demand and Supply

2.1 What is a Market?

It is easiest to understand what a market is and how it works by dividing individual economic units into two broad groups, according to function, *buyers* and *sellers*.

Buyers purchase goods and services. Usually, there are two types of buyers: consumers and firms. Consumers purchase regular goods and service while firms purchase labor, capital, and raw materials that they use to produce goods and services.

Sellers sell goods and services. Usually, there are three types of sellers: firms, resource owners, and workers. Firms sell their goods and services, resource owners rent land or sell mineral resources to firms, and workers sell their labor services.

Definition 2.1: Market

A market is an arrangement where buyers and sellers meet to carry out an exchange which determines the price of a product.

2.2 Competitive and Non-Competitive Markets

A *perfectly competitive market* has many buyers and sellers, so that no single buyer or seller has any impact on price. Most agricultural markets are close to being perfectly competitive. This should be contrasted with *market power* (a.k.a *monopoly power*), which refers to the control that a seller has over the price of the product they sell. To make analysis easier, we begin the study of microeconomics by assuming perfectly competitive markets.

Some markets contain many producers but are *non-competitive*; that is, individual firms can jointly affect the price. The world oil market is one such example. Since the early 1970s, that market has been dominated by the OPEC cartel.

2.3 Demand

Definition 2.2: Demand

The demand represents how much of a good consumers are *willing* and *able* to buy at different possible prices in a particular time period.

There are two keywords in the definition; willing and able. ‘Willing’ means that consumers want to buy the product. ‘Able’ means they can afford the product. For instance, consider the demand for Ferraris. You may want to buy a Ferrari, but can you afford it? If not, your desire to buy one will not show up as demand for Ferraris.

The demand for a product is usually represented by a curve with the possible prices on the y -axis and the quantity demanded on the x -axis.

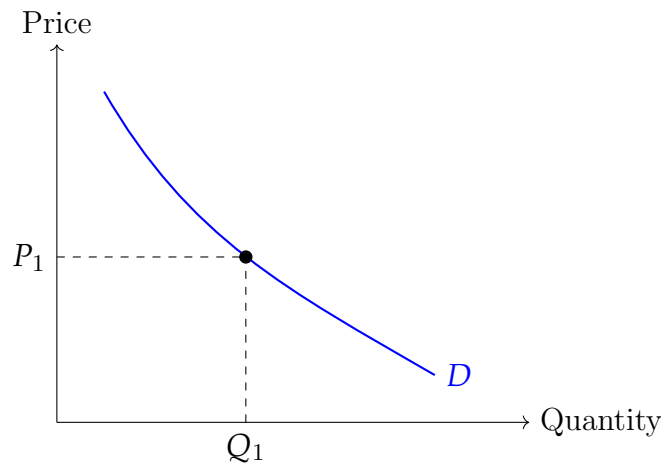


Figure 1: Demand Curve

2.3.1 Why Does the Demand Curve Slope Downward?

There are two explanations for the downward slope of the demand curve:

1. Law of Demand
2. Law of Diminishing Marginal Benefit

Definition 2.3: Law of Demand

There exists a negative causal relationship between price and quantity demanded. As the price of a good decreases, the quantity of the good demanded increases, *ceteris paribus*.

Definition 2.4: Law of Diminishing Marginal Benefit

Consumers buy goods because it provides them with some benefit or satisfaction known as *utility*. The greater the quantity of a good consumed, the greater the utility. However, the extra benefit provided by each additional unit increases by smaller and smaller amounts. The extra benefit that you get from each additional unit of something you buy is called the *marginal benefit* or *marginal utility* (marginal means extra or additional). Since each successive unit of the good you consume produces less and less benefit, you will be willing to buy each extra unit only if it has a lower and lower price.

2.3.2 Non-Price Determinants of Demand

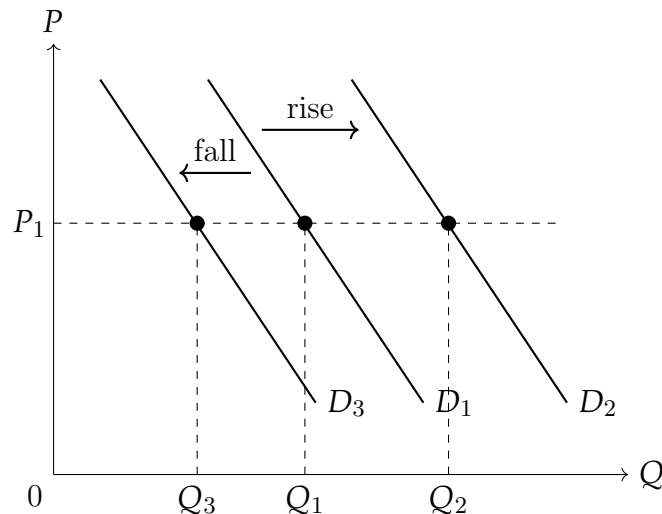


Figure 2: Shift in Demand

The non-price determinants of demand are factors other than price which influence demand. These are the factors assumed to be constant by the ceteris paribus assumption in the law of demand. Changes in the determinants of demand cause shifts in the demand curve; the entire demand curve moves to the right or left. The factors that cause a shift in the demand curve are:

1. Income (Normal Goods)
2. Income (Inferior Goods)
3. Preferences
4. Price of Substitute Goods
5. Price of Complementary Goods
6. Demographic Changes

Definition 2.5: Normal Goods

A good is a normal good when demand for it increases in response to an increase in consumer income. Most goods are normal goods.

Definition 2.6: Inferior Goods

A good is an inferior good when demand for it decreases in response to an increase in consumer income. Examples of inferior goods are second-hand clothes, used cars, and bus tickets.

Definition 2.7: Substitute Goods

Goods are substitutes when an increase in the price of one leads to an increase in the quantity demanded of the other. Coca-cola and Pepsi are examples of substitute goods.

Definition 2.8: Complementary Goods

Goods are complements when an increase in the price of one leads to a decrease in the quantity demanded of the other. Petroleum and automobiles are examples of complementary goods.

It is important to distinguish between movements on or along a demand curve, and shifts of a demand curve. Whenever the price of a good changes, *ceteris paribus*, it leads to a movement along the demand curve, this is called *change in quantity demanded*. By contrast, any change in a non-price determinant of demand results in a shift in the entire demand curve, this is called a *change in demand*. To distinguish between these two changes, different terminology is used. The phrase *change in demand* refers to shifts in the demand curve, while the phrase *change in the quantity demanded* refers to movements along the demand curve.

2.4 Supply

Definition 2.9: Supply

The supply represents how much of a good producers are *willing* and *able* to produce at different possible prices in a particular time period.

The supply of a product is usually represented by a curve with the possible prices on the y -axis and the quantity supplied on the x -axis.

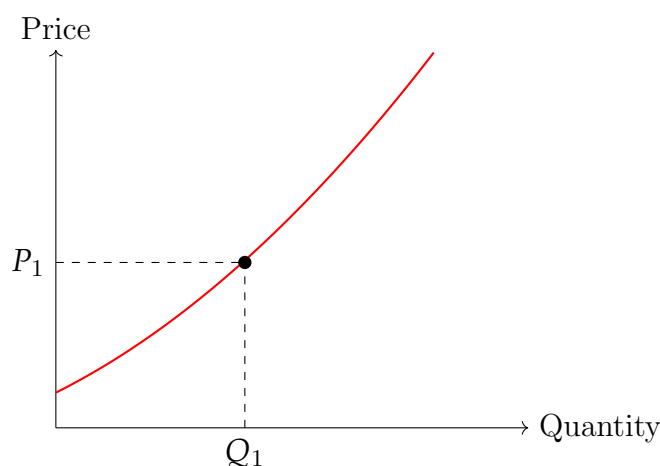


Figure 3: Supply Curve

2.4.1 Why Does the Supply Curve Slope Upward?

Higher prices generally mean that a firm's profits increase, and so the firm faces an incentive to produce more output. Lower prices mean lower profitability, and the incentive facing the firm is to produce less. Therefore, there results a positive relationship between price and quantity supplied: the higher the price, the greater the quantity supplied.

2.4.2 Vertical Supply Curve

While it is true that the supply curve generally slopes upward, a few important exceptions remain wherein the supply curve is vertical.

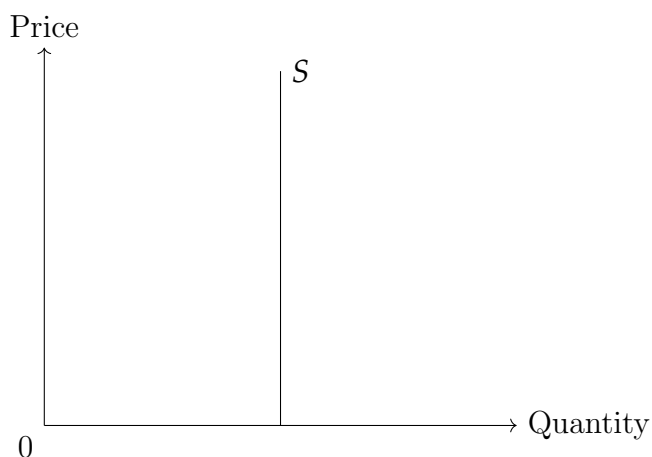


Figure 4: Supply Curve

Consider a movie theatre. No matter what happens, the number of people a theatre can accomodate remains fixed. No matter how high the price, it is not possible to increase the number of seats in a short period of time. Another example for this is original antiques and paintings. There is a fixed quantity of the good because there is no possibility of ever producing more of it.

2.4.3 Non-Price Determinants of Supply

1. Cost of Resources
2. Technology
3. Taxes
 - A *tax* is a mandatory fee levied on individuals and firms by the government to improve infrastructure and quality of life
 - Therefore, the imposition of a new tax (or an increase of an existing tax) is equivalent to an increase in production cost
4. Subsidies
 - A *subsidy* is a payment made to a firm by the government, and so has the opposite effect of a tax
 - The introduction of a subsidy (or an increase of an existing subsidy) is equivalent to a fall in production costs
5. Price of Related Goods (Competitive Supply)
 - Competitive supply of two products refers to them competing for the use of the same resources, and producing more of one means producing less of the other
 - For example, a farmer, who can grow wheat or corn, chooses to grow wheat. If the price of corn increases, the farmer may switch to corn production as this is now more profitable, resulting in a fall in wheat supply and a leftward shift of the supply curve
6. Price of Related Goods (Joint Supply)
 - Joint supply of two or more products refers to production of goods that are derived from a single product. Hence, it is not possible to produce more of either product without producing more of its source

- For example, butter and skimmed milk are both produced from whole milk; petrol and diesel are produced from crude oil

7. Number of Firms

8. ‘Shocks’ or Unpredictable Events

9. Producer Expectations

Similar to demand, any change in price produces a change in quantity supplied, shown as a movement on the supply curve. Any change in a determinant of supply (other than price) produces a change in supply, represented by a shift of the whole supply curve.