

AAE101: Intro to Ag. & Applied Econ.

Discussion Section 3

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Today's goal

- Describe demand and supply and explain how they can change.
- Relate how supply and demand interact to determine market equilibrium.

Markets

A market is a place or situation where a buyer and seller interact, whenever an exchange takes place. We are focusing on markets with identical products.

In a competitive market, there are three main agents: consumers, firms, and the government.

- **Consumers:** spend their limited income on the mixture of goods and services that maximize their *utility*.
- **Firms:** Maximize their profits.
- **Government:** Tries to maximize public welfare.

*This handout is based on the corresponding handouts from previous years by Felipe Parra Escobar, Matt McKetty & Talita Silva. Modifications and additions in this version by Erick.

Demand

Demand curve: It shows the amounts of a product that consumers are *willing and able* to purchase at a series of possible *prices* at a particular time.

Caeteris paribus assumption: other-things-equal, meaning that we assume that the other aspects of the world are not changing. For example, time, other prices, consumer preferences, etc.

Individual vs. market demand: The market demand is the sum of individuals' demand. See figure 3.2 in the book.

Law of demand: *Caeteris paribus*, as price falls, the quantity demanded rises, and as price rises quantity demanded falls. Why?

1. Price is an obstacle/impediment to buyers.
2. **Law of Diminishing Marginal Utility:** We get less and less utility from each additional unit of a good consumed, so there is less and less incentive to consume more after each unit of consumption.
3. We buy more at lower costs and less at higher prices.
4. **Income Effect:** When the price of a good decreases, we can buy more with the same income. This is similar to an increase in income with no change in prices.
5. **Substitution Effect:** If the price of one good decreases, we may choose to buy less of a more expensive good, and more of a cheaper good.

Changes in Quantity Demanded and Changes in Demand

Movements along the demand curve are a response to **changes in price of a good**. This means, that whenever the price of a good changes, *caeteris paribus*, there is a **change in the quantity demanded** of that good.

Shifts in the demand curve happen when underlying determinants of demand change. We refer to shifts of the demand curve as a **change in demand**.

Determinants of demand: Changes in consumer tastes and preferences, the number of buyers, income, the price of related goods, and consumer expectations induce a shift in the demand.

We can label goods according to what happens to their demand when income and/or prices of related goods change.

Goods according to changes in income:

- **Normal Goods:** A good for which quantity demanded increases when a person's income increases. For example: restaurant meals.
- **Inferior Good:** A good for which quantity demanded decreases when a person's income increases. For example: canned goods, pizza.

Goods according to changes in price of related goods:

- **Complementary Good:** A good that experiences joint demand with another good. Demand for a complementary good is linked with demand for another. For example, paint and paint brushes.
- **Substitute Good:** A good that can be used in place of another good. Consumers view the two as comparable. Therefore, demand for a substitute good, lowers demand for the good for which it is a substitute. For example, Coke and Pepsi.

Supply

Supply curve: It shows the amounts of a product that producers are *willing and able* to produce at a series of possible *prices* at a particular time.

Individual vs. market supply: The market supply is the sum of firms' supply.

Law of supply: *Caeteris paribus*, as price rises, the quantity supplied rises, and as price falls, quantity supplied falls. Why?

1. Price acts as an *incentive* to producers. Costs will eventually rise.

Changes in Quantity Supplied and Changes in Supply

Movements along the supply curve are a response to **changes in price of a good**. This means, that whenever the price of a good changes, *caeteris paribus*, there is a **change in the quantity supplied** of that good.

Shifts in the supply curve happen when underlying determinants of supply change. We refer to shifts of the supply curve as a **change in supply**.

Determinants of supply: Changes in resource/input prices (for example, the price of oil and airlines), technology, the number of sellers, in taxes and subsidies, in the prices of other goods, and in producer expectations.

Equilibrium

Market Equilibrium: The prices and quantities such that the **quantity supplied** equals the **quantity demanded**. When the quantity supplied and quantity demanded are equal in market, we say that the market *clears*.

Equilibrium or market-clearing price: The price where the intentions of buyers and sellers match.

Equilibrium quantity: The quantity where the intentions of buyers and sellers match.

Surplus: An excess supply of a particular good in a market.

Shortage: Excess demand for a particular good in a market.

Rationing Function of Prices: This is the ability of the competitive forces of supply and demand to produce a price at which buying and selling decisions are consistent.

Efficient Allocation: Supply and demand within competitive markets allocates society's resources towards particular products in the way that is most efficient. That is, goods are produced in the least costly way. This is referred to as **Productive Efficiency**.

Competitive markets enable us to produce the mix of goods and services most highly valued by a society, and therefore produce **Allocative Efficiency**.

Increases in demand (shifts of the demand curve to the right) with no change in supply, produce increases in the equilibrium price and quantity. Decreases in demand have the opposite effect.

Increases in supply with no change in demand, produce an increase in the equilibrium quantity and a decrease in the equilibrium price of a good. A decrease in supply has the opposite effect.

Changes in both curves have indeterminate effects on equilibrium prices and quantities. The equilibrium will depend on the shape of the curves and the magnitude of the shifts.

The **government** has the power to establish prices to regulate markets. These are laws that suppliers, and sometimes demanders, need to follow. Particularly, the government can establish two types of prices:

Price Ceiling: Government sets prices below their equilibrium level. This results in a rationing problem as more people want a good than what is being legally produced. This results in black markets. A good example is rent control.

Price Floor: Prices are then set above market prices. This results in chronic surpluses. An example of a price floor is the minimum wage.

Practice Questions

1. Explain the law of demand. Why does a demand curve slope downward? How is a market demand curve derived from individual demand curves?
2. How will each of the following changes in demand and/or supply affect equilibrium price and equilibrium quantity in a competitive market; that is, do price and quantity increase, decrease, or remain unchanged, or are the answers indeterminate because they depend on the magnitudes of the shifts? Use supply and demand to verify your answers.
 - (a) Supply decreases and demand is constant.
 - (b) Demand decreases and supply is constant.
 - (c) Supply increases and demand is constant.
 - (d) Demand increases and supply increases.
 - (e) Demand decreases and supply decreases.
3. Suppose the total demand for wheat and the total supply of wheat per month in the Kansas City grain market are as shown in the following table. Suppose that the government establishes a price ceiling of \$3.70 for wheat. What might prompt the government to establish this price ceiling? Explain carefully the main effects. Show your answer graphically.

Thousands of Bushels Demanded	Price per Bushel	Thousands of Bushels Supplied
85	\$3.40	72
80	3.70	73
75	4.00	75
70	4.30	77
65	4.60	79
60	4.90	81

Source: Principles of Microeconomics

Intentionally left blank for answering questions.