Supply and Demand

LESSON 14

Supply and Demand

Supply and demand is an economic principle that explains the correlation between the amount of product available to sell and the willingness of customers to buy that product. In our economy, which is a free enterprise economy, the law of supply and demand affects the pricing of goods for sale. A free enterprise economy is one in which people are able to own and operate businesses in a competitive environment with little or no government involvement. In a free enterprise economy, the market determines prices through the interchange of supply and demand.

When you go to a store, you might have in mind a specific item or product you want to buy or you might have only a general idea about what you need. Regardless of what you're looking for, you expect the store you enter to have merchandise from which to make your selections. That merchandise is the supply side of supply and demand. Supply refers to the amount of goods produced by manufacturers and offered for sale in a marketplace.

Demand refers to the amount of goods customers want and are willing to buy. As mentioned above, demand works in conjunction with supply. When supply is limited and customer demand is high, prices are high. When customer demand is limited and supply is high, prices are low. When supply and customer demand are at the same level, prices remain constant. The supply and demand for goods can fall into one of three conditions—surplus, shortage, or equilibrium.

Main Idea

In this unit we will explore the concept of supply and demand. We will look at each term and the effects they have on each other. We will also look at what happens when supply and demand factors are in balance and what happens when they are out of balance. Another topic we will examine is how supply and demand affect the price of items we buy and sell. Lastly, we will practice some of the mathematics dealing with supply and demand.

After completing this lesson you will be able to:

- Give real-world examples of product surplus, shortage, equilibrium, and diminishing marginal utility
- Describe the characteristics of a free enterprise economy
- Explain the role of the consumer in the supply and demand cycle
- Describe what happens when supply exceeds demand
- Create a chart illustrating the supply curve, demand curve, and point of equilibrium
- Forecast future sales based on demand and past sales
- Calculate how many stores an economy can support

Key Terms

- Supply and Demand
- Free Enterprise Economy
- Supply
- Demand
- Surplus
- Shortage
- Equilibrium
- Law of Diminishing Marginal Utility

3. Look for milk in the backroom by mousing-over the products.

QUESTION B2: If milk costs $2.65 per unit, how many dollars of milk inventory are at risk?

4. Using **Actions->Service & Repairs**, have the equipment repaired immediately.

QUESTION B3: What was the cost to repair the equipment immediately?

Reopen the **Service & Repairs** window.

QUESTION B4: What is the weekly and annual cost for a backroom cooling ducts service contract with a four hour response? If the cooling system on average fails once a year, is it more cost effective to have the service contract or call for repairs when needed? What might be another reason to have the service contract in this simulation?

Part C

1. Reopen the **Risks and Surprises** lesson, choose **Sim 3**.
2. Run the simulation forward. Watch your messages. Stop the sim when you get a message.

QUESTION C1: What major surprise has just occurred in your business?

3. Run the simulation forward to May 20th. Click **Financials**.

QUESTION C2: What happened to your revenue and profit? Assuming you can eliminate all expenses besides rent, how many weeks will it take for your store to run out of cash? Given that the construction will last 25 weeks, will this strategy work? What other strategy might work.

Surplus

A surplus situation is one in which there are more goods for sale than customers demand or are able to buy. A surplus of goods for sale can happen when the price is too high. In this case, the price is lowered to encourage customers to buy more of the product. A store's supply of snow shovels in the spring is an example of a surplus. The price of the shovels is lowered significantly because customers do not need to buy them. Thus the lower price encourages customers to buy now in anticipation of the next winter.

Shortage

A shortage situation is one in which there are not enough goods for sale to meet customer demand. In a situation of supply shortage, prices are higher. Customers will pay the higher price because the item is harder to find and is something that they want or need. A store's small stock of avocadoes after bad weather in California severely damaged the crop is an example of a shortage. There are fewer avocadoes to meet customer demand, so their price is higher.

Equilibrium

An equilibrium situation is one in which supply and demand for an item are at the same level. In this case, the quantity of items available for sale is equal to customer demand for those items. In a situation of equilibrium, prices tend to remain stable. When a product is at equilibrium, business owners are happy because their stock is selling well and customers are happy because they are getting items they want at a good and fair price.

The Law of Diminishing Marginal Utility

The law of diminishing marginal utility is an economic principle similar to supply and demand. The law of diminishing marginal utility explains the situation in which consumers will only buy a certain amount of a specific product regardless of its low price. Utility describes the satisfaction experienced by a customer through the use or consumption of a product or service. The term marginal refers to a limited amount or degree. Thus, a product or service with diminishing marginal utility has decreasing value. For example, when you buy a pay-per-view movie, you have use of the movie for 24 hours. You may watch the movie once and enjoy it a great deal. After the first viewing, however, your enjoyment of the movie decreases with each additional viewing since you already know the story.

Voting for Products with Your Money

We discussed that the law of supply and demand largely determines the price of products we buy. How, then, do you make your voice heard about products that you like and those that you do not? You can communicate your views by voting with your dollars. We have all heard stories of new products that, despite being promoted as the latest and the best, did not sell because customers did not want, need, or like them—no matter the price. Those products are quickly withdrawn from the market and may disappear forever. A feature of our free enterprise economy is that manufacturers are free to produce any products they choose. Likewise, customers are free to either buy those products at a store of their choice or not buy the products at all. Storeowners and suppliers listen to the customer's voice. Their business will not survive if they do not.

Summary

This unit has discussed the economic principle of supply and demand. We touched on the features of our free enterprise economy. We learned how the supply of and demand for products affects their prices in the marketplace. We discussed supply surpluses and shortages, and supply and demand equilibrium. Next, we learned about the law of diminishing marginal utility. Lastly, we reviewed some of the mathematics associated with the law of supply and demand.

Key Math Concepts

COMPUTE DEMAND

Demand for an item in surplus is often expressed as a percentage of a past sales number. To compute demand in this way, use this formula:

Demand = Past Sales Number – (Percentage x Past Sales Number)

For example, if demand for granola bars is down 10% from last month and 50 units were sold last month, the demand for granola bars is:

Demand = 50 – (0.10 x 50) Demand = 45

LOCATE THE POINT OF EQUILIBRIUM

To locate the point of equilibrium of supply and demand, create a chart that shows both the supply curve and the demand curve. The point at which the supply and demand curves intersect is the point of equilibrium.

The Supply Curve

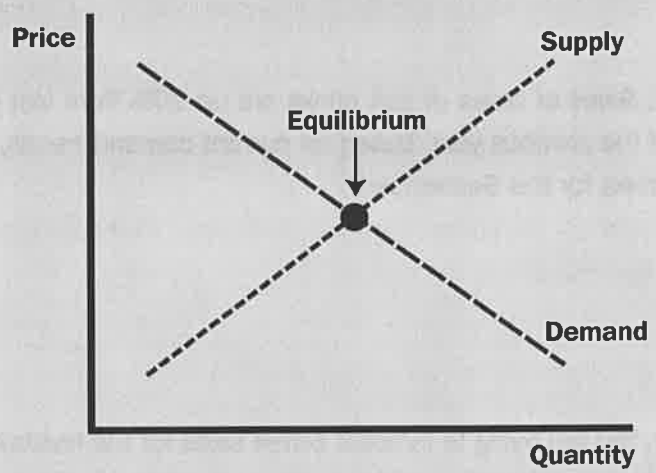
Supply is the quantity of a product that is for sale at different prices. Generally, the supply curve rises from right to left, or the higher the price the more of the product that is available for sale.

The Demand Curve

Demand is the amount of a product that people are willing to buy at different prices. Generally, the demand curve falls from left to right, or the higher the price the less the demand for the product.

Equilibrium Point

Equilibrium is the point at which supply and demand meet.



Key Terms

Supply and Demand
An economic principle that explains the correlation between the amount of product available to sell and the willingness of customers to buy that product.

Free Enterprise Economy
One in which people are able to own and operate businesses in a competitive environment with little or no government involvement.

Supply
The amount of goods produced by manufacturers and offered for sale in a marketplace.

Demand
The amount of goods customers want and are willing to buy.

Surplus
A situation in which there are more goods for sale than customers demand or are able to buy.

Shortage
A situation in which there are not enough goods for sale to meet customer demand.

Equilibrium
A situation in which supply and demand for an item are at the same level.

Law of Diminishing Marginal Utility
An economic principle that explains the situation in which consumers will only buy a certain amount of a specific product regardless of its low price.

MATH EXERCISES **LESSON 14**

Supply and Demand

1. You need a 40% increase on the sale of batteries over last month to reach your sales goal for the quarter. Battery sales for last month totaled 700 units. How many additional batteries do you need to sell this month to achieve your sales goal?

2. Sales of cases of soft drinks are up 20% from last year. You sold 500 cases of soft drinks during September of the previous year. Based on current demand trends, what would the forecast be for total sales of cases of soft drinks for this September?

3. You are trying to forecast coffee sales for the holiday season. You sold 1,500 cups of coffee during the holidays last year, but your overall sales for coffee this year are tracking 20% behind last year. If you have limited promotional dollars, what is a realistic total demand forecast for coffee sales during this holiday season?

4. Using the following information, create a graph that illustrates the demand curve, supply curve, and point of equilibrium for a group of video games.

Price of Game	Number of Games Demanded	Number of Games Supplied
$50	500	2,250
$45	600	2,000
$40	700	1,750
$35	800	1,500
$30	900	1,250
$25	1,000	1,000
$20	1,200	750
$15	1,500	500

WRITTEN EXERCISES **LESSON 14**

Supply and Demand

1. Discuss the three supply and demand conditions goods can fall into and then give an example of each situation as it could occur in a convenience store. Describe the recommended action the store manager should take.

2. Sales in a major category at a local chain of convenience stores are down 20% from this period last year, causing the stores to be overstocked. Explain how this could be happening and make recommendations for how to increase sales.

3. Give an example of a recent product or service in your local area that is struggling or has failed. Then consider the major reason for this failure and how it relates to supply and demand.

4. You have just opened a new gourmet coffee business and sales are 30% below what you forecasted. Immediately after you opened your business, a major gourmet coffee chain with national brand recognition opened two blocks away from your location. You have reduced the price of your product but sales are still flat. Relate how local supply and demand could be playing a role in your 30% sales decline and why the price reduction is not working.

COMPUTER EXERCISE **LESSON 14**

Supply and Demand

GOAL: Your goal is to assess the demand in your city and try to determine the supply that will balance it. Specifically, you will compute how many stores are likely to survive given the population and their spending habits, then watch as stores fail until the market comes into equilibrium.

YOUR SITUATION: You control only time. After predicting how many stores will survive, you will run time forward to see where supply and demand equilibrium is reached.

1. Run the **Vital Signs Report** section of the **Tutorial**.
2. Open the **Supply & Demand** lesson.
3. Based on the following information, use the worksheet below to calculate how many of the current 8 stores will eventually survive (become profitable).
   a) About 12,500 convenience store customers shop once a week
   b) The average purchase is about $20.00.
   c) Store gross margins run around 27%.
   d) Store fixed costs (rent, wages, ads) are about $10,000 per week.
4. When you are done, tell your instructor your prediction.
5. Click the **Go** button to start time. As time passes, the stores will fail one by one. Continue until no more stores fail. Hint: Leave the **Vital Signs** window open, and use **View** on the main menu to switch between stores. Watch the **Profit** graph to see if stores become profitable.

QUESTION 1: How accurate was your prediction?

WORKSHEET 1

Total customer purchases per week:

_____ = 12,500 customers x $20 (average purchase per customer)

Total store margin per week:

_____ = Total customer purchases ×27% (margin)

Maximum stores that can survive long-term:

_____ = Total store margin per week ÷ $10,000 (fixed costs)