

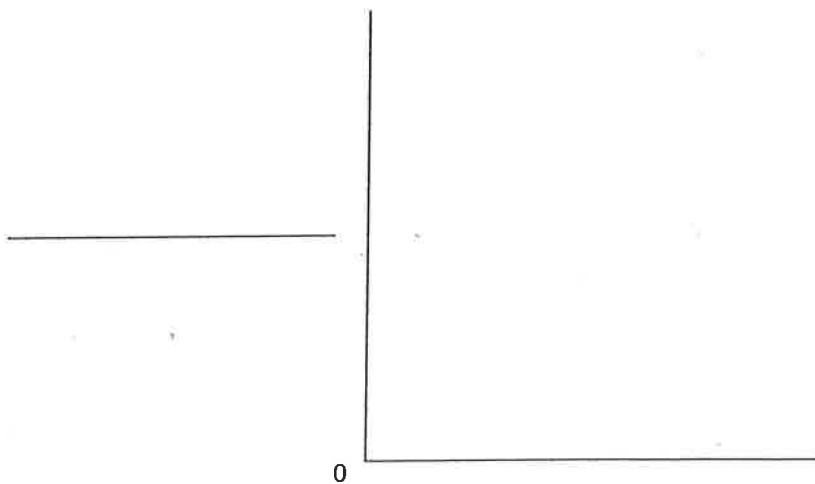
CHAPTER 3 DEMAND**CHALLENGE/ENRICHMENT ACTIVITY****PLOTTING DEMAND CURVES**

A demand schedule and a demand curve show the relationship between the price of a product and the quantity of that product demanded by consumers. The demand schedule lists the quantity of a product that consumers are willing and able to buy at a series of prices. The demand curve presents the information in the schedule in graph form. Answer the questions below to learn more about demand schedules and demand curves.

1. Use the data in the schedule below to plot a demand curve for ecobits. Label the curve DC1. Also, correctly label the axes of the graph.

Demand Schedule for Ecobits

Price per ecobit	5¢	10¢	15¢	20¢	25¢	30¢	35¢	40¢
Quantity demanded in thousands	400	350	300	250	200	150	100	50

Demand Curve for Ecobits

2. Use the demand schedule and the demand curve to answer the following:
 - a. If the price of ecobits moves from 30¢ to 40¢, what happens to the quantity of ecobits demanded? Why?

 - b. If the price of ecobits moves from 30¢ to 20¢, what happens to the quantity of ecobits demanded? Why?

- c. Write a generalization about the relationship between price and the quantity demanded.

3. a. Over time, factors other than price can shift the entire demand curve for a product. List these factors.

- b. Ecobits are not a necessity. Further, a serious recession reduces the disposable income of ecobit consumers. Relative to the curve DC1, which way would the demand curve for ecobits shift? Briefly explain why.

On the ecobits demand curve diagram, draw the "new" curve, labeled DC2, parallel to curve DC1.

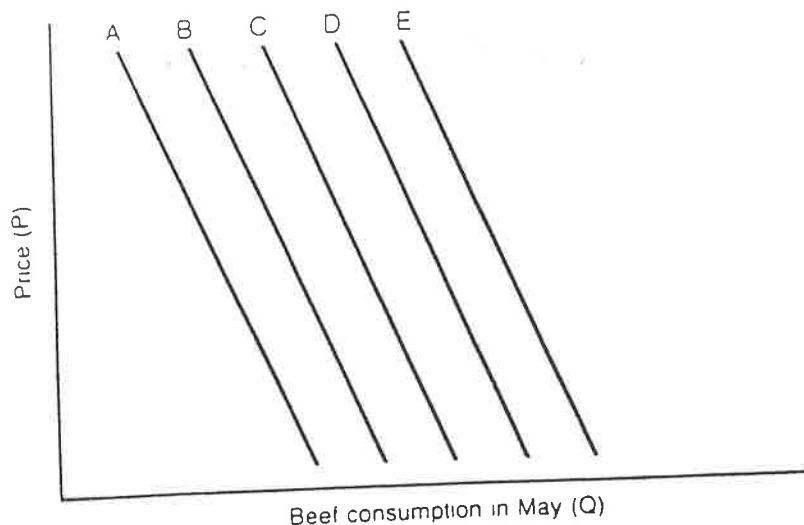
- c. Ecobits are suddenly fashionable. Consumers' taste for ecobits and their willingness to pay more for them have significantly changed. Which way would the demand curve for ecobits shift—to the left or right of DC1? Briefly explain why.

On the ecobits demand curve diagram, draw the third curve parallel to curve DC1 and label it DC3.

REASONS FOR CHANGES IN DEMAND

Name _____

Class _____



Read the following eight newspaper headlines. In each case decide if the event will cause a change in the demand for beef. If so, determine if it is an increase or a decrease, and write the correct answer. Begin at curve C. If you think headline 1 means there will be a decrease in demand, write "decrease" in the first blank and "B" in the second blank; move to curve B to do headline 2. If you think demand will increase, write "increase" and "D" in the blanks for headline 1; move to curve D to do headline 2.

Move only one curve at a time. Do not skip from say A to C even if you think the headline means there will be a large change in demand. Do not go beyond the five curves. If you are at A and the next headline implies a decrease in demand, you goofed somewhere. There is one headline which implies that the demand for beef does not change.

- 1 PRICE OF BEEF TO RISE IN JUNE
Demand _____ Curve _____
- 2 MILLIONS OF ALIENS SWELL U.S. POPULATION
Demand _____ Curve _____
- 3 PORK PRICES DROP
Demand _____ Curve _____
- 4 SURGEON GENERAL WARNS THAT EATING BEEF CAN BE HAZARDOUS TO HEALTH
Demand _____ Curve _____

- 5 MIGRATORY BIRDS HEAD NORTH: SUMMER AWAITS
Demand _____ Curve _____
- 6 REAL INCOME FOR AMERICANS DROPS 3RD MONTH IN ROW
Demand _____ Curve _____
- 7 CHARCOAL SHORTAGE THREATENS MEMORIAL DAY COOKOUTS
Demand _____ Curve _____
- 8 NATIONWIDE FAD: THE DISCO-BURGER
Demand _____ Curve _____

Optional bonus: Categorize each change in demand in the exercise above according to the reason that demand changed. Write the number of the headline(s) next to the reason for the change in demand. One category will have two headline numbers.

- _____ A change in consumer expectations
- _____ A change in consumer tastes
- _____ A change in the number of consumers in the market
- _____ A change in income
- _____ A change in the price of a substitute good
- _____ A change in the price of a complementary good

CHAPTER 3 DEMAND

MATHEMATICS FOR ECONOMICS ACTIVITIES

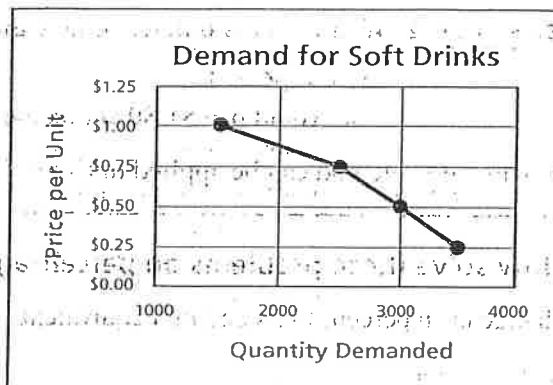
Exploring Revenue and Demand Elasticity

A general economic law states that when the price of an item increases, the demand for that item decreases. The actual amount of the decrease depends on the elasticity of the demand curve for that product. By comparing different points on the demand curve, a business can determine which price will yield the highest revenue.

EXAMPLE Calculate the total revenue generated by soft drink sales at each point on the demand curve shown below. Find the price for which total revenue is maximized.

By multiplying the price and the quantity demanded at each point on the curve, we can calculate total revenue generated at each price:

Price per Unit	Quantity Demanded	Total Revenue
\$1.00	1500	\$1500
\$0.75	2500	\$1875
\$0.50	3000	\$1500
\$0.25	3500	\$875

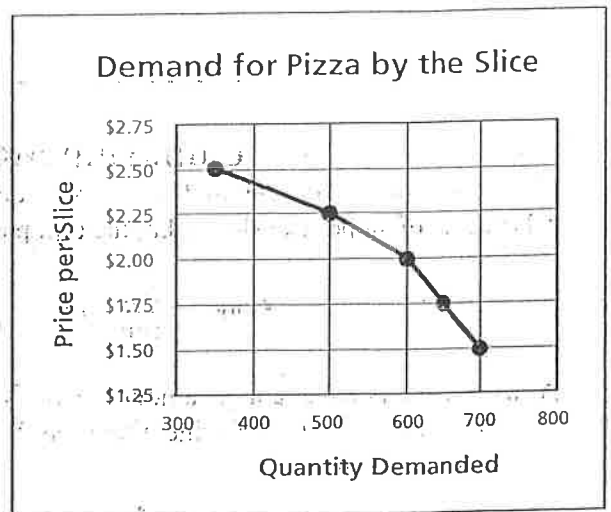


For prices between \$0.25 and \$0.75, demand is essentially inelastic for soft drinks. This is shown by the fact that total revenue increases with each increase in price. When the price is raised to \$1.00, demand is elastic and the total revenue decreases. For this soft drink company, revenues are maximized when the price is \$0.75.

Chapter 3 Activity, Continued

Now use the demand curve below to answer the questions that follow.

Price per Unit	Quantity Demanded	Total Revenue
\$2.50		
\$2.25		
\$2.00		
\$1.75		
\$1.50		



1. Complete the demand schedule by filling in the empty spaces.

2. For which prices is demand inelastic? _____

3. For which prices is demand elastic? _____

4. Which price yields the maximum revenue? _____

CHAPTER 4

SUPPLY

CHALLENGE/ENRICHMENT ACTIVITY

PLOTting SUPPLY CURVES

A supply schedule and a supply curve show the relationship between the price of a product and the quantity of that product that producers will supply. The supply schedule lists the quantity of a product that producers are willing to supply at a series of prices. The supply curve presents the information in the schedule in graph form.

Answer the questions below to learn more about supply schedules and supply curves.

1. Use the data in the schedule below to plot a supply curve for ecobits. Label the curve SC1. Also, correctly label the axes of the graph.

Supply Schedule for Ecobits

Price per ecobit	5¢	10¢	15¢	20¢	25¢	30¢	35¢	40¢
Quantity demanded in thousands	100	150	200	250	300	350	400	450
Quantity supplied								

Supply Curve for Ecobits

Price (cents)

0

Quantity in thousands

2. Use the supply schedule and the supply curve to answer the following:

- a. If the price of ecobits moves from 15¢ to 20¢, what happens to the quantity of ecobits supplied? Why?

- b. If the price of ecobits moves from 25¢ to 20¢, what happens to the quantity of ecobits supplied? Why?

Name _____ Date _____ Class _____

- c. Write a generalization about the relationship between price and the quantity supplied.

3. a. Over time, certain nonprice factors can shift the entire supply curve for a product. List these factors.

- b. The prices of all of the raw materials used to make ecobits greatly increase. Further, the government places strict pollution controls on the manufacturers of ecobits. Which way would the supply curve for ecobits move—to the left or the right of SC1? Briefly explain why.

On the ecobits supply curve diagram, draw the new curve parallel to SC1 and label it SC2.

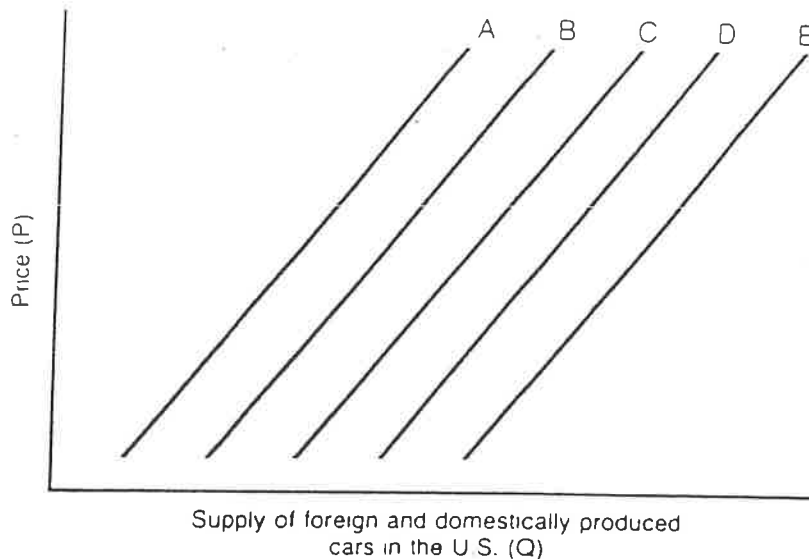
- c. New technology that makes the production process for ecobits much more efficient and less costly. This draws many more suppliers into the ecobits market. Relative to SC1, which way would the supply curve for ecobits shift? Briefly explain why.

On the ecobits supply curve diagram, draw the new curve parallel to SC1 and label it SC3.

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REASONS FOR CHANGE IN SUPPLY

Name _____ Class _____



Read the following seven newspaper headlines. In each case, decide if the event will cause any change in the supply of cars. If so, determine if it is an increase or a decrease, and write the correct answer. Begin at curve C. If you think headline 1 means there will be a decrease in supply, write "decrease" in the first blank and "B" in the second blank; move to curve B to do headline 2. If you think supply will increase, write "increase" and "D" in the blanks for headline 2; move to curve "D" to do headline 3.

Move only one curve at a time. Do not skip from say A to C even if you think the headline means there will be a large change in supply. Do not go beyond the five curves. If you are at A and the next headline implies a decrease in supply, you goofed somewhere. There is one headline which implies that the supply of cars does not change.

- 1 AUTO WORKERS UNION AGREES TO WAGE AND FRINGE CUTS
Supply _____ Curve _____
- 2 NEW ROBOT TECHNOLOGY INCREASES EFFICIENCY
Supply _____ Curve _____
- 3 NATIONWIDE AUTO STRIKE BEGAN AT MIDNIGHT
Supply _____ Curve _____

- 4 NEW AUTO IMPORT QUOTAS REDUCE FLOW OF FOREIGN CARS
Supply _____ Curve _____
- 5 COST OF STEEL RISES
Supply _____ Curve _____
- 6 AUTO PRODUCER GOES BANKRUPT, CLOSES OPERATION
Supply _____ Curve _____
- 7 BUYERS REJECT NEW MODELS
Supply _____ Curve _____

~~Optional bonus:~~ Categorize each change in supply according to the reason that affected supply. Write the number of the headline next to the reason for the change in supply. In some cases, more than one headline could be matched to a reason.

- _____ A change in the cost of production
- _____ A change in technology
- _____ Natural disaster/other event that causes decrease in production
- _____ Government policies

Source Articles from

THE WALL STREET JOURNAL.

CLASSROOM EDITION

Chapter 5 Supply

This article from the January 2002 *Wall Street Classroom Edition* poses the question: Are there too many professional sports teams? "Slimming Down Sports" by *Wall Street Journal* Staff Reporter Stefan Fatsis illustrates the law of supply as applied to the economics of professional sports.

Before reading the article below, you may want to look up the following terms: *alienated, compliant, diluted, euthanize, franchise, implode, malaise, rejuvenate, revenue, sparsely, and viable.*

Are there too many big-league sports teams? OK, there's really no definitive answer to that. But the question is worth exploring now, because the fat sports economy is suddenly going on a crash diet. Attendance in many markets is slipping fast, television-rights fees have peaked, franchise liquidity is shrinking, bankruptcies have made a joke of stadium-naming deals and sponsors are rethinking all sorts of commitments. Average ticket prices in the National Basketball Association actually fell this season.

Major League Baseball's plan to eliminate two teams, announced just after the World Series ended, has less to do with general economic malaise than with that sport's flawed business model and operations: no cost controls, not enough revenue sharing among the teams. Even if the teams are saved for another season, the issue of killing off or moving weak teams will dominate the sports conversation for a long time to come.

Let's chart franchise growth in the four major leagues: 43 teams in 1960, 81 in 1970, 97 in 1980, 102 in 1990, 121 today. Some of the expansion made sense: The U.S. population swelled and moved south and west; TV networks and corporations became richer and more eager to bankroll games; wannabe team owners were willing to pay

huge membership fees; leagues needed new revenue sources to finance rocketing player salaries.

The system was bound to implode sometime. There are only so many markets with modern-day major-league chops, and leagues planted their flags in places that haven't demonstrated staying power:

Miami and Tampa-St. Petersburg in baseball; Vancouver and Charlotte in basketball; Raleigh, Tampa and Anaheim in hockey; Jacksonville and Charlotte in football. It's a pretty long list—and growing longer.

Big-league teams failing isn't new. (Remember the Seattle Pilots? The California Golden Seals?) What's different

now is the stakes. In 1961, it cost \$2.1 million to join MLB; in 1998, the entry fee was \$130 million. Lousy franchises lose lots more money these days, and coping with losses is much harder. In 1979, the New Orleans Jazz moved to Salt Lake City with little fuss. Relocating an NBA franchise today requires a multi-hundred-million-dollar arena plan, corporate backing and thousands of season-ticket commitments from fans.

With few rock-solid markets left, there's an increased risk that teams could end up trading one weak market for another. The NBA's Vancouver Grizzlies moved to Memphis this season. Vancouver was a reasonable, if failed, Canadian experi-

"The issue of killing off or moving weak teams will dominate the sports conversation for a long time to come."

Source Articles from *The Wall Street Journal Classroom Edition*

ment. But can the NBA succeed in Memphis, the nation's No. 41 TV market? The Grizzlies are supposed to get a new arena and nickname eventually, but attendance so far isn't encouraging.

To be sure, a flashy new home, a big naming-rights deal and some long-term luxury-suite contracts can carry the load for a while, especially in the NBA and the National Football League, which pool revenue and employ strict salary caps. Plus, as one big-league executive says, "To get a ticket base of 13,000, you don't have to sell the whole city out."

But in today's corporate-crafted markets, though, there is little margin for error. Big-city franchises cope with slumps by tapping into neighboring secondary or tertiary markets to rejuvenate their fan bases. Smaller markets don't have that luxury. When relocation becomes the only option, leagues struggle to find a viable suitor.

Given that, killing a couple of baseball teams isn't such a bad idea. If fans don't support a team and there is no worthy town to inherit it, why not euthanize it? In the current system, a smaller MLB would be a better MLB.

Ditto for the other leagues. With 29 teams and just four divisions, the NBA standings are a dizzying block of newspaper type. The National Hockey League's pack of 30 is crowded with clubs

on the financial brink. Talent and fan interest are diluted. Regular-season games border on irrelevant. The stability of the whole is undermined by the weak parts.

Ultimately, fans will decide whether there are too many big-league teams. Free-spending, compliant fans in a strong economy inflated the pro sports balloon. Penny-pinching, disgusted ones in a

weak economy will pop it.

"With few rock-solid markets left, there's an increased risk that teams could end up trading one weak market for another."

QUESTIONS FOR DISCUSSION

1. What factors have contributed to the expansion of professional sports teams since the 1960s?

2. Recognizing Cause and Effect Why are some professional sports franchises failing to make enough money today?

3. Drawing Conclusions How does fan support affect the supply of sports teams?

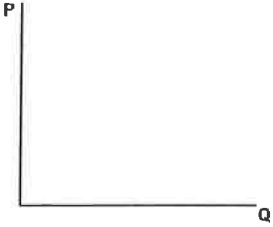

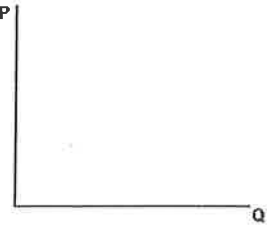

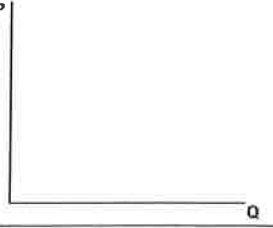

4. Predicting Consequences Do you think sports teams that aren't profitable should be eliminated? Why?

Name: _____

Team: _____

Demand and Supply Practice

Use Economic Analysis to determine what happens to the price and quantity of computer games in each scenario.

#	Change	Graph	Economic Analysis
1	It becomes known that an electronics store is going to have a sale on their computer games 3 months from now.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
2	The workers who produce the computer games go on strike for over two months		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
3	When the average price of movie tickets rises, it has an effect on the purchase of computer games. (Analyze computer games.)		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
4.	The workers who produce the computer games negotiate a \$20 per hour wage increase.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
6.	A reputable private research institute announces that children who play computer games also improve their grades in school.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
7.	Because of the use of mass production techniques, workers in the computer game industry become more productive		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
8.	The price of home computers decreases significantly. (Analyze		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease

Name: _____

Team: _____

	computer games.)		Shifter 3. After: Price _____ Quantity _____
9.	The Federal government imposes a \$5 per game tax on the manufacturers of the games.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
10	The manufacturer of the computer games raises the price on the games.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
11	In order to promote American production, Congress provides a subsidy to game producers. (Analyze only American firms)		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
12	A large firm enters the game business with a new line of games. (Analyze the whole game industry)		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
13	In order make computer games available to low-income families, Congress sets a price ceiling for the games.		1. Draw and Label Equilibrium: 2. The Change: Supply or Demand Increase or Decrease Shifter 3. After: Price _____ Quantity _____
14	The popularity of the computer games increases in the world markets. At the same time new technology lower production costs. (Double Shift)		1. Draw and Label Equilibrium: 2. The Change: Demand- Up or Down Shifter- Supply- Up or Down Shifter- 3. After: Price _____ Quantity _____

Elasticity worksheet

1. Write out the formula for determining E.

2. Assume a demand schedule as follows:

P	Q _d
\$1.00	40
\$2.00	30
\$3.00	20
\$4.00	10
\$5.00	0

a. Compute E if P goes from \$4.00 to \$3.00

b. Compute E if P goes from \$2.00 to \$3.00.

3. Is demand in 2.a elastic, inelastic, or unitary?

Is demand in 2.b elastic, inelastic, or unitary?

4. Assume the following demand schedule:

P	Q_d
\$1.00	25
\$2.00	20
\$3.00	15
\$4.00	10
\$5.00	5

a. Compute E if P goes from \$5.00 to \$4.00

b. Is demand elastic, inelastic, or unitary when P goes from \$5 to \$4?