LESSON SIX
PRICE CONTROLS: TOO LOW OR TOO HIGH

INTRODUCTION

Sometimes governments interfere with market forces by establishing minimum prices or maximum prices for specific goods and services. Examples of such legal price controls include minimum prices for milk and grain products to help agricultural producers; minimum wage laws in labor markets; and maximum prices for apartment rents, for gasoline in the 1970s, and for many products during World Wars I and II. Economists generally oppose these price controls, except perhaps during wartime conditions. Nevertheless, the policies continue to be an important influence on some key markets in the U.S. economy.

CONCEPTS

Markets and prices
Supply and demand
Shortages and surpluses
Rationing

CONTENT STANDARDS

Prices set by supply and demand are measures of the relative scarcity of products.

Shortages or surpluses usually result in price changes for products in a market economy.

When price controls are enforced, shortages and surpluses occur and create long-run allocation problems in the economy.

OBJECTIVES

◆ Define price ceilings and price floors.

◆ Analyze the effects of price controls on competitive markets.

◆ Describe the outcomes of price controls in terms of surpluses and shortages.

◆ Evaluate the arguments for and against price controls.

LESSON DESCRIPTION

Students use supply-and-demand graphs to illustrate the effects of legal price controls in competitive markets.

TIME REQUIRED

One class period.

MATERIALS

A transparency of Visual 1
★ One copy of Activities 1, 2, and 3 for each student

PROCEDURE

1. After covering basic material on how market prices are set by the forces of supply and demand (see Lessons 3-5), start a discussion of price controls by asking questions about a price that some students might think is "unfair." Examples might be the price of CDs, gasoline, and movie theater tickets, and some students might think the minimum wage is too low. Steer the discussion to the question: "Should the government do something about these prices that some of you think are unfair?"

2. Project Visual 1 to illustrate basic terms and concepts used in examining the effects of price controls.

3. Review the meaning and significance of the market clearing or equilibrium price of $50 and the equilibrium quantity of 120.

4. Explain that a price floor is a legally fixed price set above the market clearing price and that a price ceiling is a legally fixed price set below the market clearing price.

5. Distribute a copy of Activity 1 to each student, and ask the students to answer the questions in small groups or as an individual assignment. Discussion should include the following:

A. The market clearing price is $50 because this is the only price at which quantity supplied is equal to quantity demanded.

★ all students–basic course material
■ average and above average students

B. The equilibrium quantity demanded and quantity supplied is 120 units.

C. At a price of $30, quantity demanded is about 160 units and quantity supplied is about 70 units. Explain that this difference, the amount by which quantity demanded exceeds quantity supplied at a price below the market clearing price, is called a shortage.

D. At a price of $80, the quantity supplied is about 190 and the quantity demanded is about 70. Explain that this difference, the amount by which quantity supplied exceeds quantity demanded at a price above the marketing clearing price, is called a surplus.

6. Ask students to identify examples of actual price ceilings and floors. (The minimum wage and agricultural price supports are examples of price floors; rent controls, "usury" laws setting maximum interest rates on credit card loans, and price controls on gasoline in the 1970s are examples of price ceilings.)

7. Distribute a copy of Activity 2 to each student. Have students answer the questions, either in group discussions or as an individual assignment.

Correct answers:

1. The number of seats in the stadium is fixed, and will not increase or decrease in response to a change in ticket price. However, that constraint only occurs at 60,000 seats. The fixed supply of season tickets at 40,000 seats is purely an administrative decision. At many universities, administrators would increase the number of season tickets available as price increased, up to or at least nearer the stadium's total seating capacity.

2. 60,000 total tickets; 40,000 season tickets

3. 70,000

4. There is a shortage of tickets because quantity demanded is greater than quantity supplied at the current price.

Comments concerning the athletic director's options might include:

A. Some students might consider raising the price to the market clearing price the fairest and most efficient thing to do; but the university might be called greedy and lose good will in the community.

B. The first-come, first-served method may be considered unfair to those who live out of town or are unable to wait in line. (Note: In first-come, first-served distribution programs, it is important to limit the number of tickets each person can buy. Otherwise, the first people in line will buy all the tickets to resell at higher prices.)

C. A random drawing might be considered fair in the sense that everyone who wants a season ticket has an equal chance to buy one, but long-time ticket buyers and supporters of the university may think it is very unfair.

D. Eliminating single-game ticket sales would solve only a part of the problem and will upset those who can attend only one or two games.

E. Reducing student seating will be opposed by students, who will predictably ask, "Why is the university here in the first place?"

8. Distribute a copy of Activity 3, Part I, to each student. After reviewing the explanation of how price controls are used in the dairy industry, ask students to answer the questions on their activity sheets.

Answers:

1. A surplus, because the quantity supplied exceeds the quantity demanded at a price floor of $1.40, which is higher than the market-clearing price.

2. $1.00

3. Clearly, the incomes of dairy farmers would decline considerably, especially those with relatively high production costs. Many small dairy farmers would probably have to shift into other agricultural products or leave farming entirely. Consumers of milk and other dairy products would benefit from lower prices. The reduced costs of purchasing and storing surplus products and administering the price-support program would reduce government expenditures, and benefit taxpayers.

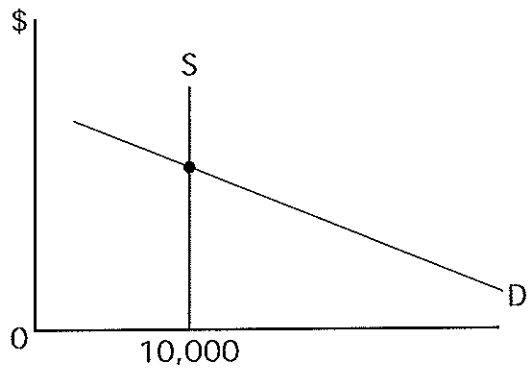
Explain that this part of the activity indicates why most economists tend to be critical of price support programs. Public policy debates do include discussions, and different interpretations of, these *economic* effects of price support programs. However, *political* concerns often dominate the debates and the policies. Tell students you will use Part II of Activity 3 to discuss these aspects of price support programs.

9. Distribute a copy of Activity 3, Part II, to each student. Ask students to read the statements of each speaker and to answer the question at the bottom of the page. Discuss Part II, noting the following points: These statements indicate a typically messy mix of economic and political issues. There is not a definite answer to the question of what would happen to the price of milk, but most economists believe that Miss Doright's comments are more accurate. Senator Foxfire's statement that milk prices might be even higher without price controls overlooks the effects of competition. Unless there are substantial barriers to entering the industry, competition can be expected to prevent monopolistic price levels—and there would probably still be a large number of milk producers without the price controls.
Note that the effects of price-support programs are often to hurt a lot of people (in this case, milk consumers and taxpayers) a very small amount, and help a few people (in this case, milk producers) a great deal. Therefore, the comments of Senator Foxfire are often politically very persuasive. Special interest groups are willing to devote a lot of effort and money to their lobbying efforts because, for them, the stakes are high—they have a lot to gain or lose. Consumers and taxpayers who would gain from the lower milk prices aren't so clearly focused because, for them, the stakes are not so high—they have very little to gain or lose individually, even though in total they would often gain more than the special interest group would lose if the price controls were dropped. (See Lesson 14 for discussion and activities on special interest effects.)

ASSESSMENT

Tell students they must solve the following hypothetical problem:

"The greatest rock group of all time—think of a group even better than any group you have ever heard of—is going to get together for one final tour of three concerts. The first two concerts will be one night each in New York, Chicago, or Los Angeles (choose the two cities that are farthest from your area), and the third will be in your hometown. This group has been around for a while, and it has many fans in their 30s and 40s as well as younger fans. For acoustical reasons, the concert cannot be held in a stadium. It will be held in a portable auditorium, with exactly 10,000 seats." The demand for tickets to this final concert in your town can be shown as a downsloping line, as in the graph on the following page. (Draw this on the chalkboard or an overhead transparency, and also draw a vertical supply curve at 10,000 seats. Do *NOT* put numbers on the vertical axis.)



The students' first problem is to estimate what the market clearing price would be for this concert. Assume that there are no especially good seats or bad seats, so any ticket is as good as another. At what price do students believe the quantity demanded will be exactly 10,000?

(Allow class discussion of this problem—if students say that the market price would be $50 or $60, they probably don't understand the assumptions—tickets for some concerts performed by existing groups already cost this much or more. If students say that the box office price will be $50, but scalpers will probably charge $100, they don't understand the concept of a market clearing price. One way to describe a market clearing price is as the lowest price at which no scalping is possible. In other words, anyone who wants to buy a ticket at that price can do so. Some classes may agree on a price as low as $100 or so, and some classes may think it would be as high as $1,000—"The used ticket stub may be worth $100." "How many thousands of people from other cities will want tickets?" "These tickets would be worth more than ringside seats at a championship boxing match.")

After a few minutes, determine a reasonable price and announce: "All right, let's say that the market clearing price is $ _____. But hold it! We have just received a telegram from the group. They say they want to make this final concert in our town a special thank you to their fans. They will forgo any profits from this concert, and will even pay all necessary expenses. But they want to be absolutely sure that no ticket will be sold for more than $5. How will we do this?"

(Some students may suggest schemes such as selling a candy bar for $500 with a "free" concert ticket enclosed, but the band's statement is intended to rule out such approaches. Discussion is likely to center on two alternatives: first-come first-served, and some type of random drawings. In both cases, the number of tickets that can be purchased by one person is critical. The issue of reselling tickets, or scalping, is likely to generate considerable discussion. It might be suggested that reselling tickets should be made impossible by printing each purchaser's photo on the tickets and requiring a matching photo ID to enter the concert. Some students may argue that there is nothing wrong with scalping because it benefits both the buyer and the seller or it wouldn't take place. Those fortunate enough to get tickets, however they are distributed, shouldn't be prohibited from benefiting from the tickets either by using them or selling them.

Selling one ticket per person would greatly reduce the scalping problem, but attending concerts alone isn't much fun. Two tickets per person is probably a good compromise. Four tickets per person would allow a lot of scalping.

A first-come, first-served policy should raise questions about riots and sanitation problems at sales points for tickets, but is likely to have the support of a lot of students who may say "Somebody willing to lie in sleeping bags in the mud for three weeks deserves the tickets." Other students may argue that "rich" people may hire others to wait in line for them. These students may think that a random drawing would be more fair—people who want tickets could send in a check for $10 with social security numbers used to make sure that there is only one check per person. Then, 5,000 applications could be selected. Each of those people would get two tickets; everyone else gets his or her check back, less a handling fee.

Both alternatives have some unfair and inefficient results. The basic lesson about price controls is that when we don't let the market do its job, we face serious problems in trying to distribute goods and services in a fair and efficient way. Note that the makeup of the audience that attends the concert—younger vs. older, higher income vs. lower income, local residents vs. people from other cities—will depend on the specific rules imposed.)

ACTIVITY 1
PRICE FLOORS AND CEILINGS

Name _____

1. What is the market clearing price in the graph below?

2. What quantity is demanded and what quantity is supplied at the market clearing price?

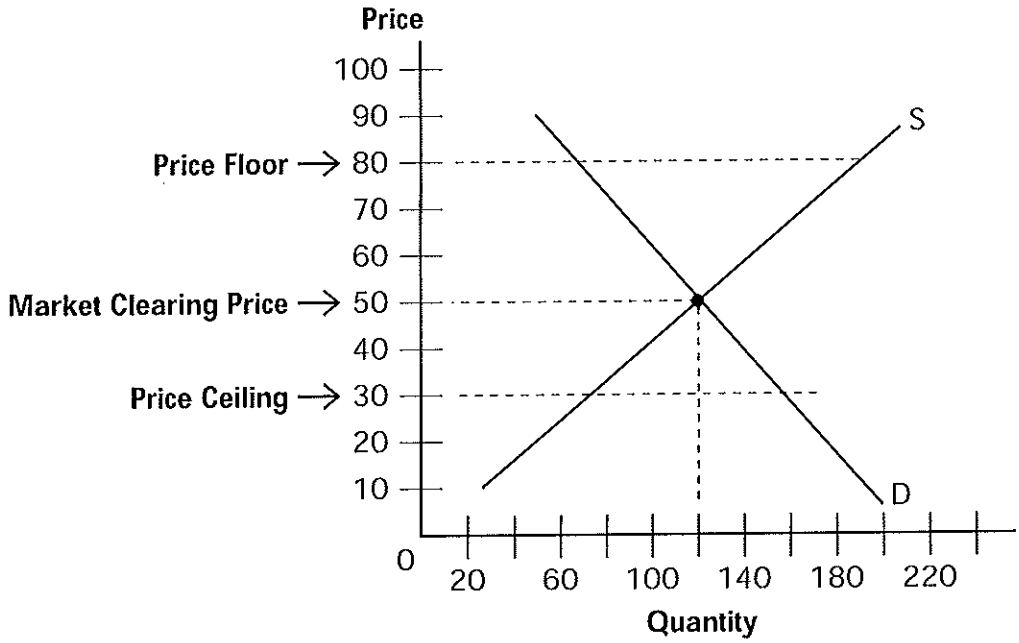
   Quantity demanded _____
   Quantity supplied _____

3. What quantity is demanded and what quantity is supplied if the government passes a law setting a maximum price of $30?

   Quantity demanded _____
   Quantity supplied _____

4. What quantity would be demanded and what quantity would be supplied if the government passes a law setting a minimum price of $80?

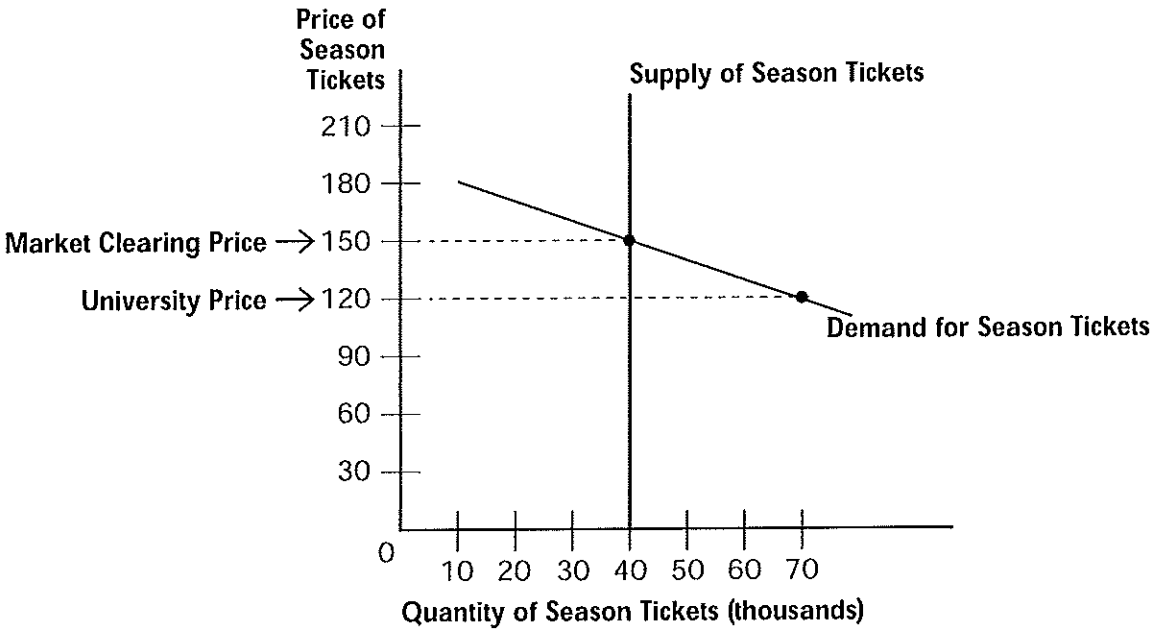
   Quantity demanded _____
   Quantity supplied _____



ACTIVITY 2
FOOTBALL FANATICS

Name _____

Big Football University has a stadium that seats 60,000 people. For each game, 15,000 seats are reserved for students, and 5,000 tickets are set aside to be sold during the week of the game on a first-come, first-served basis. The remaining 40,000 tickets are available to be sold as season tickets. The current price for a season ticket is $120. The athletic director has been studying the graph below, showing the supply and demand for season football tickets.



Questions:

1. Why is the supply curve a vertical line?
2. How many total tickets are available at the University's price?
3. How many season tickets do football fans wish to buy at the University's price?
4. What is the problem facing the University and these football fans?

ACTIVITY 2 (continued)

The athletic director has been considering several options. The president of the university and the president of the alumni association have urged him not to increase the price of season tickets because this is likely to create a great deal of ill will. The athletic director is considering the following five options:

A. Raise the price of season tickets to the market price.

B. Announce that season tickets go on sale at the ticket office the Monday following New Year's day each year, and that orders for the first 40,000 tickets will be filled on a first-come, first-served basis starting at 8:00 a.m. that morning. Any late orders will be filled as they come in, as long as tickets are still available.

C. Conduct random drawings of all requests for tickets until 40,000 season tickets have been distributed.

D. Eliminate single-game ticket sales.

E. Reduce the number of student seats and sell those tickets as season tickets.

Are any of these options fair? Who benefits and who loses under each option? What do you think the athletic director should do?

ACTIVITY 3
MARKETS FOR MILK

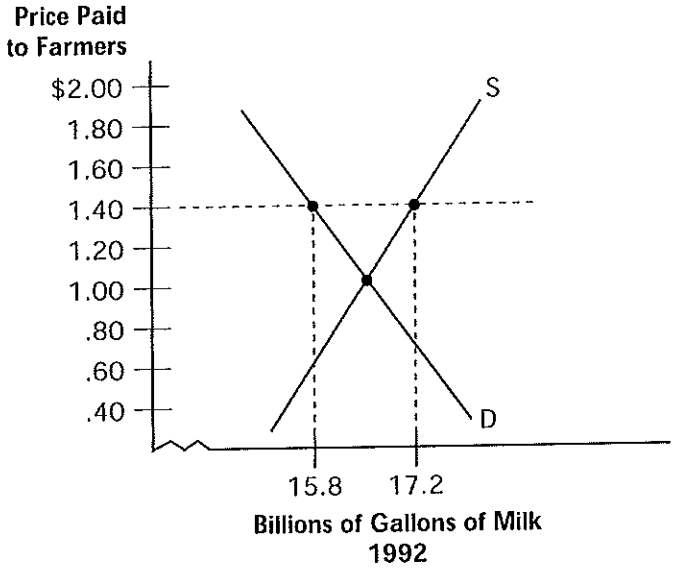
Name _____

Part I

Through a system of geographic "marketing orders," quotas, and price controls, the federal government establishes a minimum price paid to dairy farmers for milk. The effect of this system is to set the price at about $1.40 per gallon.

In 1992, dairy farmers produced and sold about 17.2 billion gallons of milk. About 6.5 billion gallons were sold to consumers (at an average price of about $2.40 per gallon). The remaining 10.7 billion gallons were sold to manufacturers and used in the production of butter, cheese, and dried milk.

Consumers purchased enough of these manufactured dairy products (butter, cheese, etc.) to account for about 9.3 billion gallons of milk. The federal government's Commodity Credit Corporation purchased the remaining products, or the equivalent of about 1.4 billion gallons of milk. The graph below presents this information using basic supply and demand curves for milk.



According to the information in this graph:

1. Is there a shortage or a surplus in the market? Explain.
2. If there were no government price controls in the market, this graph suggests that the price of milk (the market-clearing price) paid to farmers would be approximately _____ per gallon.
3. Who would benefit and who would be hurt if price controls in the milk market were eliminated?

ACTIVITY 3 (continued)

Part II

Imagine that you are a member of the U.S. House of Representatives. You must decide whether to vote yes or no on a bill that would eliminate the price-support program for milk. In committee hearings on the bill, you heard testimony from people who favor eliminating the program and from people who favor retaining it.

For example, you heard Diane Doright, who works at University Public Policy Institute, say:

> "This program is costly to consumers and taxpayers, and is an unnecessary and inefficient form of government interference in the economy. We estimate that, if the price support were ended, the price that milk processors pay for milk would decrease to about $1.00 per gallon and that the price paid by consumers would decrease from $2.40 per gallon to about $2.00. Prices of other dairy products, such as butter and cheese, would also decrease. Taxpayers would benefit by no longer having to pay to store millions of pounds of butter, cheese, and dried milk. And one of the worst effects of this program is that it keeps small, inefficient farms in operation. We shouldn't fear the forces of market competition."

You also heard Senator William Foxfire, from a Midwestern state with many dairy farmers and cheese factories, say:

> "People who want to eliminate this program just don't understand dairy farming. It is a very risky and unstable business. Feed costs may suddenly increase because of floods or droughts. Price supports bring some stability into this situation by making it possible for farmers to be sure of a certain price so they can ride out the rough times. And the so-called savings to consumers and taxpayers are an illusion. What would happen is that large, monopolistic dairy farms would take over the small family farms, and the price of milk might go even higher than it is now! As the displaced farmers moved into cities, taxpayers would be saddled with high costs of training and public assistance. Our small family farms represent the best American values of family, hard work, honesty, and thrift. We should not enact legislation that weakens these values."

Evaluate these statements and explain why you would vote for or against the bill.

VISUAL 1
PRICE FLOORS AND CEILINGS