

CHAPTER 6

PRICE CEILINGS AND PRICE FLOORS



Chapter in a Nutshell

So far, the prices we've discussed have all been market determined. The interaction of demand and supply guides prices to their equilibrium levels where the quantity demanded is equal to the quantity supplied. There can never be an excess demand or an excess supply in equilibrium when prices are market determined.

Market-determined prices reflect the market reality. When demand increases, the price increases. That's the market reality. Usually, we can accept the reality. However, in some circumstances, the market reality of a price skyrocketing overnight or, alternatively, decreasing dramatically in a short period of time, is unacceptable to society. In these situations, market-determined prices may have to be abandoned. If a price suddenly begins to rise too rapidly, the government can stop the increase by setting a **price ceiling** in the market. The price ceiling is a maximum price. Of course, the ceiling creates problems of its own — **chronic excess demand**, for one. But society may prefer coping with chronic excess demand, perhaps by using **ration coupons**, to watching prices go through the roof. This is exactly the political decision that was made during World War II.

In other cases, where prices are falling too low, **price floors**, or minimum prices, can be set by the government. There are problems associated with price floors — most obviously, what to do with the **chronic excess supply** that a price floor generates. Yet, living with chronic excess supply might be preferable to society to seeing a price keep tumbling over time. The United States made a decision to limit the decline of agricultural prices in the 1930s by introducing a set of **price floors** for farm products in order to maintain **parity** between agricultural and nonagricultural prices.

Government interference with market-determined prices has a long history. For example, **usury**, or the charging of interest on debts, was forbidden in biblical times. This ban on interest was a price ceiling set at zero. **Usury laws** persist to this day, setting maximum rates of interest that can be charged in many states and in countries around the world.

For the most part, markets do a great job setting equilibrium prices so that the quantity demanded and quantity supplied are equal. However, these equilibrium prices are, in rare cases, unacceptable, prompting government to establish price ceilings and/or price floors. This chapter focuses on these exceptions to the rule of market-determined prices.

After you study this chapter, you should be able to:

- Describe circumstances where **price ceilings** and **price floors** might be appropriate.
- Show how a price ceiling causes **chronic excess demand**.
- Discuss the use of price ceilings during World War II.
- Explain how **rationing** works.
- Show how a price floor causes **chronic excess supply**.
- Give reasons for setting price floors in agricultural markets during the 1930s.
- Describe **parity pricing** and the concept of parity.
- Evaluate **crop limitation** programs.

Concept Check — See how you do on these multiple-choice questions.



Think about whether a price ceiling is introduced because the price in the market is too high or too low.

1. A **price ceiling** will have no impact on a market if it is set
 - a. below the equilibrium price
 - b. by knowledgeable government officials
 - c. to maintain parity
 - d. above the equilibrium price
 - e. below last year's average price

Were rent controls imposed because rents were too high or too low?

2. **Rent controls** are examples of
 - a. price floors
 - b. price ceilings
 - c. parity prices
 - d. target prices
 - e. equilibrium prices

Rationing becomes necessary when there isn't enough to satisfy the quantity demanded.

3. **Ration coupons** are used to
 - a. cope with chronic excess supply
 - b. cope with price floors
 - c. establish parity between farmers' incomes and nonfarm incomes
 - d. raise prices in a market
 - e. cope with chronic excess demand

Are farm prices increasing or decreasing relative to nonfarm prices?

4. The **parity price ratio** is the
 - a. price ceiling divided by the price floor
 - b. ratio of prices received by farmers to the prices paid by farmers
 - c. formula used to calculate target prices
 - d. ratio of farm prices to the value of their ration coupons
 - e. price ceiling divided by the price floor in a market

Be sure you understand what parity pricing was intended to accomplish.

5. **Parity prices** are established to guarantee that farmers receive
 - a. the equilibrium price
 - b. difference between the parity price and the equilibrium price
 - c. a high price
 - d. a parity price
 - e. parity or equality between farm and nonfarm prices

Am I on the Right Track?



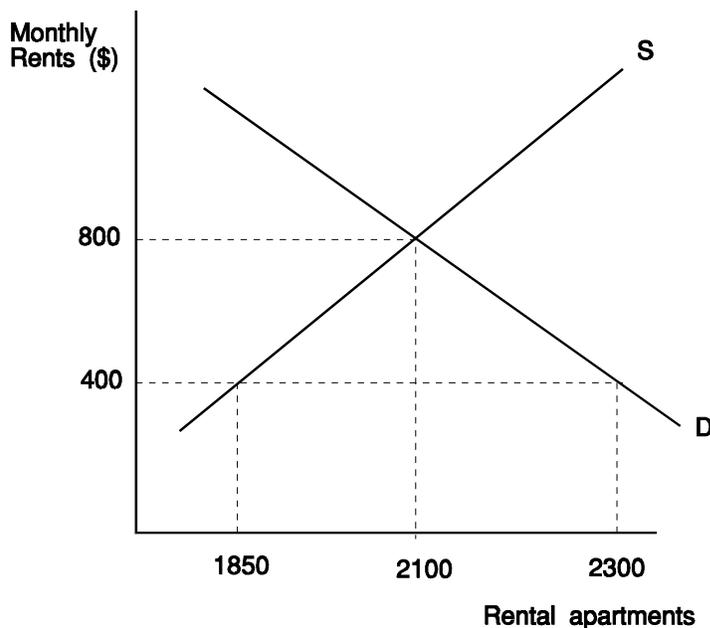
Your answers to the questions above should be **d, b, e, b, and e**. This chapter should improve your skills working with demand and supply diagrams at the same time that you learn some economic history. The story of price controls during World War II is an example of government intervention that worked effectively to shift resources from peacetime to wartime production. Price floors were introduced in agricultural markets because farmers were, in a very real sense, too successful. Technological advances in agriculture during this century have pushed agricultural supply curves to the right faster than the demand has increased, causing a long-run decline in the prices of agricultural products relative to those for manufactured goods. Farm incomes have declined relatively as a result. The questions that follow will develop your knowledge of the details of these stories.

Key Terms Quiz — Match the terms on the left with the definitions in the column on the right.

- | | | |
|---|-------|---|
| 1. price ceiling | _____ | a. phased dismantling of government’s farm price support |
| 2. ration coupon | _____ | b. the ratio of prices received by farmers to the prices paid by farmers |
| 3. rent control | _____ | c. a maximum price set by government below the equilibrium price |
| 4. price floor | _____ | d. government program of direct payments, countercyclical payments and loan deficiency payments to farmers |
| 5. parity price ratio | _____ | e. a minimum price that is set by government above the equilibrium price |
| 6. Freedom to Farm Act of 1996 | _____ | f. a price ceiling for rent |
| 7. Farm Security and Rural Investment Act of 2002 | _____ | g. a coupon that one must have in order to purchase a good |
| 8. Farm Bill of 2008 | _____ | h. the most recent farm bill that continues policies in much the same way |
| 9. Usury | _____ | i. a price ceiling on interest rates dating from biblical times |
| 10. World Trade Organization | _____ | j. an organization of countries dedicated to eliminating trade barriers that failed to end farm subsidies in industrialized countries |

Graphing Tutorial

Let’s look at the effect of a rent control law, like those imposed during World War II, on a rental housing market that had been in equilibrium. Consider the graph below:



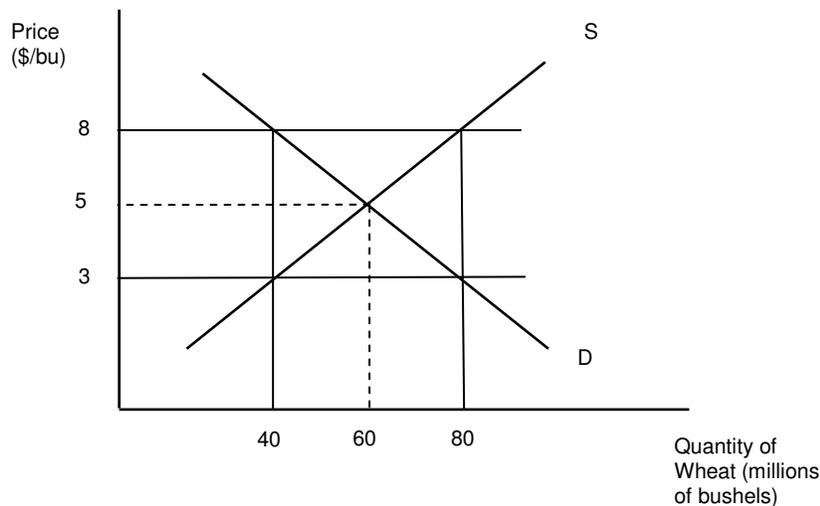
The demand for rental apartments is negatively sloped because as rents are lowered, more people are willing and able to rent apartments — as opposed to living with parents, sharing an apartment with others, or being homeless. The supply of rental apartments is positively sloped because fewer apartments are supplied in the short run as rents are lowered. People find it less worthwhile to rent out that extra room or basement apartment as rents decrease. The graph on the previous page shows that the market equilibrium monthly rent is \$800, and at that price, quantity demanded and quantity supplied are equal to 2,100 apartments. Because the market is in equilibrium, there is no excess demand or excess supply.

Now suppose that government decides that \$800 is too high a price for renters to pay. Out of concern for renters, the government imposes a rent control law that sets a maximum monthly rent of \$400. This certainly reduces the cost of housing to renters, doesn't it? But look at the graph to see the effects on the rental housing market. The quantity demanded of apartments increases to 2,300, while the quantity supplied drops to 1,850. This means that there is now an excess demand (or shortage) of 450 rental apartments. Renters who are lucky enough to get a rent-controlled apartment are better off because they are paying \$400 instead of \$800, but others are worse off because they can't get an apartment at all. This shortage will persist as long as rent controls are in effect.

In fact, the shortage of rental apartments is likely to become worse in the long run. Landlords who are receiving lower rents have less incentive to maintain their properties, so many will eventually be abandoned or torn down. Low rents will also deter potential landlords from building new rental properties. Over time, the supply of housing will probably decrease.

Graphing Pitfalls

Consider the effect of a parity pricing system on an agricultural market. Here, the government intends to set a price for a commodity, like wheat, that will provide farmers with an income that is comparable to incomes for nonfarmers. Where should the parity price be set, above the equilibrium price or below it? Consider the graph shown below. The equilibrium price of wheat is \$5 per bushel and the equilibrium quantity is 60 million bushels. Would \$3 per bushel seem like a reasonable parity price? The problem is that farmers' incomes are not in parity with nonfarm incomes. Solving this problem requires setting a price higher than the equilibrium



price, at \$8 per bushel for example. A parity price is a price floor. For a price floor to be effective, it must be set above the equilibrium price. This policy creates an excess supply of the commodity. In this case, there is an

excess supply of 40 million bushels, the difference between the 80 million bushels farmers supply at \$8 per bushel and the 40 million bushels that consumers demand at \$8 per bushel.

True-False Questions — If a statement is false, explain why.



1. During a war, resources must be shifted from producing civilian goods to defense goods, and the prices of civilian goods rise to much higher levels as a result (T/F)
2. Because consumer sovereignty is so ingrained in American culture, government price controls are banned by law. (T/F)
3. A national security crisis might be a reason to impose price controls if the burden of the crisis is borne disproportionately by the poor. (T/F)
4. A price ceiling sets a minimum price for a good. (T/F)
5. Chronic excess demand cannot exist if price is set below the market equilibrium. (T/F)
6. One way to deal with the problem of chronic excess demand is to issue ration coupons. (T/F)
7. A price floor keeps the price of a good from falling too low. (T/F)
8. Agricultural technology improved so dramatically during the first two decades of the twentieth century that prices began falling as supply curves shifted to the right. (T/F)
9. The parity price ratio is the ratio of the prices farmers pay for goods and services to the prices farmers receive for their products. (T/F)
10. A price floor will create a chronic excess supply when it is set above the equilibrium price. (T/F)
11. If a price floor is set below the equilibrium price, the price floor will have no effect on the market. (T/F)
12. Mechanization and the introduction of chemical fertilizers have had little long-run impact on farm output over time in the United States. (T/F)

13. Incomes of farmers in the United States have risen relative to nonfarm incomes during this century. (T/F)
14. The Agricultural Adjustment Act of 1933 was the beginning of a long series of bills that have provided subsidies for farmers. (T/F)
15. The Freedom to Farm Act of 1996 called for an immediate end to government payments to farmers. (T/F)

Multiple-Choice Questions

1. When a price ceiling is imposed in a market,
 - a. a persistent shortage results
 - b. a persistent surplus results
 - c. sellers of the product are made better off
 - d. no one is made better off
 - e. quantity supplied is greater than the quantity demanded
2. All of the following are problems associated with price ceilings **except**
 - a. chronic excess demand
 - b. an eventual decline in the number of suppliers
 - c. the need to use ration coupons to purchase the good
 - d. chronic excess supply
 - e. landlords failing to maintain rent-controlled properties adequately
3. Parity pricing was introduced into agricultural markets in order for farmers to
 - a. keep prices low for consumers
 - b. stop producing such large surpluses year in and year out
 - c. earn a standard of living that was similar to that enjoyed by nonfarm workers
 - d. produce surpluses that could be shipped to developing countries experiencing famine
 - e. enjoy high profits during the Great Depression
4. One way to cope with chronic excess demand is to
 - a. simply give the goods away for free
 - b. force parity between the quantity demanded and the quantity supplied
 - c. issue ration coupons for the quantity supplied
 - d. lower the price ceiling
 - e. impose crop limitations
5. When a price floor is imposed, it has an impact on a market if it is set
 - a. below the equilibrium price
 - b. at the equilibrium price
 - c. above the equilibrium price because quantity demanded exceeds quantity supplied
 - d. above the equilibrium price because quantity supplied exceeds quantity demanded
 - e. below the equilibrium price because quantity demanded exceeds quantity supplied

6. One lesson to be drawn from our discussion of price ceilings and price floors is that
 - a. government intervention in the economy should be routine and extensive
 - b. the government can easily solve most economic problems
 - c. price ceilings work better than price floors
 - d. in most cases, prices should be set by the interaction of demand and supply
 - e. price controls work best if left in place over long periods

7. Price floors were established in agricultural markets for all of the following reasons **except to**
 - a. keep farmers' incomes in parity with nonagricultural workers' incomes
 - b. prevent surpluses of agricultural goods from occurring
 - c. counteract falling agricultural prices caused, over the long run, by technological change
 - d. counteract the low price elasticity of demand for farm goods
 - e. counteract the low income elasticity of demand for farm goods

8. Technological progress in agriculture has been beneficial for _____ but harmful to _____ because the output of farm goods has grown so rapidly as a result.
 - a. small farmers, large farmers
 - b. consumers, farmers
 - c. farmers, consumers
 - d. the United States, other countries
 - e. other countries, the United States

9. Shifting from production of civilian goods to defense goods during World War II caused
 - a. a decline in civilian goods prices
 - b. an increase in the demand for civilian goods
 - c. a dramatic increase in the prices of civilian goods
 - d. the government to impose price floors for civilian goods
 - e. the government to impose price ceilings on defense goods

10. Price ceilings were established for most goods during World War II because of
 - a. chronic excess demand
 - b. chronic excess supply
 - c. pressure from Senators in predominantly agricultural states
 - d. concern over rapidly rising prices as military production increased
 - e. food shortages

11. Chronic excess demand will be a bigger problem in markets with price ceilings for goods where the demand is very _____ and the supply is very _____.
 - a. elastic; elastic
 - b. inelastic; inelastic
 - c. elastic; inelastic
 - d. inelastic; elastic
 - e. steep; flat

12. Prices received by farmers relative to prices paid by farmers have been
 - a. increasing since 1950
 - b. constant since the 1920s
 - c. decreasing since 1950
 - d. in parity since the 1930s
 - e. higher as a result of price floors

13. Parity pricing was designed to
 - a. create income equality among farmers
 - b. maintain farmers' purchasing power relative to nonfarmers' purchasing power
 - c. provide an incentive for farmers to leave farming for nonfarming economic activity
 - d. encourage investment in agriculture by providing below-equilibrium prices for agricultural equipment
 - e. restore market prices in agriculture to their equilibrium levels
14. One factor that contributed to the gradual decline in United States farm income during the 20th century was
 - a. World War I
 - b. World War II
 - c. unemployment among farmers
 - d. the low price and income elasticities of demand for farm goods
 - e. slow technological change in agriculture
15. Which of the following is not a problem associated with price floors?
 - a. chronic excess supply
 - b. the transfer of income nonfarm taxpayers to farmers
 - c. large subsidies paid by the government
 - d. a higher price for consumers
 - e. the emergence of black markets for agricultural commodities
16. In order for a price floor to be effective, it must be set _____ the equilibrium price, while a price ceiling must be set _____ the equilibrium price in order to be effective.
 - a. above; below
 - b. above; above
 - c. below; above
 - d. below; below
 - e. at; at
17. A significant problem that emerged as a result of price ceilings imposed by the Office of Price Administration during World War II was that
 - a. the controls were largely ineffectual since most producers and consumers ignored them
 - b. the burden of the war effort still fell disproportionately on poor people
 - c. most price ceilings were set above their market equilibrium, so they had no real impact
 - d. rent controls discouraged investment in new housing, intensifying the chronic housing shortage
 - e. they created price speculation that ended up raising all prices above their equilibrium levels
18. Usury laws establish
 - a. maximum rates of interest on loans; thus they are price floors
 - b. minimum rates of interest on loans; thus they are price floors
 - c. maximum rates of interest on loans; thus they are price ceilings
 - d. minimum rates of interest on loans; thus they are price ceilings
 - e. market rates of interest on loans
19. If the average of prices paid by farmers is 100 and the average of prices received by farmers is 120, then the parity price ratio, expressed as a percent, is equal to
 - a. 100
 - b. 10
 - c. 1.2
 - d. 120
 - e. 220

20. Which of the following is **not** a reason for the introduction of parity pricing in agricultural markets during the 1930s?
- falling farm prices due to dramatic increases in supply resulting from technological progress
 - crop failures in other parts of the world
 - prior failure of a program of target pricing with deficiency payments
 - a widely-shared political view that farming is an essential part of the American way of life
 - the large numbers of people who earned an income from agriculture during the 1930s

The following questions relate to the global and interdisciplinary perspectives in the text.

21. Price ceilings on Canadian prescription drugs have resulted in lower prices for drugs produced by United States pharmaceutical companies causing
- chronic excess demand in Canada
 - chronic excess demand in Canada and the United States
 - U.S. companies to end shipments of drugs to Canada
 - American consumers to purchase large quantities of drugs at the lower Canadian prices
 - Canadian citizens to buy drugs at low prices in Canada, then smuggle them across the border to resell them at the higher U.S. prices
22. An analysis of the distribution of government payments to farmers based on the size of their farms measured by total receipts shows that
- farms with lower total receipts receive the majority of government payments
 - government payments to farmers are independent of farm size
 - farms with total receipts greater than \$25,000 comprise 6.6 percent of total farms and receive 36.8 percent of government payments
 - small family farmers are quite numerous, thus they have great political clout and receive the largest share of government payments
 - government payments to farmers are intended to help them maintain their rural lifestyles
23. Measured as a percentage of farmers' income, government subsidies to United States farmers are
- much greater than in countries like Japan and Switzerland that lack extensive agricultural resources
 - greater than those received by European Union farmers
 - equal to those received by Canadian farmers
 - among the lowest for industrialized countries
 - declining rapidly since the year 2000

Fill in the Blanks

- During World War II, the United States was forced to shift resources from the production of _____ to _____, causing dramatic _____ in the prices of _____ goods.
- The _____ in agriculture has caused a dramatic decline in _____ prices relative to _____ prices during the twentieth century.
- The intent of _____ pricing was to restore _____ between _____ and nonfarm prices.

4. The _____ of 1933 established the price _____ system.
5. Laws against _____ fix the _____ price of borrowing money.



Discussion Questions

1. Why might a war create circumstances that necessitate price controls? Would the anticipated size and length of the war make a difference in the need for price controls?
2. Much of the literature produced by the Office of Price Administration explaining price controls during World War II was prefaced by disclaimers from the economists who constructed the price ceilings and floors. These economists wanted to make it clear that they didn't agree with the use of price controls as a general practice. Why would economists find price controls so abhorrent? Is there an alternative method for protecting the poor from dramatic price increases? Might it have its own drawbacks? Explain.
3. Why has technological progress created problems for farmers, but hasn't created problems in other industries subject to rapid technological change such as computers? Think about elasticities of demand.
4. How did the Freedom to Farm Act of 1996 attempt to change farm policy in the United States? Was it successful?

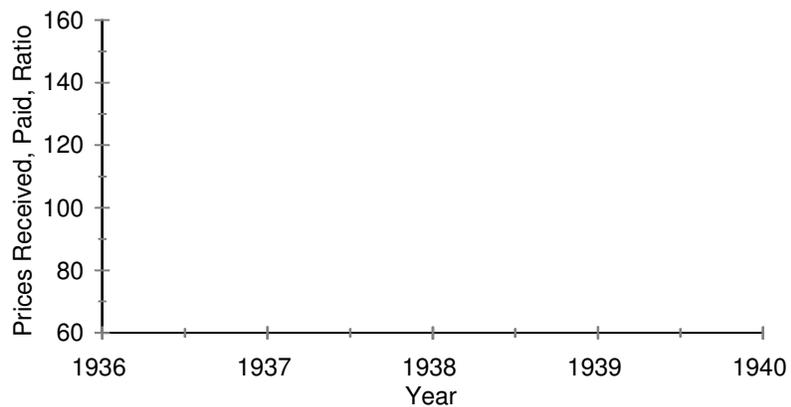
Problems

1. a. The table below shows figures for the prices received by farmers and the prices paid by farmers from 1936 through 1940. Calculate the parity price ratio as a percent and enter this value in the fourth column for each year.

Year	Prices Received by Farmers	Prices Paid by Farmers	Parity Price Ratio
1936	100	100	
1937	110	120	
1938	105	130	
1939	115	150	
1940	100	145	

- b. Given the data presented in the table, what happened to the level of farm incomes relative to nonfarm incomes? Assume that output in each sector was constant over these years.

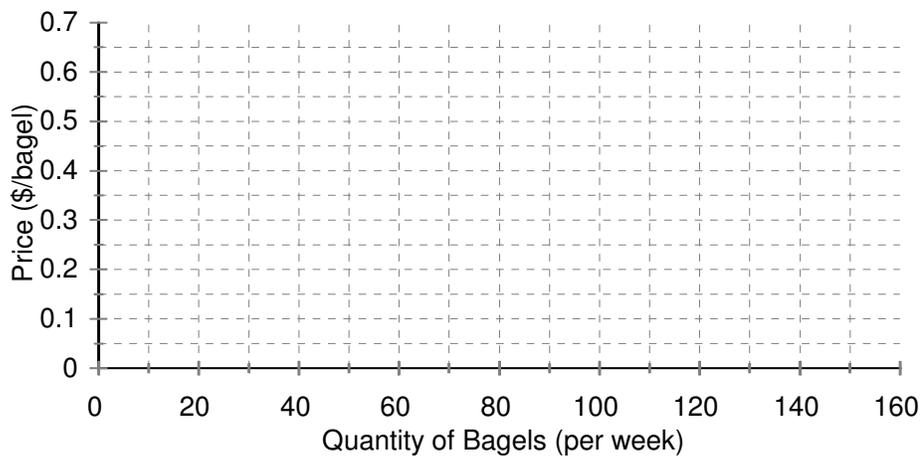
- c. Sketch a graph that shows trend lines for prices received by farmers, prices paid by farmers, and the parity price ratio over these years. Axes are provided below.



2. The quantities demanded and supplied at different prices in the bagel market in Yellow Springs, Ohio, are shown in the table below.

Price (\$/bagel)	Quantity Demanded	Quantity Supplied
0.20	200	50
0.30	170	70
0.40	140	90
0.50	110	110
0.60	80	130
0.70	50	150

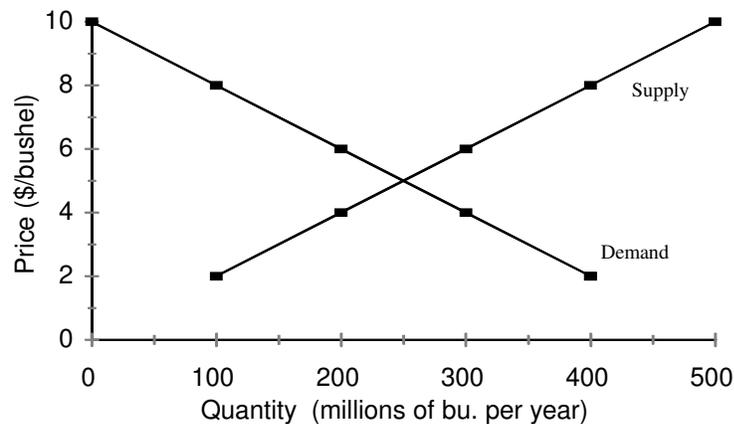
- a. On the axes provided below, sketch a graph to show the demand and supply for bagels in Yellow Springs. What is the equilibrium price, and what are the quantities demanded and supplied at the equilibrium price?



- b. Suppose that the village mayor, David Foubert, decides that bagels are extremely healthy for villagers to eat and issues an edict that the price of a bagel in Yellow Springs is never to exceed \$.40. Is Foubert establishing a price floor or a price ceiling? What are the quantity demanded and quantity supplied at this price? Is there a problem of excess demand or excess supply? How will consumers react to this policy? Bagel producers? Explain.

- c. After a few months, Foubert decides that he has made a mistake. The price of bagels is too low at \$.40. So, he issues another edict that the price of bagels is never to fall below \$.60. Is this a price ceiling or floor? Discuss the ramifications of this price change.

3. Consider the graph below representing the market for soybeans.



- a. Suppose the government imposes a \$6 price floor in this market. What is the quantity of soybeans demanded? The quantity supplied? What is the size of the subsidy that will be paid to farmers? Explain how you calculated the subsidy.
- b. Now suppose the government changes its farm policy to target pricing with acreage restrictions. The target price is set at \$6 per bushel, and, with acreage restrictions, farmers produce 250 million bushels per year. What is the quantity demanded, and how much do consumers pay? Do consumers prefer price floors or target pricing? Why?

- c. How does the size of the subsidy change with target pricing? Explain how you arrived at your answer.

Everyday Applications

During the summer of 2008 gasoline prices in the United States rose to over \$4 per gallon for a period of time. Should the government have set a ceiling on the price of gasoline? If so, what should the ceiling price have been? Discuss.



Economics Online

Congress eliminated target pricing for most crops grown by U.S. farmers with the Freedom to Farm Act in 1996. Prices for almost all farm products were to be set by the interaction of demand and supply. The Freedom to Farm Act failed and was replaced in 2002 with the Farm Security and Rural Investment Act of 2002. With this act, subsidies to farmers based on their production were reintroduced. To find out more about farm commodities, their production, and their prices, visit the site (<http://www.fsa.usda.gov/>). Do you agree with Congress's action to remove price floors in 1996? Explain.

Answers to Questions

Key Terms Quiz

- | | |
|------|-------|
| a. 6 | f. 3 |
| b. 5 | g. 2 |
| c. 1 | h. 8 |
| d. 7 | i. 9 |
| e. 4 | j. 10 |

True-False Questions

1. True
2. False. Although consumer sovereignty usually guides market behavior in the United States, in exceptional cases price controls have been introduced.
3. True
4. False. A price ceiling sets a maximum price.
5. False. Chronic excess demand does exist if price is set below the equilibrium because the quantity demanded will be greater than the quantity supplied.
6. True
7. True
8. True

9. False. The parity price ratio is the ratio of prices farmers receive for their products to the prices farmers pay for goods and services.
10. True
11. True
12. False. These changes in agricultural technology have increased agricultural output enormously.
13. False. Farm incomes have fallen relative to nonfarm incomes in the United States during this century due to the decline in farm prices resulting from increases in supply and the low price and income elasticities of demand for farm products.
14. True
15. False. The Freedom to Farm Act phased in the elimination of government payments to farmers over a seven year period.

Multiple-Choice Questions

- | | | | | |
|------|-------|-------|-------|-------|
| 1. a | 6. d | 11. a | 16. a | 21. d |
| 2. d | 7. b | 12. c | 17. d | 22. c |
| 3. c | 8. b | 13. b | 18. c | 23. d |
| 4. c | 9. c | 14. d | 19. d | |
| 5. d | 10. d | 15. e | 20. b | |

Fill in the Blanks

1. civilian goods; defense goods; increases; civilian
2. technological revolution; farm; nonfarm
3. parity; parity; farm
4. Agricultural Adjustment Act; floor
5. usury; maximum

Discussion Questions

1. A war might require that large amounts of resources be shifted out of civilian goods production into defense goods production. Such a shift along a country's production possibilities curve would cause dramatic decreases in the supplies of civilian goods, causing their prices to skyrocket. These higher prices could pose a harsh burden for the poor in a country at war. Price controls may be necessary to minimize this burden. The longer the war and the bigger it is anticipated to be, the greater the need for price controls.
2. These economists prefaced the OPA literature with such disclaimers because they knew that price controls (in this case, price ceilings, for the most part) came with their own set of problems. They knew that chronic excess demand would result from price ceilings, that suppliers might leave markets with controlled prices if they could find more profitable lines of business, and that black markets for the short supplies of goods available were likely to emerge. The alternative to the imposition of price ceilings was to let markets adjust to new equilibrium prices at much higher levels, and then give poorer households income subsidies so that they could continue to subsist during the war. However, these income subsidies would have to be financed with new taxes that would result in distortions of their own. The question of who would receive the subsidies was also problematic.
3. The demands for farm products tend to be price and income inelastic. If demand is price inelastic, a decrease in price leads to a decrease in total revenue. Likewise, if demand is income inelastic, an increase in income leads to a less than proportionate increase in the quantity demanded. This is Engel's law in action. Computers, on the other hand, have demands that are relatively price and income elastic. Rapid

technological change that causes the price of computers to fall could lead to increases in revenue for computer producers. Also, as income increases, the quantity demanded of computers will increase more than proportionately.

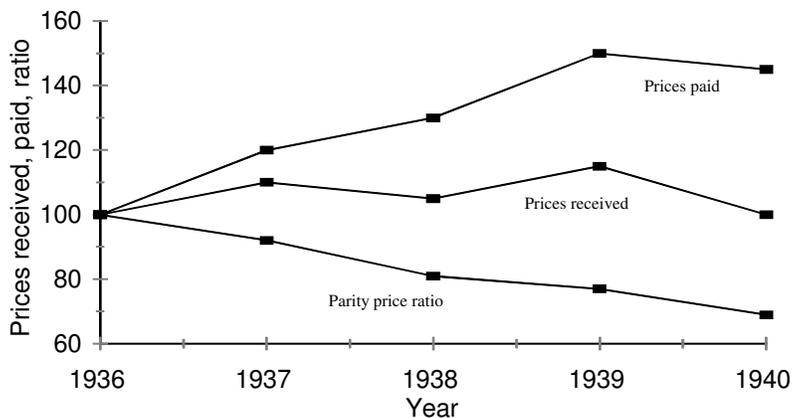
4. At its core, the 1996 Freedom to Farm Act (the FFA) held that the best farm program for both farmers and the government was no farm program at all. The FFA provided for farmers to produce with no government controls or subsidies. The FFA was to be implemented in stages from 1996 through 2002. Over this seven-year period, farmers would receive fixed cash payments that gradually declined to zero in 2002. The FFA failed to get government out of agriculture and was replaced with a complex system of subsidies with passage of the 2002 Farm Security and Rural Investment Act.

Problems

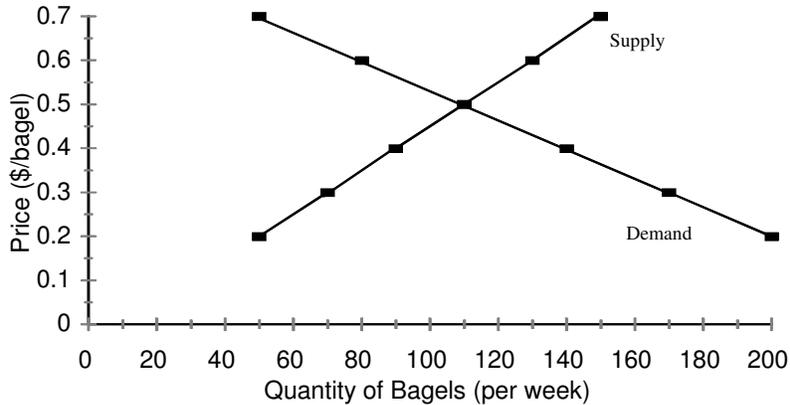
1. a. The completed table is shown below.

Year	Prices Received by Farmers	Prices Paid by Farmers	Parity Price Ratio
1936	100	100	100
1937	110	120	92
1938	105	130	81
1939	115	150	77
1940	100	145	69

- b. Farm incomes fell over the five-year period. The prices received by farmers in 1940 were only 69 percent of the prices they paid compared to the parity that existed in 1936.
- c. The graph is shown below.



2. a. The demand and supply curves for the bagel market in Yellow Springs are shown in the graph on the next page. The equilibrium price is \$.50 and the equilibrium quantity is 110.



- b. Foubert is setting a price ceiling since the \$.40 per bagel price is a maximum price. Quantity demanded is equal to 140 bagels per week while quantity supplied is equal to 90 bagels per week at \$.40 per bagel. There is an excess demand for bagels equal to 50 bagels per week. The consumers who are able to purchase the 90 bagels at \$.40 per bagel are happy about the policy. They save \$.10 per bagel. However, consumers previously purchased 110 bagels at \$.50 per bagel, so fewer healthy bagels are being eaten as a result of the policy. Producers are also frustrated by the policy because they sell fewer bagels and earn less revenue.
 - c. The \$.60 per bagel price is a price floor since it is a minimum price. At \$.60 per bagel, the quantity demanded is 80 while the quantity supplied is 130 bagels per week. Under these circumstances, the village of Yellow Springs will have to purchase the 50 excess bagels supplied each week. Villagers will have to pay for these bagels with higher taxes. Moreover, bagels are more expensive for consumers in Yellow Springs. However, bakers who produce bagels love the policy. They earn more revenue as a result.
3. a. At the \$6 price floor, the quantity demanded of soybeans is 200 million bushels, and the quantity supplied is 300 million bushels. The subsidy paid to farmers will be the cost of the excess supply of soybeans that must be purchased by the government, which is equal to \$6 times 100 million bushels, or \$600 million.
- b. If 250 million bushels are produced, consumers of soybeans will pay \$5 to purchase 250 million bushels. Therefore, the deficiency payments to farmers will be \$1 per bushel $(\$6 - \$5) \times 250$ million bushels or \$250 million. Consumers prefer this policy because the price of soybeans is \$1 lower, and they get 250 million bushels instead of 200 million bushels.
 - c. The subsidy is \$350 million lower with the target price policy, or \$600 million minus \$250 million.

Homework Questions

True-False Questions — If a statement is false, explain why.

1. A price floor is a maximum price. (T/F)
2. Prices for consumers under parity pricing were lower than under target pricing. (T/F)
3. The effect of technological change in agriculture has been to cause a dramatic shift of demand curves for farm products to the right. (T/F)
4. If price ceilings had not been imposed during World War II, prices for consumer goods would have increased significantly making them unaffordable for many households. (T/F)
5. The Freedom to Farm Act was an attempt by government to eliminate farm subsidies. (T/F)

Multiple-Choice Questions

1. In order for a price floor to be effective, it must be set _____ the equilibrium price, while a price ceiling must be set _____ the equilibrium price in order to be effective.
 - a. above; below
 - b. above; above
 - c. below; above
 - d. below; below
 - e. at; at
2. Even though parity pricing was intended to create greater equality between farm and nonfarm incomes, the pattern of prices paid to farmers relative to prices paid by farmers since 1950 shows
 - a. the ratio of prices was relatively equal to begin with
 - b. farm prices continuing to fall relative to nonfarm prices
 - c. farmers surging ahead of nonfarmers with rising farm prices
 - d. farm prices falling relative to nonfarm prices until 1996
 - e. parity pricing decreased nonfarm prices with price ceilings
3. Under which government farm program have farmers been paid a combination of direct payments, counter cyclical payments, and loan deficiency payments?
 - a. parity pricing
 - b. Public Law 480
 - c. target pricing
 - d. the Freedom to Farm Act
 - e. the Farm Security and Rural Investment Act

