


## Chapter 4

# Prices: Free, Controlled, and Relative




**ECONOMICS**

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## Rationing Device

- A means for deciding who gets what of available resources and goods
- Such as:
  - Prices
  - First come first serve
  - Government as the decider
  - Brute force
  - Attractiveness



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## Prices as a Rationing Device

A means for deciding who gets what of available resources and goods

Price serves as a rationing device. It rations resources to the producers who pay the price for the resources. It rations goods to those buyers who pay the price for the goods. The process is as simple as this: Pay the price, and the resources or goods are yours. Don't pay the price, and they aren't.

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## Prices as a Rationing Device

- If first-come-first-served, brute force, beauty, or another alternative to dollar price is the rationing device, what incentive would the producer of a good have to produce the good? With dollar price as a rationing device, a person produces computers and sells them for money.
- He then takes the money and buys what he wants. But if the rationing device were, say, brute force, he would not have an incentive to produce. Why produce anything when someone will end up taking it away from you?
- In short, in a world where dollar price isn't the rationing device, people are likely to produce much less than in a world where dollar price is the rationing device

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## Prices as a Transmitter of Information

Price is a transmitter of information that often relates to the relative scarcity of a good. A market system, oddly enough, is powerful enough to have people respond in appropriate ways to the information that price is transmitting, even if the people do not fully hear or understand it.



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### Self-test

**1. Why is there a need for a rationing device, whether it is price or something else?**  
 A rationing device is necessary because scarcity exists. If scarcity did not exist, a rationing device would not be needed.

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### Self-test

**2. If price is not the rationing device used, then individuals won't have as sharp an incentive to produce. Explain.**  
 If (dollar) price is the rationing device used, then individuals have an incentive to produce goods and services, sell them for money (for the dollar price), and then use the money to buy what they want. If another rationing device were used (say, first come-first-served, or "need," etc.), then the incentive to produce would be dramatically dampened. Why produce a good if the only way you can "sell" it (i.e., ration the good) is by way of first-come-first-served?

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### Self-test

**3. What kind of information does price often transmit?**  
 Rationing conveys information about the relative scarcity of a good. In the orange juice example in the text, a rise in the price of orange juice transmitted information relating to the increased relative scarcity of orange juice due to a cold spell in Florida.

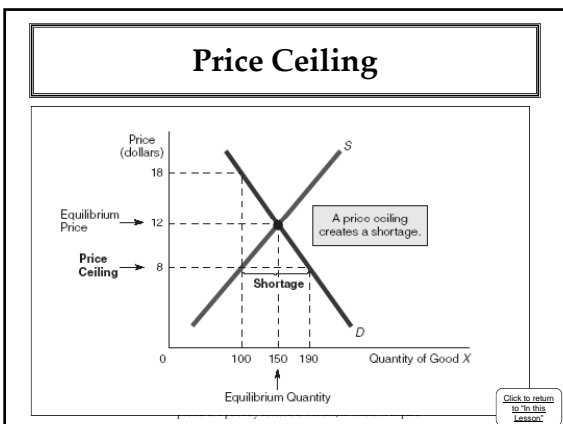
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### Price Controls

**Price Ceiling –**

- A government-mandated maximum price above which legal trades cannot be made.
- If the price of the good is set below the equilibrium price any or all of the following effects may arise: 1 shortages, fewer exchanges, non-price-rationing devices, buying and selling at prohibited prices, and tie-in sales.

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### Price Controls

**Price Floor –**

- A government-mandated minimum price below which legal trades cannot be made.
- If the price of a good is set above the equilibrium price of the good the following two effects arise: surpluses and fewer exchanges.

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### Price Floor

A price floor creates a surplus.

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### Price Floors, Consumers' and Producers' Surplus and Deadweight Losses I

**Agricultural Price Floors**  
 The demand for and supply of an agricultural foodstuff are shown in this exhibit. The equilibrium price is  $P_1$ ; consumers' surplus (CS) is areas 1 + 2 + 3; producers' surplus is areas 4 + 5. A price floor of  $P_F$  effectively transfers some of the consumers' surplus to producers in the form of a gain in producers' surplus. Specifically, at  $P_F$ , consumers' surplus is area 1 and producers' surplus is areas 2 + 4.

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### Price Floors, Consumers' and Producers' Surplus and Deadweight Losses II

Consumers are net losers because consumers' surplus has decreased by areas 2 + 3. Producers are net gainers because producers' surplus has increased from areas 4 + 5 to areas 2 + 4 and area 2 is larger than area 5. Overall, the economic pie of CS PS has decreased from areas 1 + 2 + 3 + 4 + 5 to areas 1 + 2 + 4.

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### Self Test

**1. Do buyers prefer lower prices to higher prices?**  
 Yes, if nothing else changes—that is, yes, *ceteris paribus*. If some other things change, though, they may not. For example, if the government imposes an effective price ceiling on gasoline, Jamie may pay lower gas prices at the pump but have to wait in line to buy the gas (due to first come, first served trying to ration the shortage). It is not clear if Jamie is better off paying a higher price and not waiting in line or paying a lower price and waiting in line. The point, however, is that buyers don't necessarily prefer lower prices to higher prices unless everything else (quality, wait, service, etc.) stays the same.

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### Self Test

**2. "When there are long-lasting shortages, there are long lines of people waiting to buy goods. It follows that the shortages cause the long lines." Do you agree or disagree? Explain your answer.**  
 Disagree. Both long-lasting shortages and long lines are caused by price ceilings. First, the price ceiling is imposed, creating the shortage; then, the rationing device first come, first served emerges because price isn't permitted to fully ration the good. There are shortages every day that don't cause long lines to form. Instead, buyers bid up price, output and price move to equilibrium, and there is no shortage.

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### Self Test

**3. Who might argue for a price ceiling? a price floor?**  
 Buyers might argue for price ceilings on the goods they buy—especially if they don't know that price ceilings have some effects they may not like (e.g., fewer exchanges, FCFS used as a rationing device). Sellers might argue for price floors on the goods they sell—especially if they expect their profits to rise. Employees might argue for a wage floor on the labor services they sell—especially if they don't know that they may lose their jobs or have their hours cut back as a result.

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## Absolute and Relative Prices

- **Absolute (Money) Price** - The price of a good in money terms.
- **Relative Price (opportunity cost)** - The price of a good in terms of another good.



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## Relative Price (opportunity cost)

$$\begin{aligned} \text{Relative price of a car (in terms of computers)} &= \frac{\text{Absolute price of a car}}{\text{Absolute price of a computer}} \\ &= \frac{\$30,000}{\$2,000} \\ &= 15 \end{aligned}$$

Now let's compute the relative price of a computer—that is, the price of a computer in terms of a car:

$$\begin{aligned} \text{Relative price of a computer (in terms of cars)} &= \frac{\text{Absolute price of a computer}}{\text{Absolute price of a car}} \\ &= \frac{\$2,000}{\$30,000} \\ &= \frac{1}{15} \end{aligned}$$

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## Self Test

1. If the absolute (or money) price of good A is \$40 and the absolute price of good B is \$60, what is the relative price of each good?

$$1A = \frac{2}{3}B \text{ and } 1B = 1.5A$$

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## Self Test

2. Someone says, "The price of good X has risen; so good X is more expensive than it used to be." In what sense is this statement correct? In what sense is this statement either incorrect or misleading?

The statement is correct in the sense that good X has a higher money price than it used to have. It is misleading because a higher money price doesn't necessarily mean a higher relative price. For example, if the absolute (money) price of good X is \$10 and the absolute price of good Y is \$20, then the relative price of X is  $\frac{1}{2}$  units of Y. Now suppose the absolute price of X rises to \$15 while the absolute price of Y rises to \$60. The new relative price of X is now  $\frac{1}{4}$  units of Y. In other words, the absolute price of X rises (from \$10 to \$15) while its relative price falls (from  $\frac{1}{2}Y$  to  $\frac{1}{4}Y$ ). Good X can become more expensive in money terms as it becomes cheaper in terms of other goods.

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