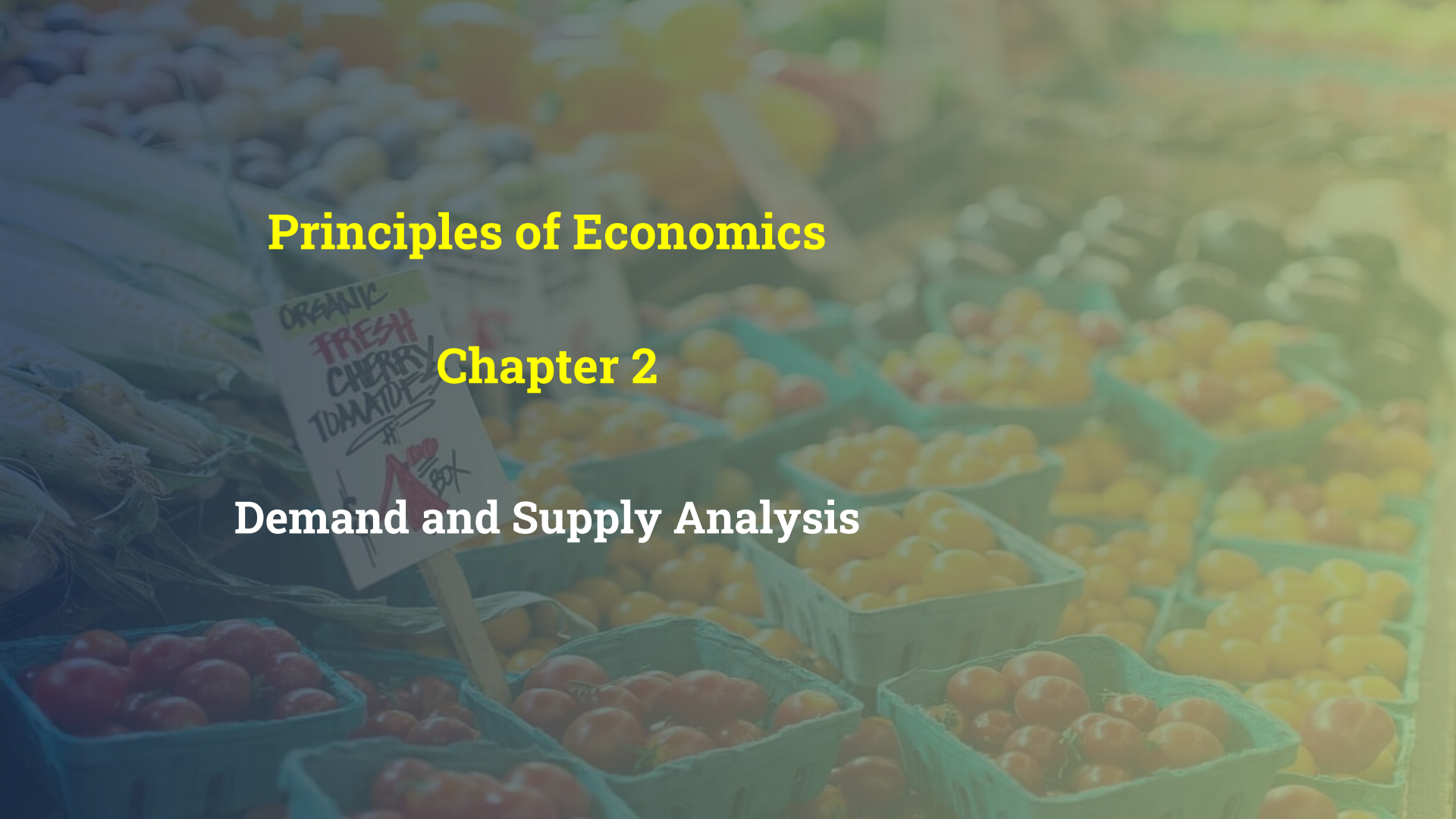
Principles of Economics

Chapter 2

Demand and Supply Analysis



You will learn about…

Definition of a **market** and concept of **competition**

Behaviour of buyers: factors influencing **demand**

Behaviour of sellers: factors influencing **supply**

Visualization and explanations of **market equilibrium**

Visualization and explanations of **changes in price and quantity**

Markets

A market is a group of buyers and sellers of a particular good or service.

The buyers as a group determine the demand for the product, and the sellers as a group determine the supply of the product.

Markets for agricultural products: highly organized, buyers and sellers meet at a specific time and place where an auctioneer helps set prices and arrange sales.

Less organized markets: buyers of fuchka do not meet together at any one time. The sellers of fuchka are in different locations and offer somewhat different products.

There is no auctioneer calling out the price of fuchka. Each seller posts a price for one fuchka plate, and each buyer decides how much fuchka to buy at each store.

Consumers and producers are closely connected. Fuchka buyers are choosing from the various fuchka sellers to satisfy their cravings, and fuchka sellers are all trying to appeal to the same fuchka buyers to make their businesses successful.

Competition

Each buyer knows that there are several sellers from which to choose, and each seller is aware that his product is similar to that offered by other sellers.

The price and quantity of a good or service sold are not determined by any single buyer or seller.

Rather, price and quantity are determined by all buyers and sellers as they interact in the marketplace.

Competitive market: a market in which there are so many buyers and so many sellers that each has a negligible impact on the market price (e.g., fuchka market)

Each seller of fuchka has limited control over the price because other sellers are offering similar products.

A seller has little reason to charge less than the going price, and if they charge more, buyers will make their purchases elsewhere.

No single buyer of fuchka can influence the price of fuchka because each buyer purchases only a small amount.

Markets and competition

Perfect competition	Monopoly	Oligopoly	Monopolistic competition
The goods offered for sale are all exactly the same The buyers and sellers are so numerous that no single buyer or seller has any influence over the market price Buyers and sellers are price takers	Some markets have only one seller, and this seller sets the price.	Few sellers Not always aggressive competition	Many sellers Slightly differentiated products Each seller may set price for its own product
			
Wheat	Railways	Automobiles	Bakery

Behaviour of buyers: demand side

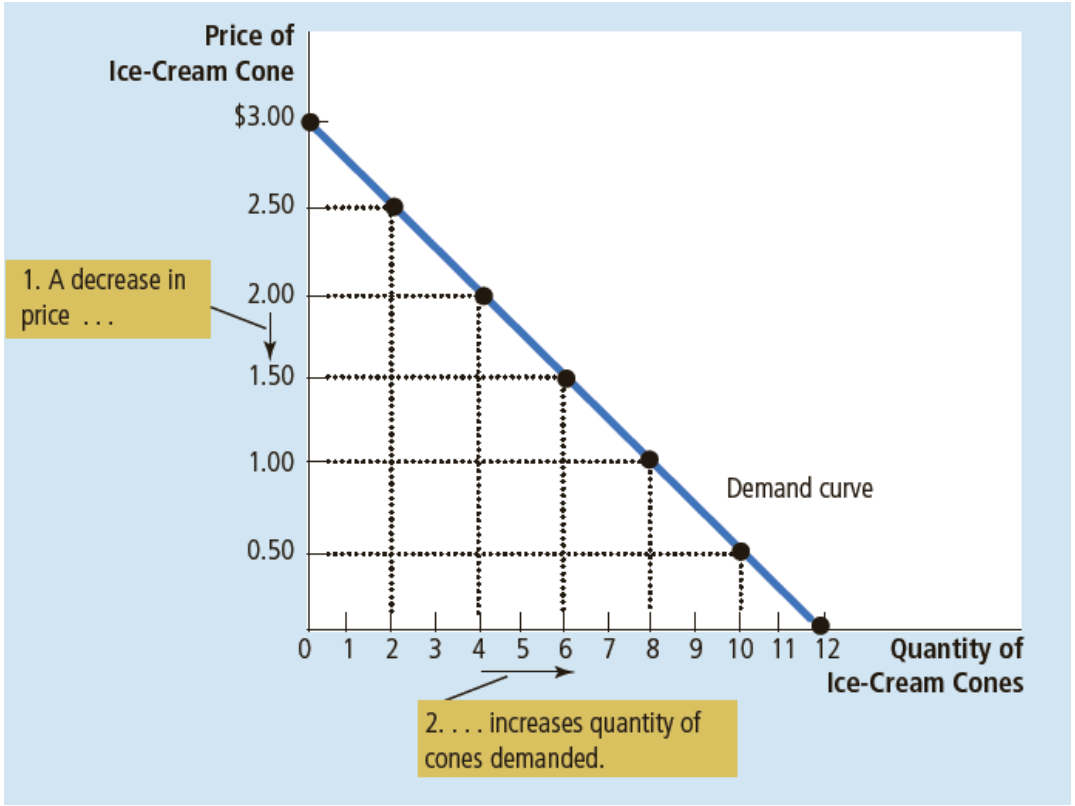
Quantity demanded the amount of a good that buyers are willing and able to purchase

Law of demand the claim that, other things being equal, the quantity demanded of a good falls when the price of the good rises

Demand schedule a table that shows the relationship between the price of a good and the quantity demanded

Behaviour of buyers: Catherine's demand

Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	12 cones
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

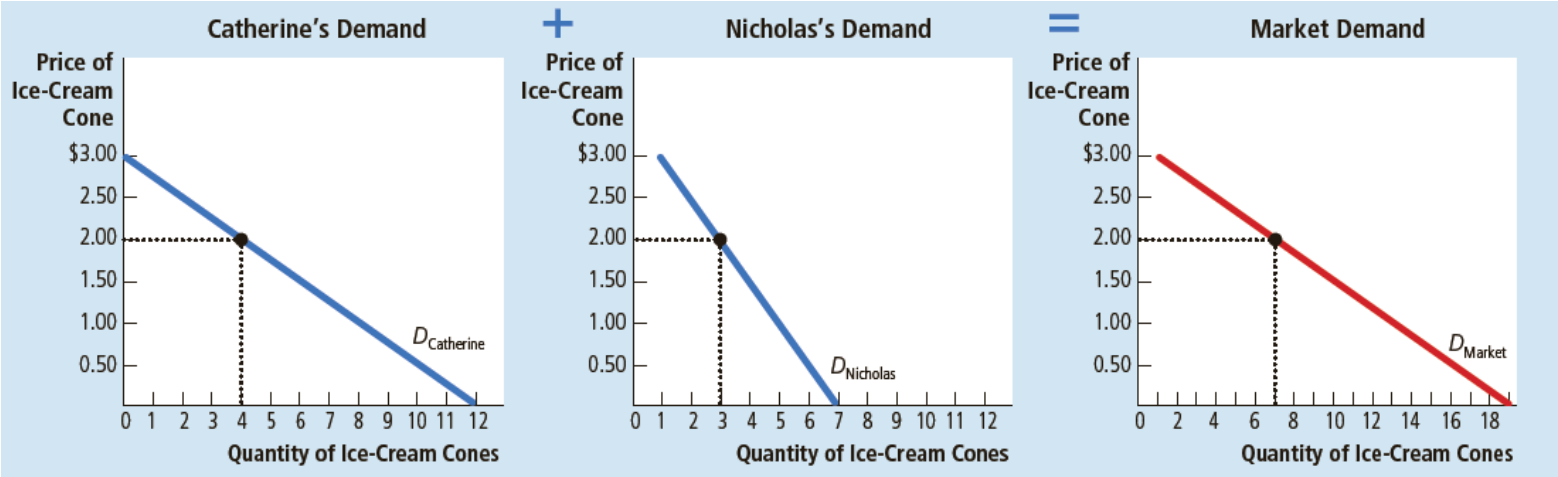


Behaviour of buyers: Market demand

Price of Ice-Cream Cone	Catherine		Nicholas		Market
$0.00	12	+	7	=	19 cones
0.50	10		6		16
1.00	8		5		13
1.50	6		4		10
2.00	4		3		7
2.50	2		2		4
3.00	0		1		1

The market demand curve shows how the total quantity demanded of a good varies as the price of the good varies, while all other factors that affect how much consumers want to buy are held constant.

Sum the individual demand curves horizontally to obtain the market demand curve.



What explains the law of demand

Substitution effect occurs when the price of a good changes, leading consumers to substitute the now relatively cheaper or more expensive good for others in their consumption choices. When the price of a good falls, it becomes relatively more attractive compared to other goods whose prices have remained constant. Consumers tend to shift their preferences toward the now less expensive good.

Income effect is a concept in economics that describes the change in the quantity demanded of a good or service resulting from a change in real income. It is one of the two effects (the other being the substitution effect) that contribute to the overall change in quantity demanded when the price of a good changes.

Shift in the demand curve

Any change that raises the quantity that buyers wish to purchase at any given price shifts the demand curve to the right. Any change that lowers the quantity that buyers wish to purchase at any given price shifts the demand curve to the left.

Variables that shift the demand curve:

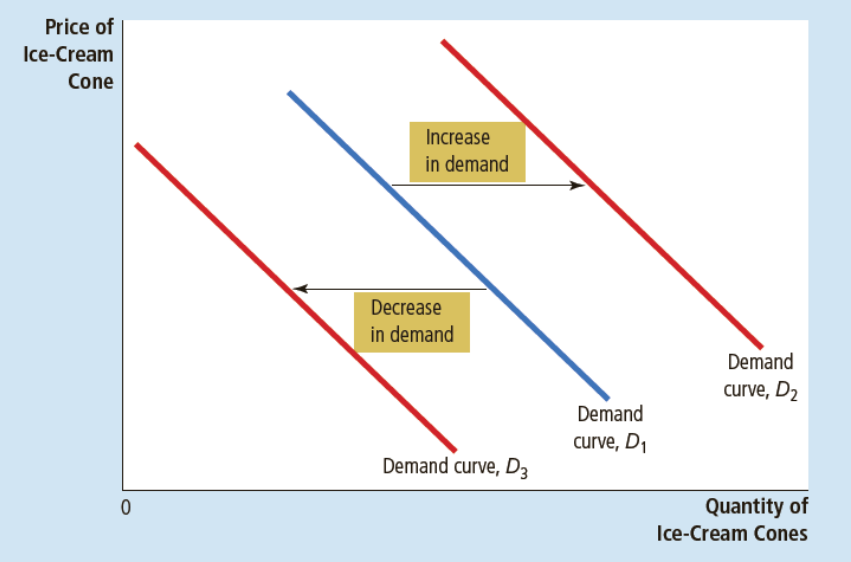
Income

Prices of Related Goods

Tastes

Expectations

Number of Buyers

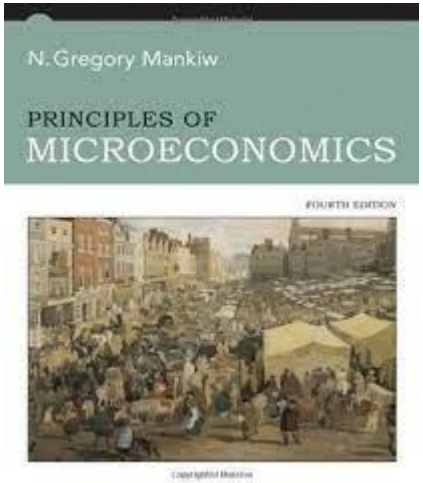


Shift in the demand curve: income

A lower income means that you have less to spend in total, so you would have to spend less on some—and probably most—goods. **If the demand for a good falls when income falls, the good is called a normal good. If the demand for a good rises when income falls, the good is called an inferior good.**

Shift in the demand curve: income

Suppose you get less pocket money next month, what will happen to the consumption of these goods?



Shift in the demand curve: price of related goods

When a fall in the price of one good reduces the demand for another good, the two goods are called **substitutes**.
When a fall in the price of one good raises the demand for another good, the two goods are called **complements**.

Perfect substitutes are goods that provide the same level of satisfaction or utility, and consumers are indifferent between the two. **Imperfect substitutes** are goods that are similar but not identical. Consumers may have a preference for one over the other based on factors such as quality, brand, or specific features.

Substitute goods are identical, similar, or comparable to another product, in the eyes of the consumer.

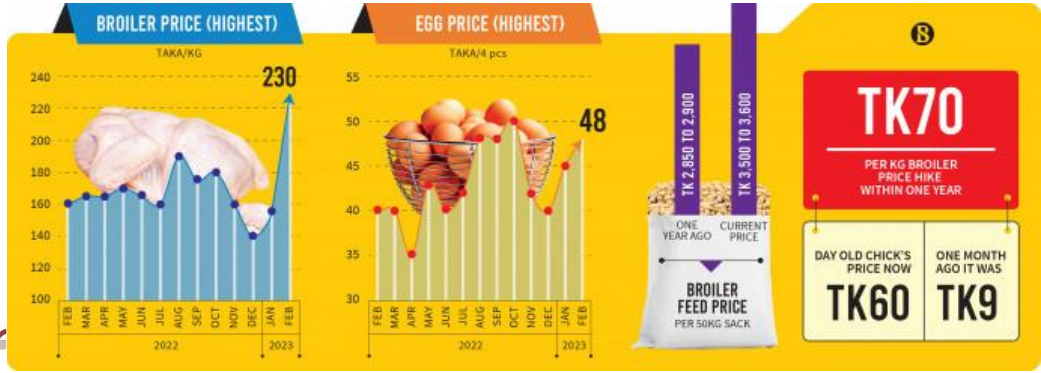
Shift in the demand curve: tastes

The concept of "tastes" refers to individual preferences and the subjective judgments that consumers make when deciding what goods and services to consume. Tastes are a key element in consumer choice theory, which seeks to explain how individuals allocate their resources (such as income) among different goods and services to maximize their satisfaction or utility.

Tastes are subjective and vary from person to person. What one individual finds enjoyable or satisfying may not be the same for another person. Preferences are shaped by a variety of factors, including cultural influences, personal experiences, advertising, and individual values.

Shift in the demand curve: expectations

Your expectations about the future may affect your demand for a good or service today. If you expect to earn a higher income next month, you may choose to save less now and spend more of your current income buying ice cream. If you expect the price of ice cream to fall tomorrow, you may be less willing to buy an ice-cream cone at today's price. Consumers choose not only what to buy but also when to buy them.



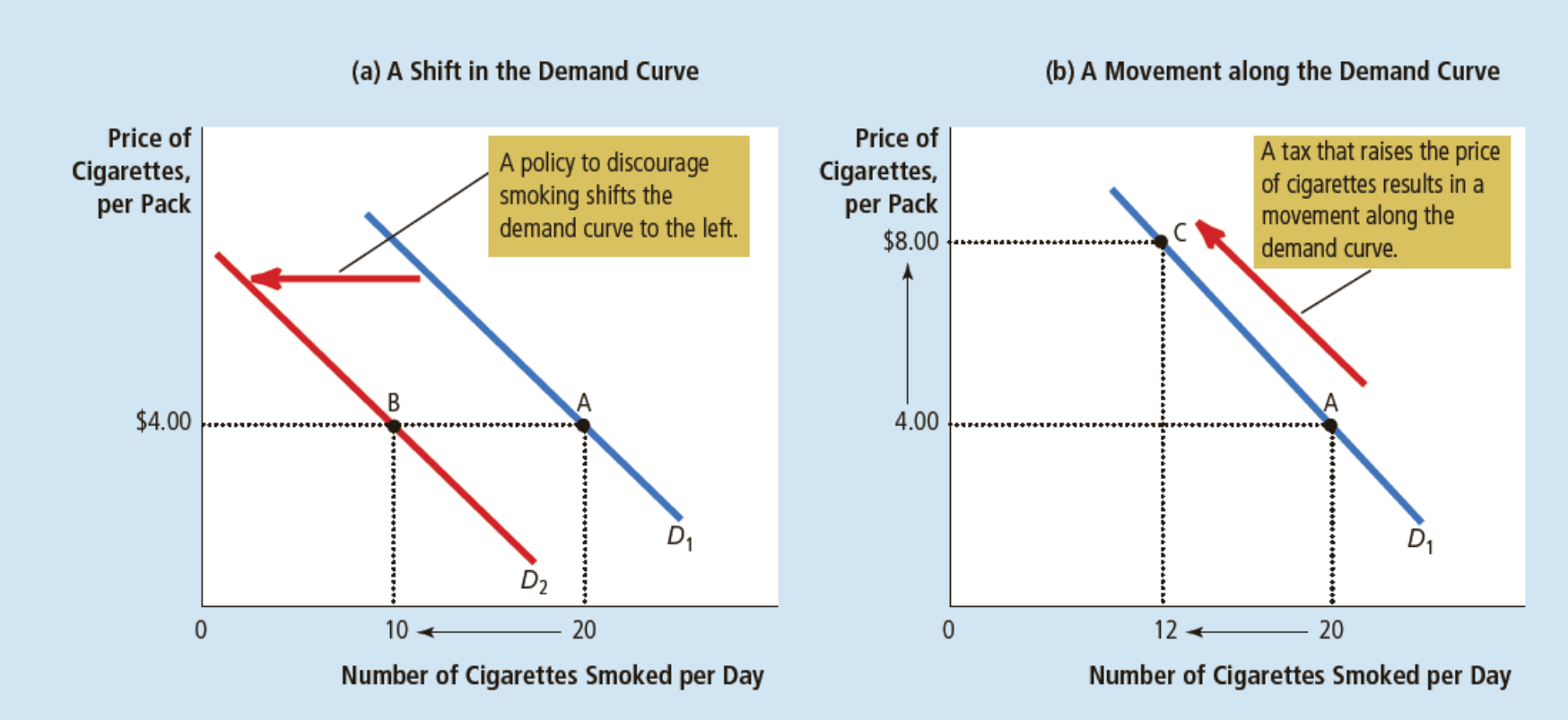
Shift in the demand curve: number of buyers

Market demand depends on the number of these buyers. If Peter were to join Catherine and Nicholas as another consumer of ice cream, the quantity demanded in the market would be higher at every price, and market demand would increase.

Shift in the demand curve

Variable	A Change in This Variable . . .
Price of the good itself	Represents a movement along the demand curve
Income	Shifts the demand curve
Prices of related goods	Shifts the demand curve
Tastes	Shifts the demand curve
Expectations	Shifts the demand curve
Number of buyers	Shifts the demand curve

Shift in the demand curve



Behaviour of sellers: supply side

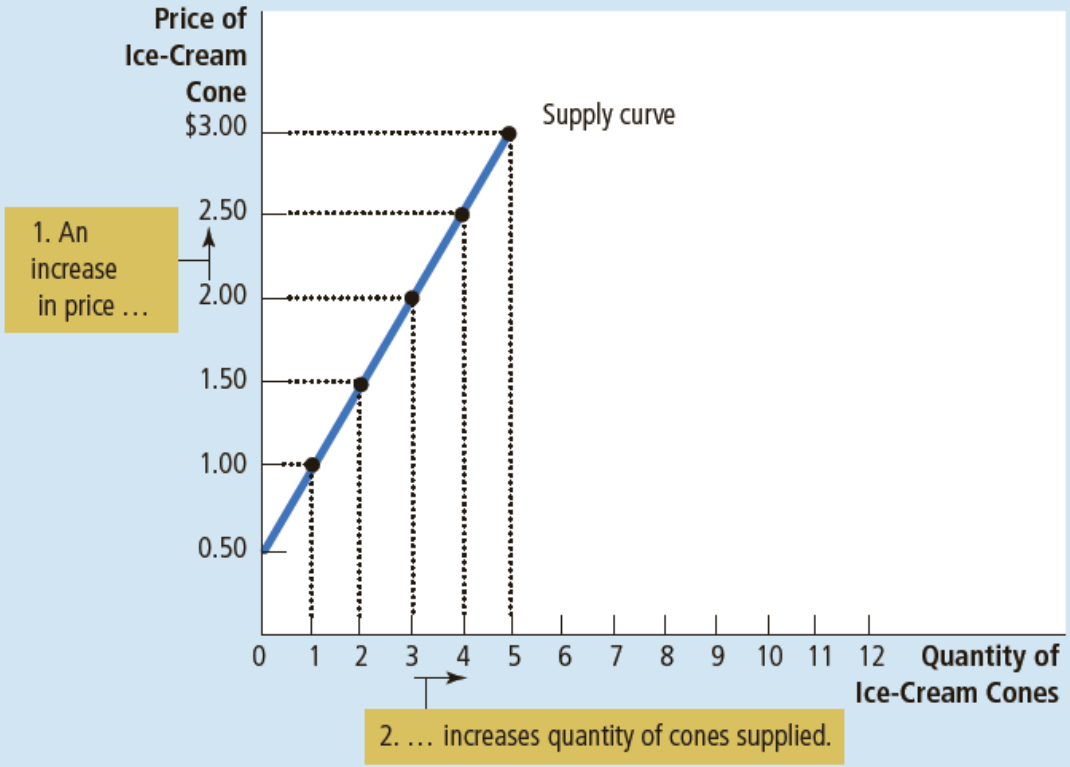
Quantity supplied the amount of a good that sellers are willing and able to sell

Law of supply the claim that, other things being equal, the quantity supplied of a good rises when the price of the good rises.

Supply schedule a table that shows the relationship between the price of a good and the quantity supplied

Behaviour of sellers: supply side

Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	0 cones
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

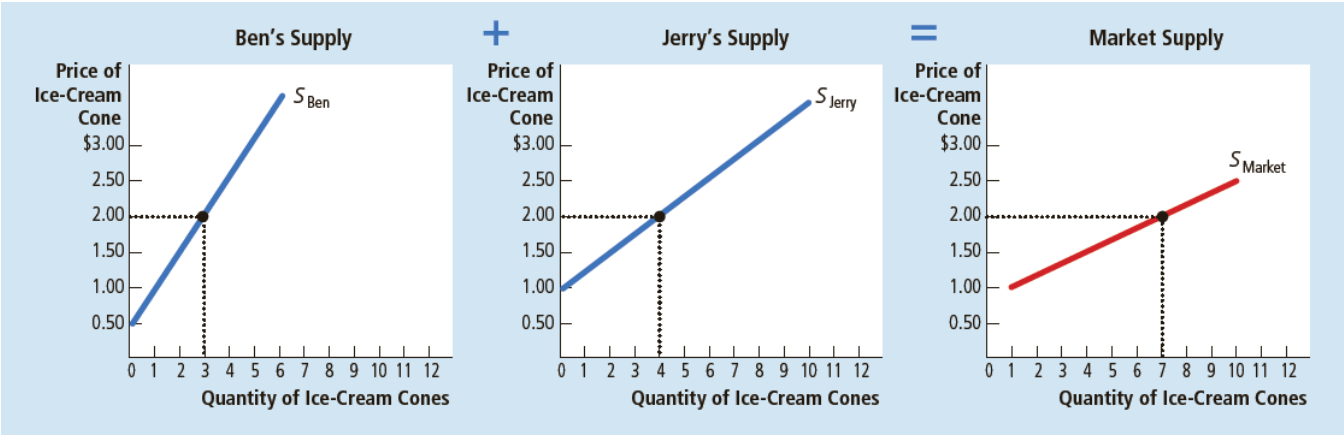


Behaviour of sellers: market supply

Price of Ice-Cream Cone	Ben		Jerry		Market
$0.00	0	+	0	=	0 cones
0.50	0		0		0
1.00	1		0		1
1.50	2		2		4
2.00	3		4		7
2.50	4		6		10
3.00	5		8		13

The market supply curve shows how the total quantity supplied varies as the price of the good varies, holding constant all other factors that influence producers' decisions about how much to sell.

We sum the individual supply curves horizontally to obtain the market supply curve.



Shift in the supply curve

Any change that raises the quantity that sellers wish to produce at any given price shifts the supply curve to the right. Any change that lowers the quantity that sellers wish to produce at any given price shifts the supply curve to the left.

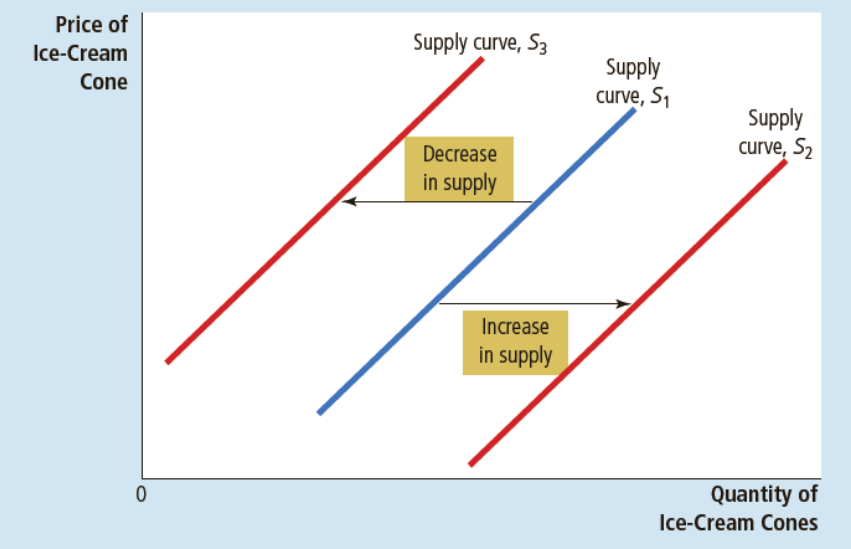
Variables that shift the supply curve:

Input Prices

Technology

Expectations

Number of Sellers

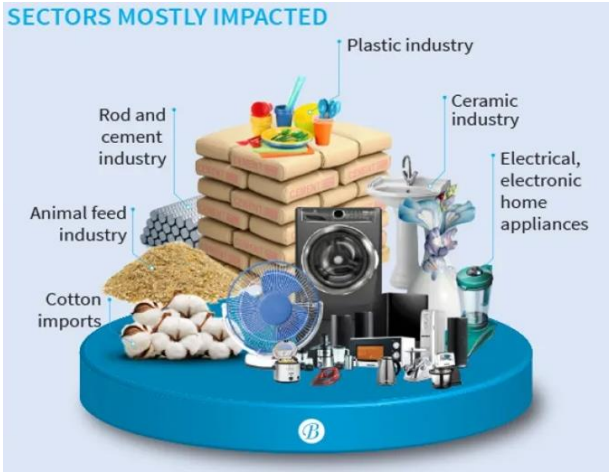


Shift in the supply curve: input prices

To produce output of a good, sellers use various inputs: machines, buildings, raw materials and the labor of workers who use raw materials and operate the machines. When the price of one or more of these inputs rises, producing that good is less profitable, and firms supply less of that good.

If input prices rise substantially, a firm might shut down and supply no good at all. Thus, the supply of a good is negatively related to the price of the inputs used to make the good.

Construction costs keep climbing



Shift in the supply curve: technology

The technology for turning inputs into a output is another determinant of supply. The invention of better technologies reduce the amount of labor necessary to make a produce. By reducing firms' costs, the advance in technology raises the supply of that product.

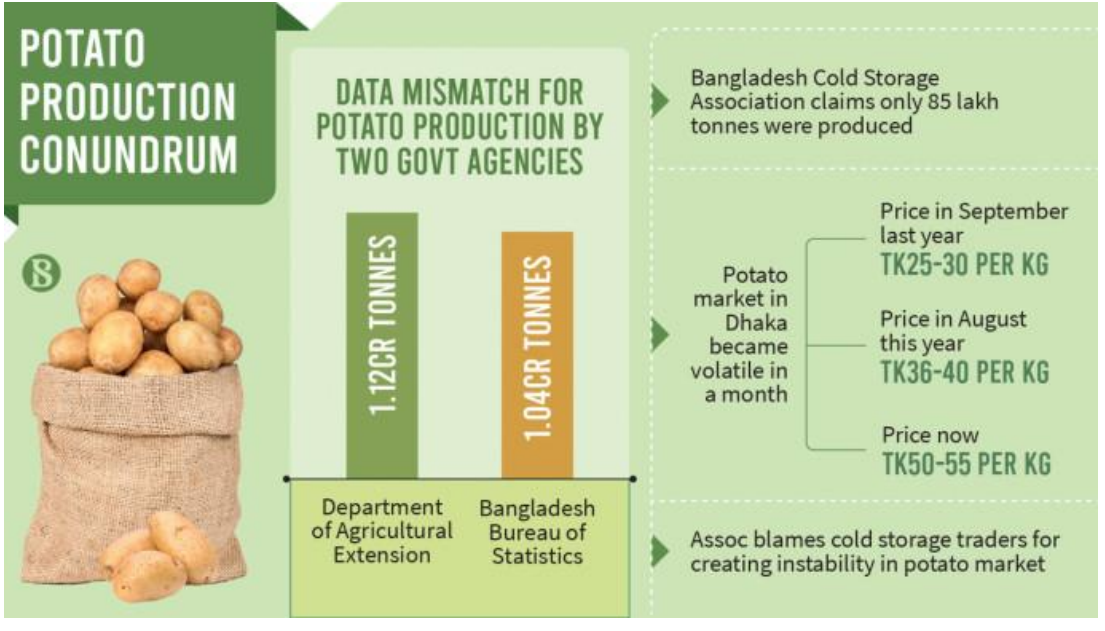





Shift in the supply curve: expectations

The amount of a product a firm supplies today may depend on its expectations about the future. For example, if a firm expects the price of that product to rise in the future, it will put some of its current production into storage and supply less to the market today.

The Cold Storage Association at a press conference yesterday (10 September) claimed that only 85 lakh tonnes of potatoes have been produced in 2023.



Shift in the supply curve: number of sellers

The behavior of individual sellers, market supply depends on the number of these sellers. **If Ben or Jerry were to retire from the ice-cream business, the supply in the market would fall.**

Over 100 ready-made garment factories in different industrial zones, especially in Ashulia and Gazipur hubs, have been shut down amid protracted labour unrest on demand for wage hike, deepening crisis in Bangladesh's main export industry.

The Financial Express
25 DEC 2023

Shift in the supply curve

Variable	A Change in This Variable . . .
Price of the good itself	Represents a movement along the supply curve
Input prices	Shifts the supply curve
Technology	Shifts the supply curve
Expectations	Shifts the supply curve
Number of sellers	Shifts the supply curve

Supply and Demand together: the market

Equilibrium a situation in which the market price has reached the level at which quantity supplied equals quantity demanded

Equilibrium price the price that balances quantity supplied and quantity demanded

Equilibrium quantity the quantity supplied and the quantity demanded at the equilibrium price

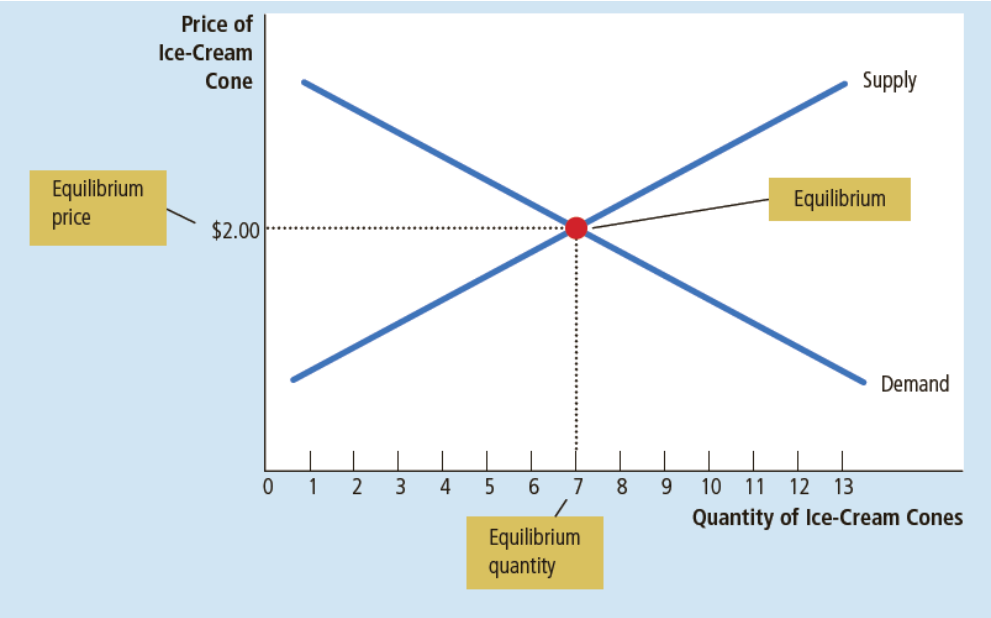
Supply and Demand together: the market

There is one point at which the supply and demand curves intersect. This point is called the market's equilibrium. The price at this intersection is called the equilibrium price, and the quantity is called the equilibrium quantity.

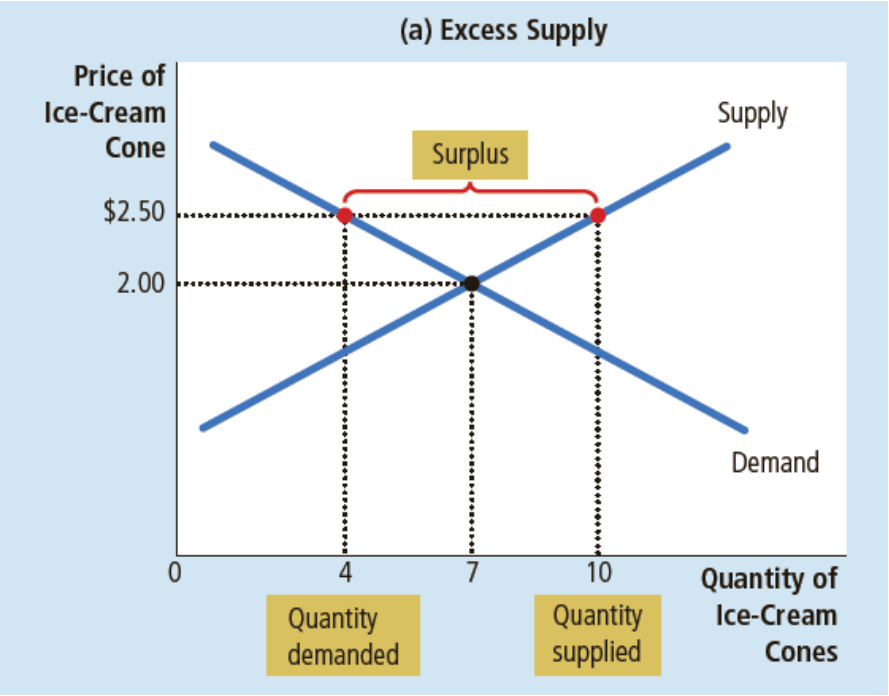
Here the equilibrium price is $2.00 per cone, and the equilibrium quantity is 7 ice-cream cones.

The equilibrium price is sometimes called the market-clearing price because, at this price, everyone in the market has been satisfied: Buyers have bought all they want to buy, and sellers have sold all they want to sell.

The actions of buyers and sellers naturally move markets toward the equilibrium of supply and demand.



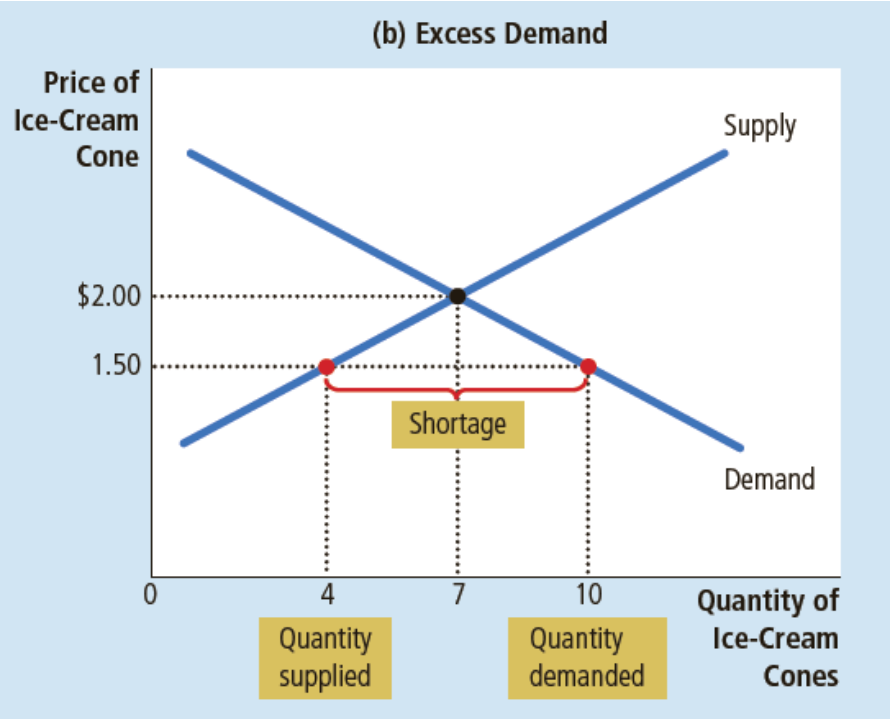
Supply and Demand together: when market is not in equilibrium



At a price of $2.50 per cone, the quantity of the good supplied (10 cones) exceeds the quantity demanded (4 cones). There is a surplus of the good: Suppliers are unable to sell all they want at the going price. A surplus is sometimes called a situation of **excess supply**.

Sellers respond to the surplus by cutting their prices. Falling prices, in turn, increase the quantity demanded and decrease the quantity supplied. These changes represent movements along the supply and demand curves, not shifts in the curves. Prices continue to fall until the market reaches the equilibrium.

Supply and Demand together: when market is not in equilibrium



When the price is $1.50 per cone, and the quantity of the good demanded exceeds the quantity supplied. There is a shortage of the good: Demanders are unable to buy all they want at the going price. A shortage is sometimes called a situation of **excess demand**.

When a shortage occurs in the ice-cream market, buyers have to wait in long lines for a chance to buy one of the few cones available. With too many buyers chasing too few goods, sellers can respond to the shortage by raising their prices without losing sales. These price increases cause the quantity demanded to fall and the quantity supplied to rise. Once again, these changes represent movements along the supply and demand curves, and they move the market toward the equilibrium.

Supply and Demand together: markets in Covid-19

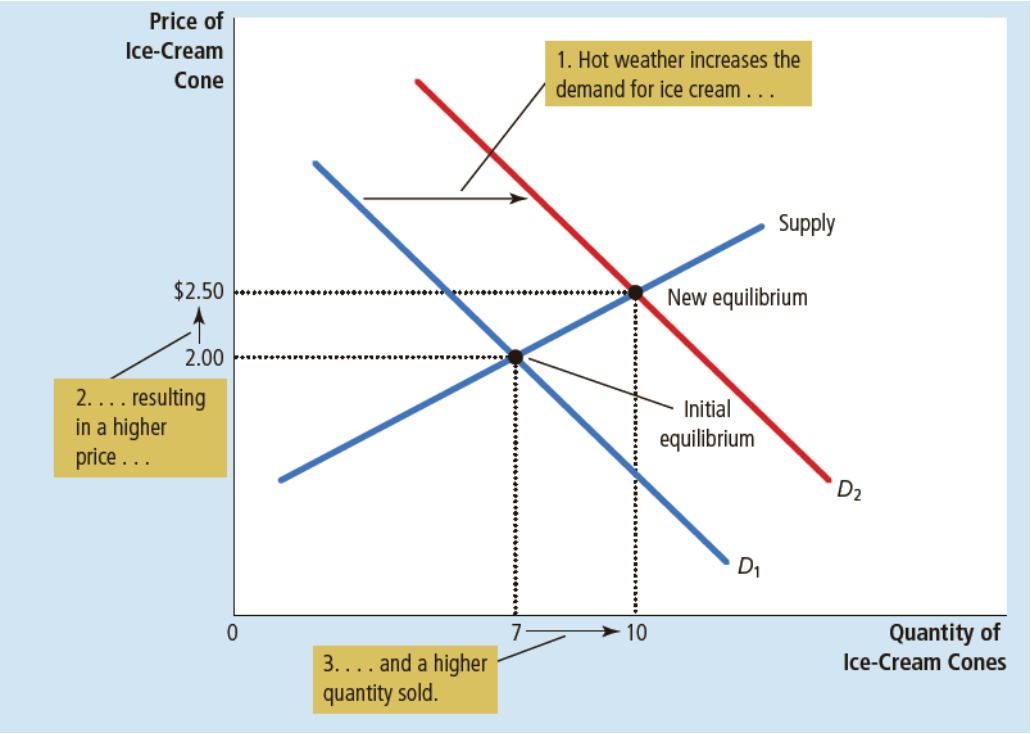
The demand for essential items rose exponentially. Toilet paper, noodles, rice, flour and milk, are just a few of the products that had a lower supply than what was in demand (**excess demand and shortage of goods**).

Perishable items like flowers are also being thrown away as demand dries up globally. In the Netherlands, growers have been forced to compost flowers due to a plunge in demand for the blooms as many events have been canceled. According to trade cooperative Royal FloraHolland, which runs the world's largest floral auctions, prices were 22% lower than a year ago at last week's flower and plant auctions (**excess supply and surplus of goods**).

Psychologist Robert Cialdini "a product becomes more attractive when their perceived availability is limited" (1984). This creates a psychological need for the product in the consumers' mind.

Flowers in Aalsmeer, the Netherlands, March 16 when flower prices plummeted

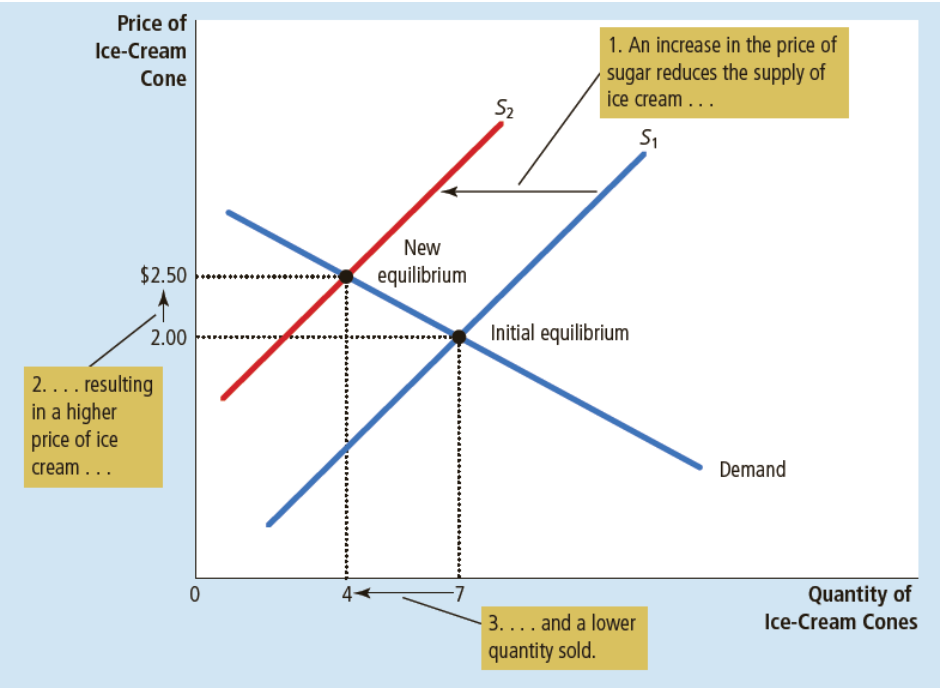
Change in market equilibrium: shift in demand



How an Increase in Demand Affects the Equilibrium

An event that raises quantity demanded at any given price shifts the demand curve to the right. The equilibrium price and the equilibrium quantity both rise. Here an abnormally hot summer causes buyers to demand more ice cream. The demand curve shifts from D1 to D2, which causes the equilibrium price to rise from $2.00 to $2.50 and the equilibrium quantity to rise from
7 to 10 cones.

Change in market equilibrium: shift in supply

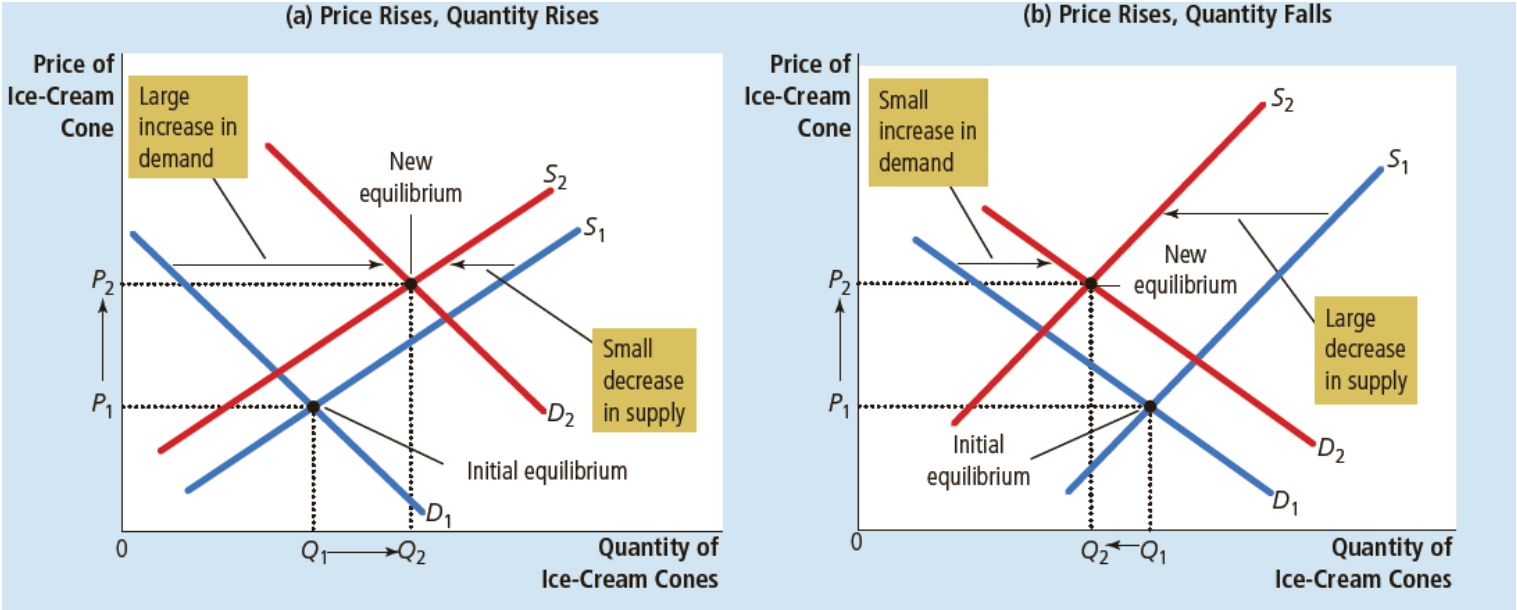


How a Decrease in Supply Affects the Equilibrium

An event that reduces quantity supplied at any given price shifts the supply curve to the left. The equilibrium price rises, and the equilibrium quantity falls. Here an increase in the price of sugar (an input) causes sellers to supply less ice cream. The supply curve shifts from S1 to S2, which causes the equilibrium price of ice cream to rise from $2.00 to $2.50 and the equilibrium quantity to fall from 7 to 4 cones.

Change in market equilibrium: shifts in both demand & supply

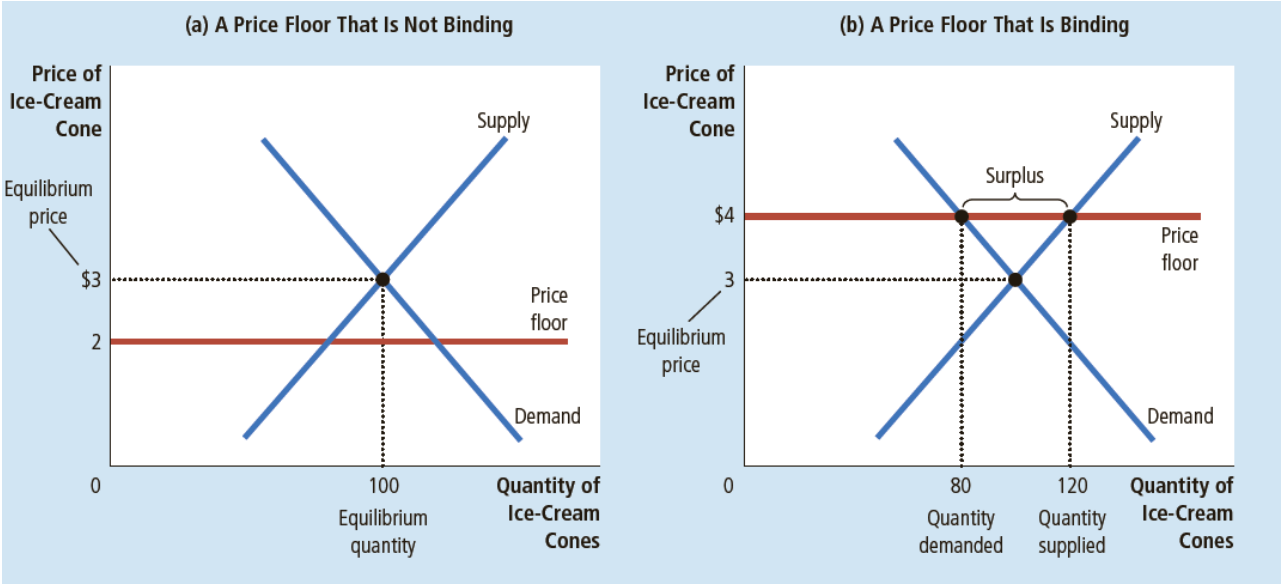
A simultaneous increase in demand and decrease in supply Two outcomes are possible. In panel (a), the equilibrium price rises from P1 to P2, and the equilibrium quantity rises from Q1 to Q2. In panel (b), the equilibrium price again rises from P1 to P2, but the equilibrium quantity falls from Q1 to Q2.



Market equilibrium: price controls

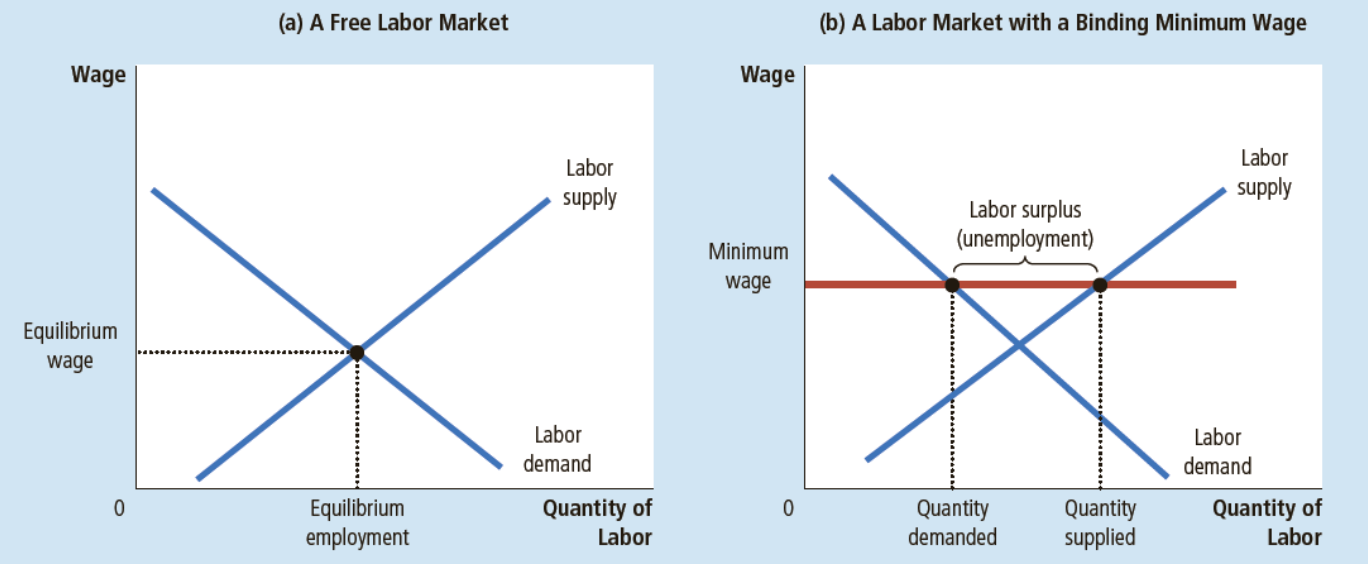
Price flooring In panel (a), the government imposes a price floor of $2. Because this is below the equilibrium price of $3, the price floor has no effect. The market price adjusts to balance supply and demand. At the equilibrium, quantity supplied and quantity demanded both equal 100 cones. In panel (b), the government imposes a price floor of $4, which is above the equilibrium price of $3. Therefore, the market price equals $4. Because 120 cones are supplied at this price and only 80 are demanded, there is a surplus of 40 cones.

Price floor
a legal minimum on the price at which a good can be sold



Market equilibrium: price controls

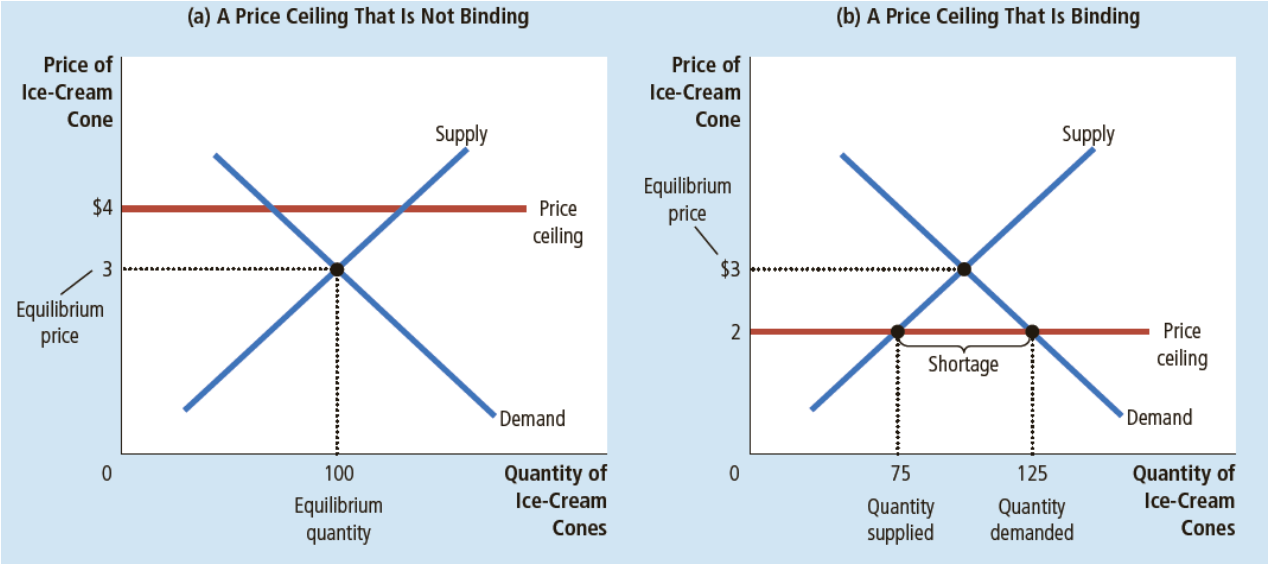
Price flooring: An important example of a price floor is the minimum wage. Panel (a) shows a labor market in which the wage adjusts to balance labor supply and labor demand. Panel (b) shows the impact of a binding minimum wage. Because the minimum wage is a price floor, it causes a surplus: The quantity of labor supplied exceeds the quantity demanded. The result is unemployment.



Market equilibrium: price controls

Price ceiling: In panel (a), the government imposes a price ceiling of $4. Because the price ceiling is above the equilibrium price of $3, the price ceiling has no effect, and the market can reach the equilibrium of supply and demand. In this equilibrium, quantity supplied and quantity demanded both equal 100 cones. In panel (b), the government imposes a price ceiling of $2. Because the price ceiling is below the equilibrium price of $3, the market price equals $2. At this price, 125 cones are demanded and only 75 are supplied, so there is a shortage of 50 cones.

Price ceiling
a legal maximum on the price at which a good can be sold

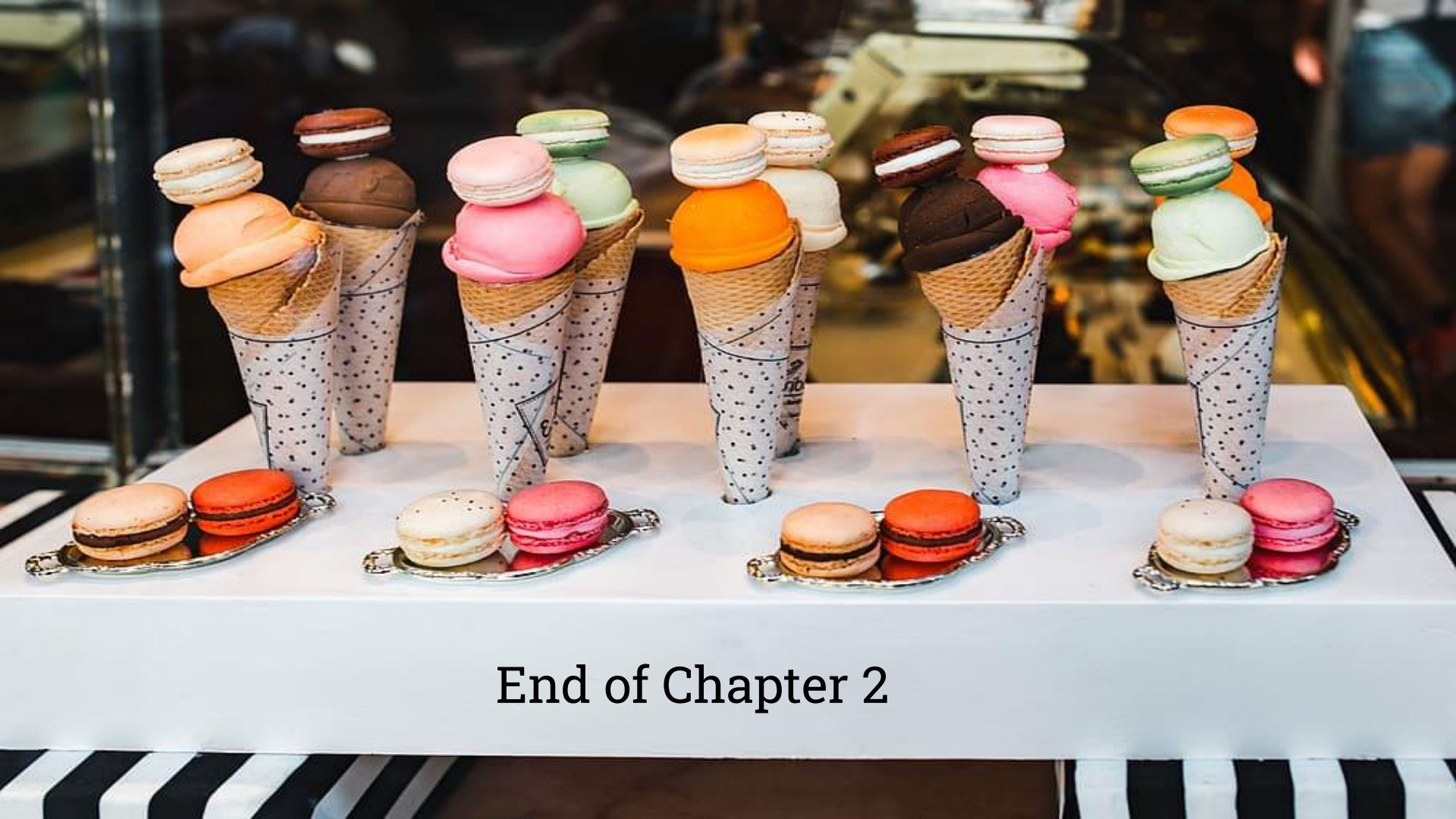


Market equilibrium: price controls

One of the most well-known examples of **price ceilings is rent control** in New York City. Implemented in the 1940s, this policy was aimed at protecting tenants from skyrocketing housing costs and ensuring affordable housing options. While rent control has undoubtedly provided housing stability for many long-term tenants, it has also discouraged the construction of new rental units and led to a shortage of affordable housing. Landlords, facing restricted rental income, have been less incentivized to maintain or upgrade their properties, resulting in deteriorating living conditions for tenants.

Market equilibrium: price controls

Pros	Cons
Price ceilings help keep prices low for consumers	Causes persistent shortages/surpluses
Price floors help suppliers make more money	Resources not allocated efficiently
Quantity controls may have environmental benefits	Emergence of black market or other illegal activities
Price controls can correct allocation problems	Special interest groups push for prices controls for political reasons



End of Chapter 2