

# Chapter 2

## Demand and Consumer Choice

1. **Individual Demand:** What You Want, at Each Price
2. Your Decisions and **Your Demand Curve**
3. **Market Demand:** What the Market Wants
4. What **Shifts** Demand Curves?
5. **Shifts versus Movements** Along Demand Curves

# Chapter 2 (1 of 5)

Defining, drawing,  
and understanding an  
**individual's** demand  
curve

- Ceteris Paribus
- The Law of Demand

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# Key Definition (1 of 2)

**Individual demand curve:** A graph that **plots the quantity** of an item that an **individual plans to purchase** at **each price**.

In other words, your demand curve **visually summarizes** your **buying plans**, and how your **plans vary with price**:

- If I walk into the grocery store and see my favorite cookies are now marked at a lower price, then I plan to buy more cookies at this new, lower price 🍪

## Diving into the Definition

**Individual:** We are referring to one person (as opposed to many people).

**Demand:** We are examining buying decisions (as opposed to selling decisions).

**Curve:** We are graphing things (sometimes these curves are straight lines).

*Let's create our first individual demand curve!*

# Creating Darren's Demand Curve

Price per gallon

Quantity

\$5 per gallon

1 gallon

\$4 per gallon

2 gallons

\$3 per gallon

3 gallons

\$2 per gallon

5 gallons

\$1 per gallon

7 gallons



The quantity Darren plans to buy depends on the price: the **lower the price**, the **higher the quantity demanded**.

Price of gas  
(\$ per gallon)

\$5

\$4

\$3

\$2

\$1

0

1

2

3

4

5

6

7

Connect the various quantities demanded to get Darren's **demand curve**.

Quantity of gas demanded  
(gallons per week)

# Individual demand curve: Ceteris paribus

“**Holding other things constant**” (Latin: ceteris paribus)

Every time you draw an individual's demand curve, you are drawing this person's buying plans **given current economic conditions**.

- **If something important changed** (e.g., Darren lost his job), then Darren's buying plans would change, which means his **individual demand curve would change**.

Economists know that many **factors other than price can influence your demand**.

- But first, understand what happens when the price (and only the price) changes.
- **Push these other factors aside** for the time being when drawing an individual's demand curve.
  - Then, later, bring other factors into consideration separately.

# The Law of Demand

As a consumer, think about how you react to high versus low prices:

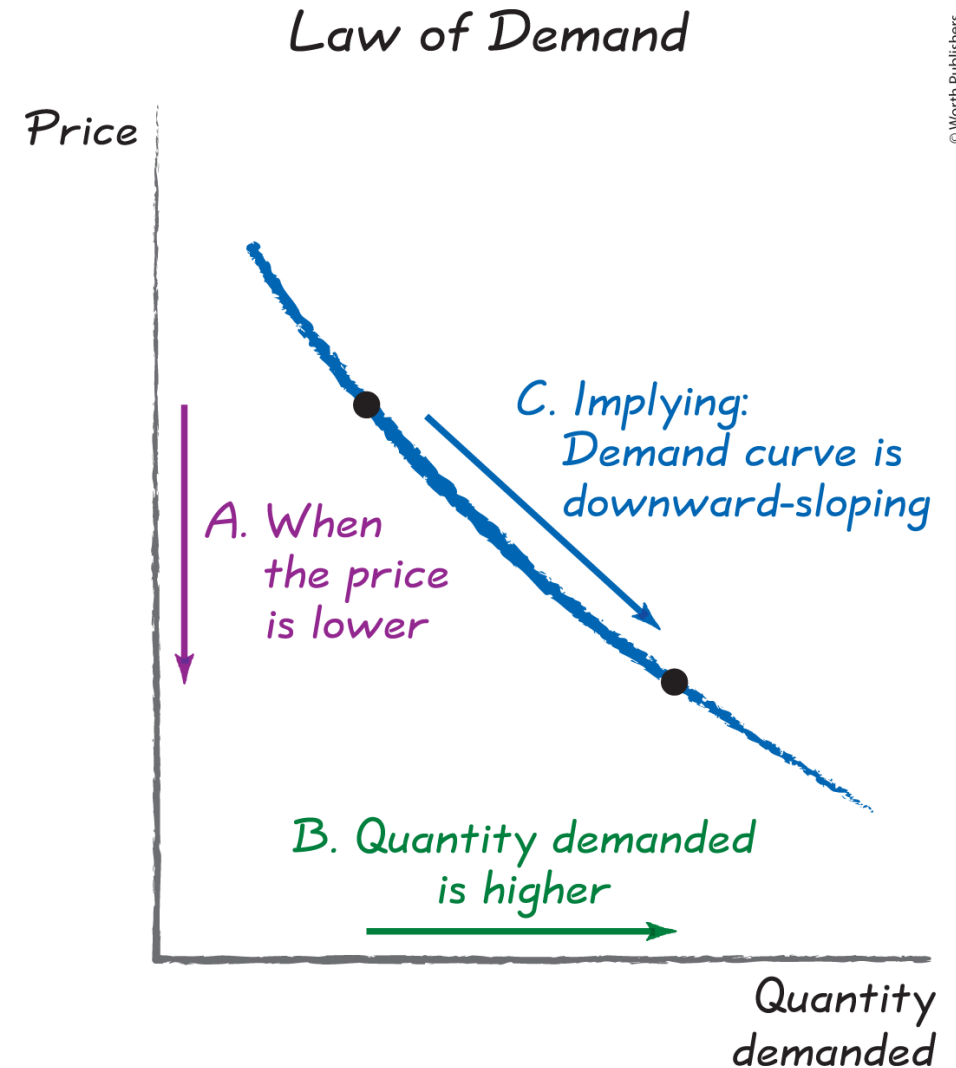
- As the **price falls** lower and lower...
- your **quantity demanded gets higher** and higher.

This pattern is so commonly seen among consumers that it has its own name.

**Law of demand:** The tendency for the quantity demanded to be higher when the price is lower.

This law implies that **demand curves slope down:**

- When drawing a demand curve, think: ***“Demand, down to the ground.”***



## Key take-aways: Individual demand

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The **individual demand curve** plots the **quantity** a person **plans to buy** at **each price**, holding all other factors constant (**ceteris paribus**).

- Other factors that impact a person's buying plans will be assessed later.

**The Law of Demand:** As the **price falls**, the **quantity demanded rises**.

- Or, equivalently, as the price rises, the quantity demanded falls.

# Chapter 2 (2 of 5)

**Apply the core principles** of economics to make good demand decisions.

The **Rational Rule** for Buyers

**Demand** and **marginal benefit** are one and the **same**.

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# Revisiting Darren's Gasoline Demand Chart (2 of 2)

Priority	Darren's thoughts	Marginal benefit
1 (Highest Priority)	If I buy only one gallon of gas per week, I'll use it to do my weekly shopping at the Walmart two towns over. The alternative is to shop at my neighbourhood supermarket, which is more expensive. Going to Walmart instead saves me \$5 each week.	\$5.00
2		\$4.00
3	A third gallon of gas allows me to visit my parents more often. I could call them	\$3.00
4	With a fourth gallon of gas, I can drive to hang out with my friends during the	\$2.50
5	A fifth gallon allows me to drive to the gym twice a week. But I could jog there instead,	\$2.00
6	If I buy a sixth gallon of gas, I'll use it to do my weekly errands. But I'm nearly as	\$1.50
7 (Lowest Priority)	But I'm not sure I want to drive to the store at home as the benefit of this option is	\$1.00



**Do the Economics:  
Choosing the Best Quantity to  
Buy**

### **Should Darren buy the first gallon of gas?**

- Yes, the marginal benefit of \$5 is greater than the \$3 it would cost him.

### **Should Darren buy the second gallon of gas?**

- Yes, the marginal benefit of \$4 is still greater than the marginal cost of \$3.

### **Should Darren buy the third gallon of gas?**

- Yes, the marginal benefit of \$3 is still slightly greater than the marginal cost of \$2.99 .

### **Should Darren buy the fourth gallon of gas?**

- NO! It's not worth spending \$3 to get a marginal benefit of \$2.50.

**Result:** Darren buys 3 gallons of gas total.

# Applying the core principles to make good buying decisions

**Marginal Principle:** Break down the question of “**how many** gallons of gas to buy?” into a series of **smaller marginal choices**.

**Cost-Benefit Principle:** For each marginal choice, **buy** the additional gallon of gas **if the benefits exceed the costs**.

**Opportunity Cost Principle:** “**Or what?**” To accurately assess the marginal benefits of each gallon of gas, Darren always makes a **comparison to his next best alternative**.

**The Rational Rule for Buyers:** Buy more of an item if the marginal benefit of one more is greater than (or equal to) the price.

- Keep buying until **Price = Marginal Benefit**

Following this rule **maximizes your economic surplus** as a buyer!

- Why?
- Because each purchase you make in accordance with this rule will **boost your total benefits more than it boosts your total costs**.

# Demand and Marginal Benefit

Your demand curve is also your marginal benefit curve!

- Recall: **price = marginal benefit**
- **Demand illustrates** the **price** at which you are willing to buy each quantity.
- **The price** you are willing to pay for each unit **is informed by the marginal benefit** you associated with that unit.

Thus, the **marginal benefit** and **demand** curves are **one and the same**.

**Diminishing marginal benefit:**  
Each **additional item** yields a **smaller marginal benefit** than the previous item.

**Example:** The **first slice** of pizza is delicious! The **second slice** is still good. With the **third slice** you are full. The **fourth slice** would make you uncomfortably full.

Because each unit yields a smaller marginal benefit, your **willingness to pay** for each additional unit **declines**.

# How Realistic Is This Theory of Demand?

## Advice for You:

- You can make better decisions if you follow *the Rational Rule for Buyers* and understand the underlying principle of *diminishing marginal benefits*.
- **Example:** When you first go to the ice cream shop, you buy a triple scoop ice cream cone only to later realize your eyes were bigger than your stomach. Next time, you can use this updated information about yourself to make a better choice. Eventually, you find that “just right” amount.

## Understanding and Predicting the Choices of Others:

- Put yourself in the shoes of others and try to make the best decision possible by following *the rational rule of buyers* and by understanding *diminishing marginal benefits*.

## Key take-aways: Your decisions and your demand curve

**The Rational Rule for Buyers:** Buy more of an item if the marginal benefit of one more is greater than (or equal to) the price

- Keep buying until **Price = Marginal Benefit**

Your **demand curve** and your **marginal benefit curve** are one and **the same**.

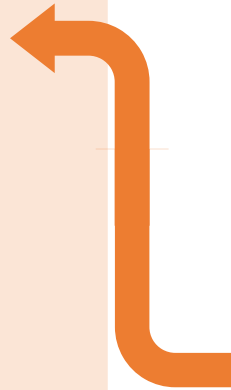
**Diminishing marginal benefit:** Each additional item yields a smaller marginal benefit than the previous item

- The next slice of pizza, while still yummy, tastes a little less delicious than the previous slice.

# Chapter 2 (3 of 5)

**Building the market demand curve** from individual demand curves

Tracing out **movements along** the demand curve



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# Key Definition (2 of 2)

**Market demand curve:** A graph plotting the **total quantity** of an item demanded by the **entire market, at each price.**

The market demand gives business owners a sense of **how much business is up for grabs:**

- How many customers want your restaurant's pizza
- How many applicants for a University
- How many donations for a nonprofit
- How many followers on Instagram

## Diving into the Definition

**Individual demand** curves are the **building blocks of market demand:**

- At each price, the total quantity of gas demanded is the **sum** of the quantity that **each potential customer** will demand at that price.
- The market demand curve **visually summarizes** these purchasing decisions across the various price points.

*Let's explore the **four-step process** you can use to estimate the market demand for a given product!*



# Estimating Market Demand (1 of 4)

## The Four-Step Process to Estimate Market Demand:

- 1. Survey:** Ask each person the quantity they will buy at each price.
- 2. For each price, add up** total **quantity** demanded by **all** customers.
- 3. Scale up** the quantities to represent the whole market.
- 4. Plot** the total quantity demanded at each price.

**STEP 1:** Suppose you **survey a representative sample** of 300 potential customers, asking each person about their gas purchasing plans at various price points.

Step 1: Run a survey					
Price (\$ per gallon)	Darren's demand		Brooklyn's demand		... 298 other people ...
\$1	7	+	4	+	...
\$2	5	+	3	+	...
\$3	3	+	2	+	...
\$4	2	+	1	+	...
\$5	1	+	0	+	...

# Estimating Market Demand (2 of 4)

## The Four-Step Process to Estimate Market Demand:

- 1. Survey:** Ask each person the quantity they will buy at each price.
- 2. For each price, add up** total **quantity** demanded by **all** customers.
- 3. Scale up** the quantities to represent the whole market.
- 4. Plot** the total quantity demanded at each price.

**STEP 2:** Add up how many gallons of gas each of your 300 customers want to buy at each and every price.

Step 1: Run a survey						Step 2	
Price (\$ per gallon)	Darren's demand		Brooklyn's demand		... 298 other people ...		Total demand across 300 people
\$1	7	+	4	+	...	=	2,800 gallons
\$2	5	+	3	+	...	=	2,400 gallons
\$3	3	+	2	+	...	=	2,000 gallons
\$4	2	+	1	+	...	=	1,600 gallons
\$5	1	+	0	+	...	=	1,200 gallons

**Caution:** Do **not** add up the price each individual pays at each quantity. Instead, the correct approach is to add up the quantities at each price.

# Estimating Market Demand (3 of 4)

## The Four-Step Process to Estimate Market Demand:

- 1. Survey:** Ask each person the quantity they will buy at each price.
- 2. For each price, add up** total **quantity** demanded by **all** customers.
- 3. Scale up** the quantities to represent the whole market.
- 4. Plot** the total quantity demanded at each price.

**STEP 3:** Scale up! Our survey of 300 people is intended to be representative of **300 million potential customers**. Thus, we need to **scale up** our quantities **by 1 million** so that they **represent the whole market**.

Step 1: Run a survey								Step 2	Step 3
Price (\$ per gallon)	Darren's demand		Brooklyn's demand		... 298 other people ...			Total demand across 300 people	Scale up to represent 300 million people
\$1	7	+	4	+	...	=		2,800 gallons	× one million
\$2	5	+	3	+	...	=		2,400 gallons	× one million
\$3	3	+	2	+	...	=		2,000 gallons	× one million
\$4	2	+	1	+	...	=		1,600 gallons	× one million
\$5	1	+	0	+	...	=		1,200 gallons	× one million

# Estimating Market Demand (4 of 4)

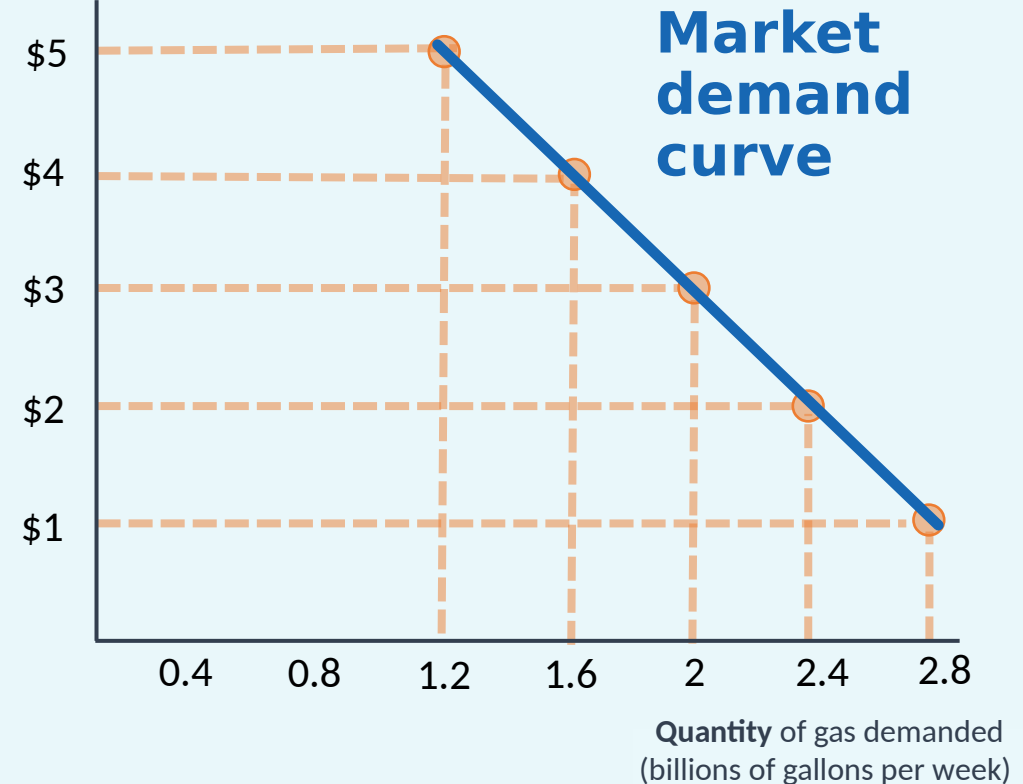
## The Four-Step Process to Estimate Market Demand:

- 1. Survey:** Ask each person the quantity they will buy at each price.
- 2. For each price, add up** total **quantity** demanded by **all** customers.
- 3. Scale up** the quantities to represent the whole market.
- 4. Plot** the total quantity demanded at each price.

**STEP 4:** Plot the **total quantity** demanded by the market **at each price**, yielding the **market demand curve**.

Price	Market Quantity
\$5	1.2 billion
\$4	1.6 billion
\$3	2.0 billion
\$2	2.4 billion
\$1	2.8 billion

Price of gas  
(\$ per gallon)



# Characteristics of the Market Demand Curve

The market demand curve is **downward-sloping**:

- **Law of demand**: The total **quantity demanded is higher** when the **price is lower**.

Prices change the quantity demanded for both **old** and **new customers**:

- Lower prices mean **current customers buy more units**.
- Lower prices **bring new customers into the market**.

# Movements Along the Demand Curve

The market demand **summarizes** the **entire relationship** between **price** and **quantity** demand.

To assess how consumers will react to a **change in the price** of the good, simply **compare different points** on the **same** demand curve:

- **Move from one point** on the existing demand curve **to another point**.

You do NOT need to draw a new demand curve to assess the impact of a price change.

# Key Definitions

A change in price causes a **movement along the demand curve**, yielding a **change in the quantity demanded**.

## **Movement along the demand curve:**

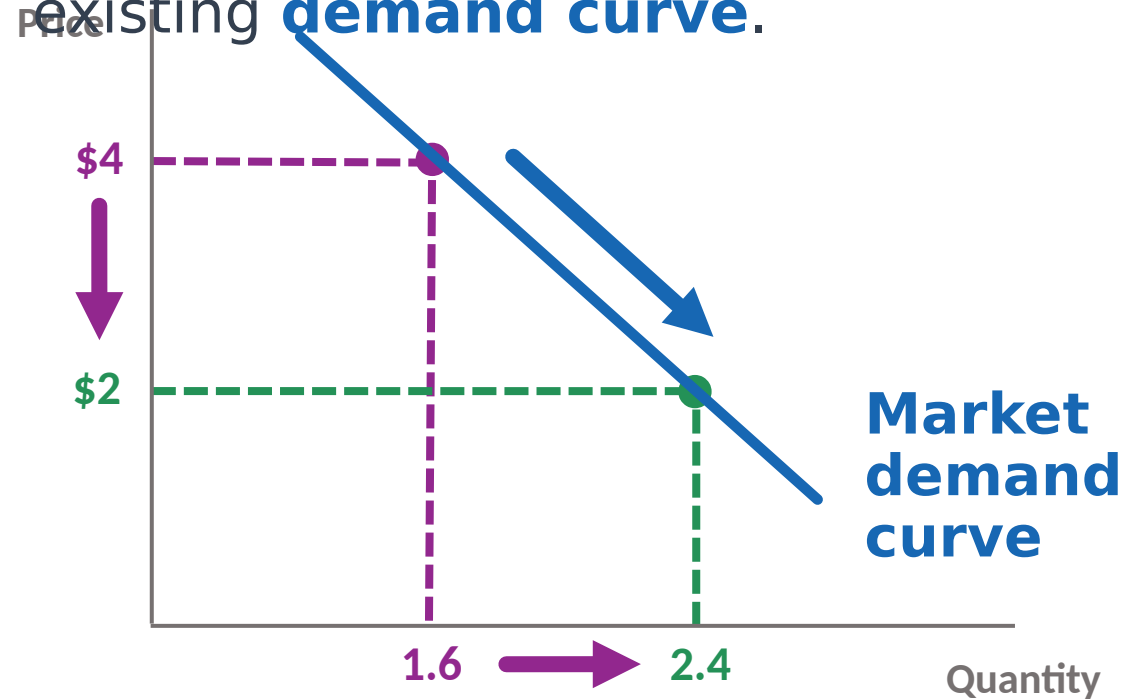
A price change causes a **movement from one point** on a fixed demand curve to **another point** on the **same demand curve**.

## **Change in the quantity demanded:**

The **change in the quantity** associated with **movement along a fixed demand curve**.

## Diving into the Definition

When the **price falls from \$4 to \$2**, the **quantity demanded changes from 1.6 to 2.4** units. This is a **movement along the existing demand curve**.



# Key take-aways: Market demand

**Market demand curve:** The **total quantity** demanded by the **entire market** at each price.

- Four-step process to estimate market demand.
  - **Add up the quantities** from each consumer at each price.

When the **price of the good changes**, you simply **move along** the **existing demand curve** to that new price point.

- Move from one point to another point.
- This **price change** triggers a **change in the quantity demanded** (not a change in demand).

# Chapter 2 (4 of 5)

Visualizing **increases** and **decreases** in demand

Naming and understanding the **six factors** that **shift** the demand curve



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# Demand curve discussion thus far...

- Focus on the relationship between **price and quantity**, *ceteris paribus*
- **Movement** from **one point to another point** on the same demand curve

Now, something new!

## Shift in the demand curve:

A movement of the demand curve **itself**.

## Rec

all

The demand curve is just a set of **buying plans**. It illustrates the quantity people plan to buy at various prices, **holding other factors constant** (*ceteris paribus*).

If other factors change...

- then people's buying plans change...
- then the demand curve changes.

**Movie Example:** In one month, the quantity of movie tickets you buy at any given price might change if

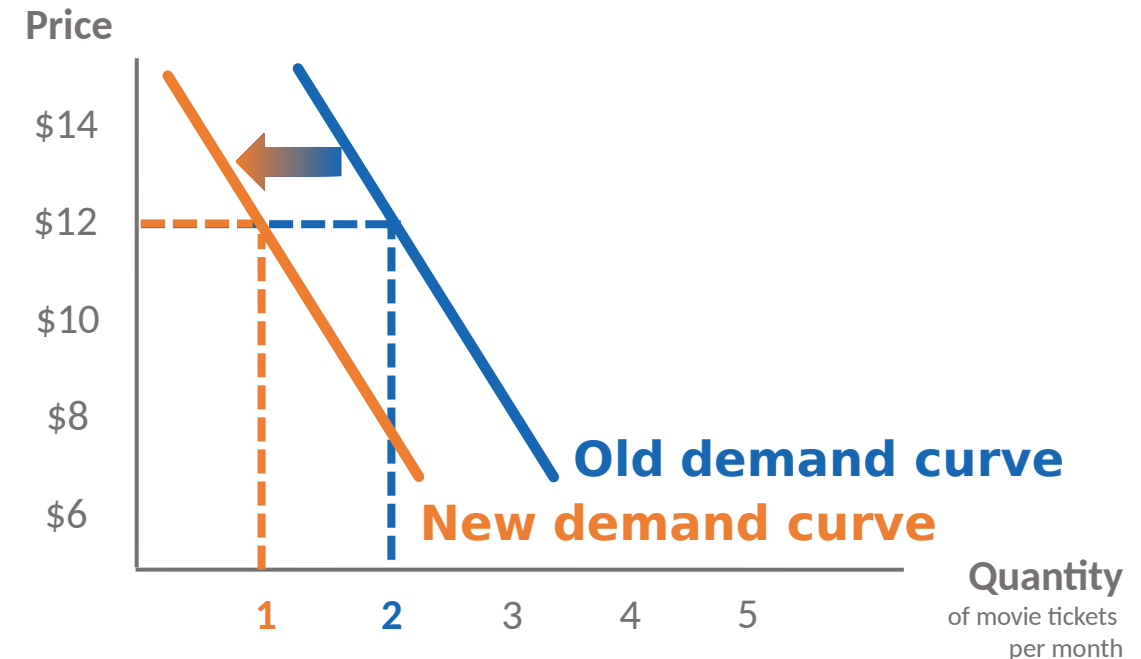
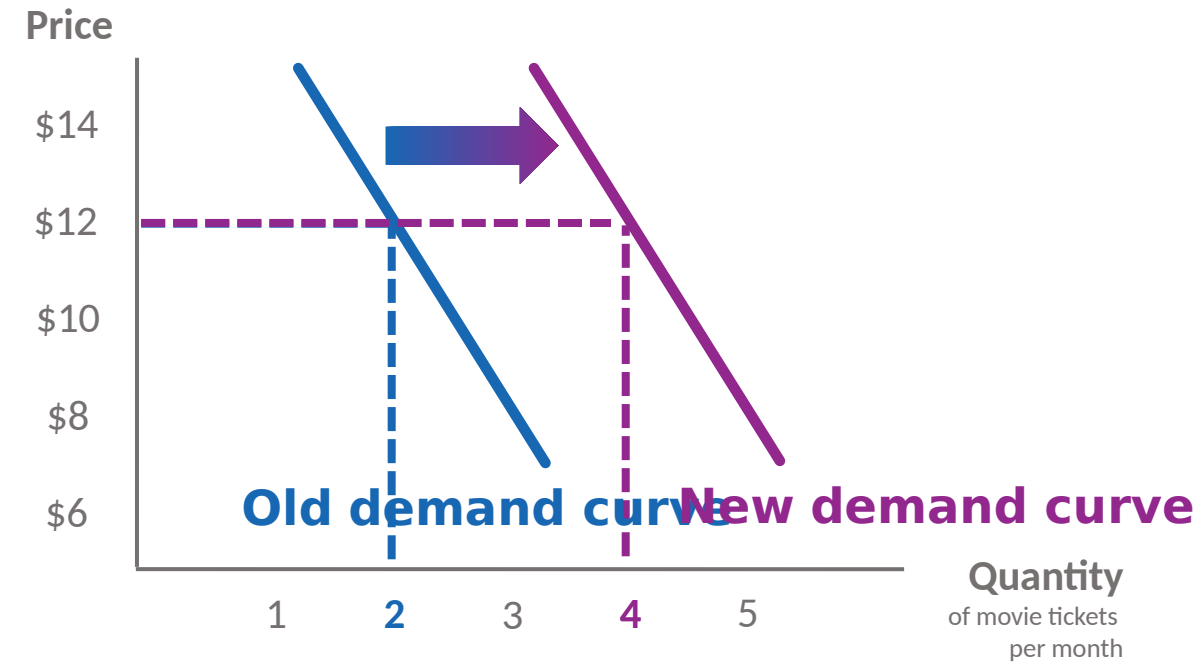
# Shifts in the Demand Curve

**Increase in demand:** A **shift** of the demand curve to the **right**.

**Movie Example:** If Netflix does not have any good shows this month, then I will demand more movie tickets at each and every price.

**Decrease in demand:** A **shift** of the demand curve to the **left**.

**Movie Example:** If Netflix does have good shows this month, then I will demand fewer movie tickets at each and every price.



# The Interdependence Principle and Shifting Demand Curves

## Recall

The *interdependence principle* says that **everything is connected.**

- Your best choice **depends on many other factors beyond price.** When these other factors change, so might your demand decisions.

The **six factors** that **shift** the market demand curve:

1. Income
  2. Preferences
  3. Prices of related goods
  4. Expectations
  5. Congestion and network effects
  6. The type and number of buyers
- ... but not a change in price**

# Demand Shifter

## 1: Income



All your individual choices are interdependent because you only have a limited amount of income to spend.

**Normal Good:** A good for which **higher income** causes an **increase in demand**.

- Smartphone
- Restaurant meals
- Organic fruits and vegetables

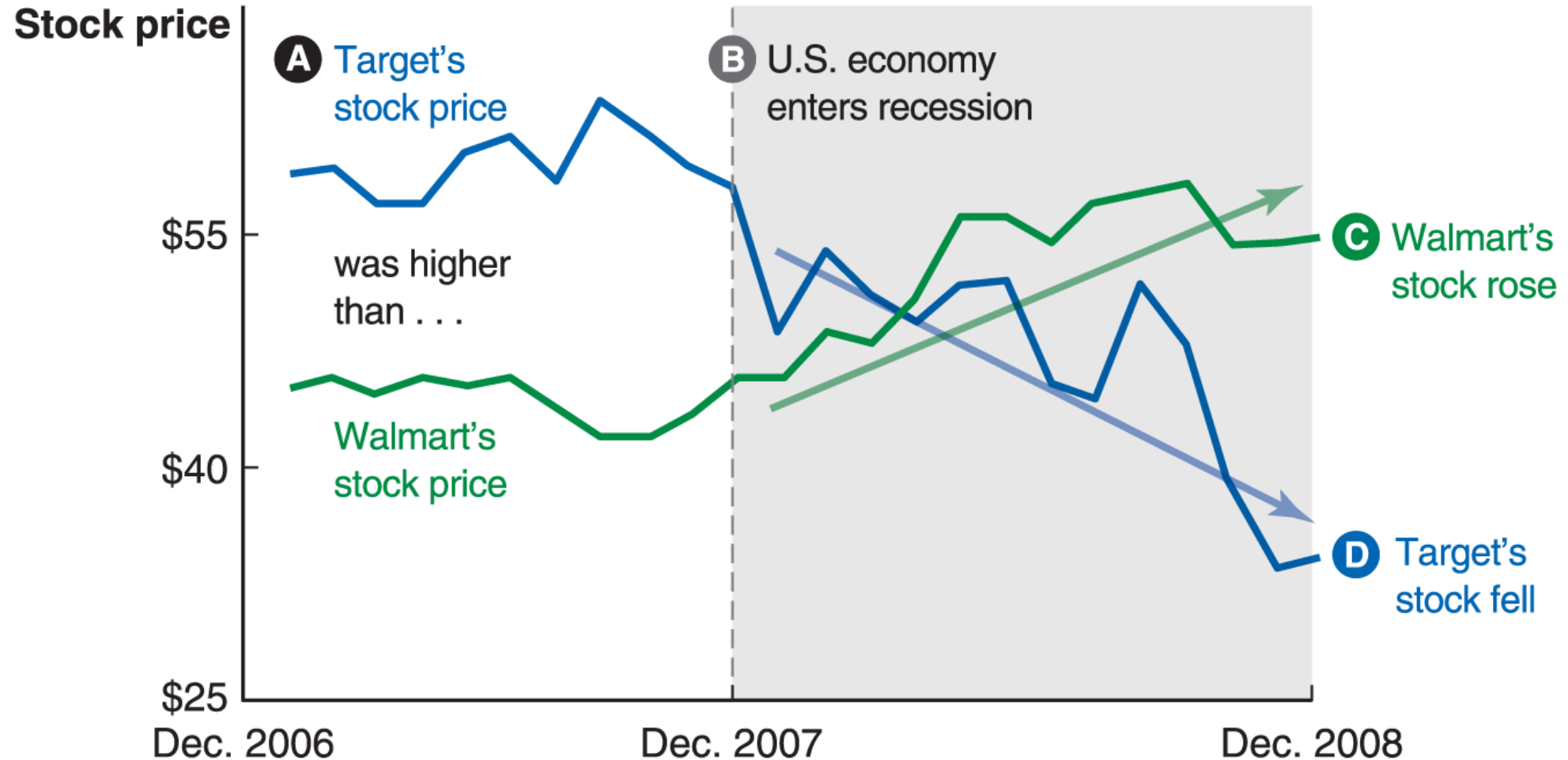
**Trick:** How will your buying plans change if you start earning a lot more money? If you buy more after getting richer, then the item is a normal good.

**Inferior Good:** A good for which **higher income** causes a **decrease in demand**.

- Non-smartphone
- Fast-food meals
- Nonorganic fruits and vegetables

*Note:* **Inferior goods are not bad**; they are simply goods you buy less of when your income is higher.

# Target and Walmart: Which retailers do well in a recession?



# Demand Shifter 2: Preferences

Changes in your preferences can shift your demand curve. Preferences can change for any number of reasons:

- **Life-altering event:** Having a baby increases your demand for day care.
- **Marketing, influencers, and fashion cycles:** There is a new pasta recipe trending on TikTok, resulting in a sudden increase in demand for feta cheese and tomatoes.
- **Social pressure:** Rising environmental awareness increases demand for reusable and/or biodegradable straws (and decreases demand for single-use plastic straws).
- **Season/weather:** During December, the demand for precut miniature pine trees increases as people decorate for Christmas.

# Demand Shifter

## 3: Prices of Related Goods



Your choices are also interdependent across different goods.

**Complementary Goods:** Goods that **go well together**. Your demand for a good will decrease if the price of a complementary good rises.

**Example:** If the price of hot dogs rises, then I will buy fewer hot dogs *and* fewer hot dog buns.

More examples:

- iPhone and iPhone cases
- Cereal and milk

**Substitute Goods:** Goods that **replace each other**. Your demand for a good will increase if the price of a substitute good rises, and it will fall if the price of a substitute good falls.

**Example:** If Pizza Hut raises their prices, then my demand for Domino's pizza will increase.

More examples:

- One pasta brand versus another
- Coca-Cola versus Pepsi

## You Try! (2 of 2)

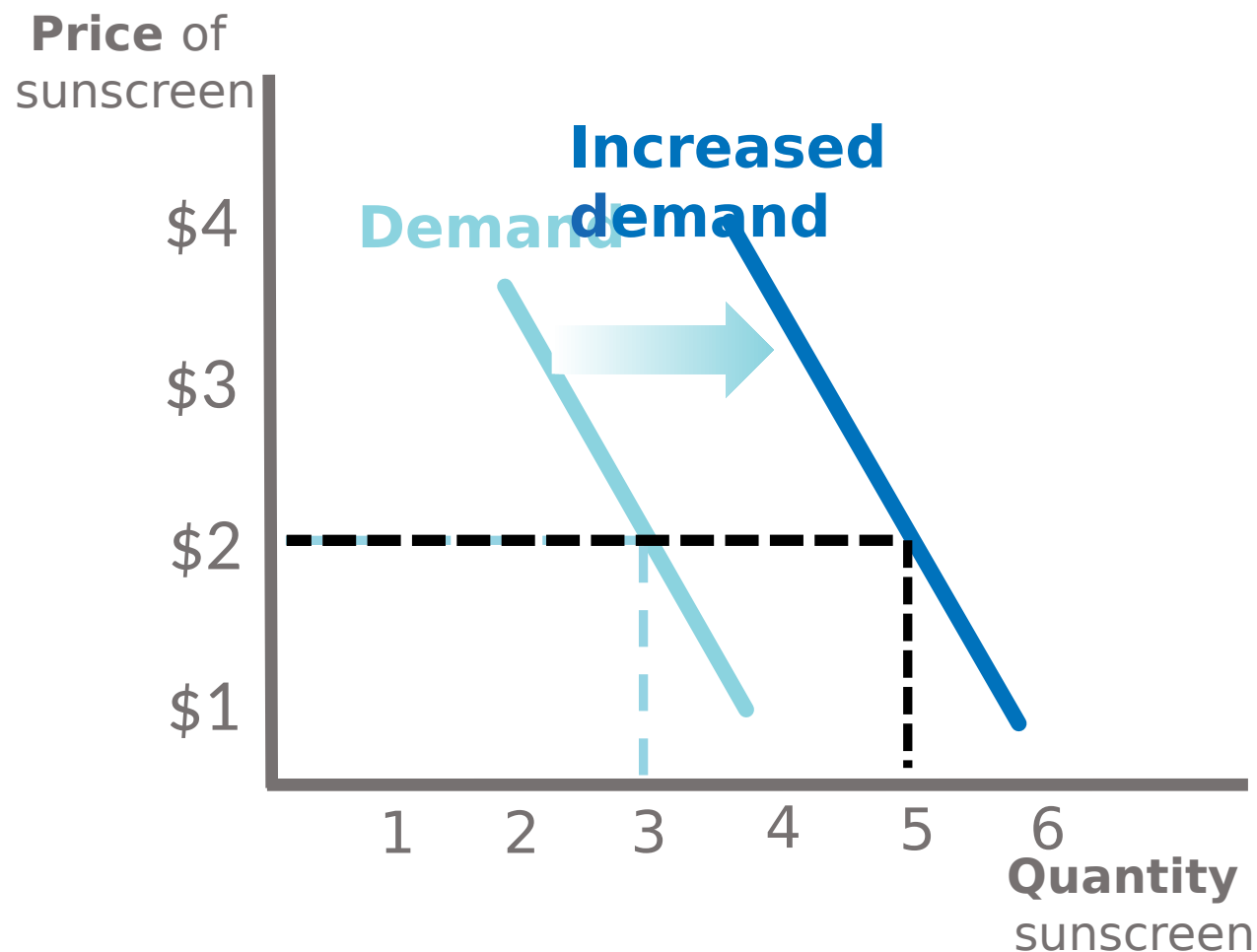
### Complements in Consumption:

Suppose the price of an all-inclusive trip to Hawaii falls (yay!). What will happen to your demand for sunscreen?

Draw out the scenario in the space provided.

### Solution:

Your demand for sunscreen increases because the price of a complement fell.





# Demand Shifter 4: Expectations

**Expectations** about **future prices** or **future availability** can influence your **current demand** — your choices are linked through time.

**Example 1:** If you see **gas prices are high right now**, you may decide to wait another few days before filling your car with gas.

Your expectations about future prices decreased your current demand for gas.

**Example 2:** Think back to the early months of the **pandemic and the toilet paper shortage**. Initially, when you saw toilet paper was available to buy again, you probably bought more rolls than usual. **You wanted to stock up while you could!**

Your expectations about a future toilet paper shortage increased your current demand for toilet paper.

# Demand

## Shifter 5: Congestion and Network Effects



**Network Effect:** When a good becomes more useful because other people use it. If more people buy such a good, your demand for it will also increase.

**Example:** In the United States, many young people use **Instagram**, **Snapchat**, and **Facebook**. These social media platforms are used because other people use them. However, in China, **WeChat** is one of the most popular platforms (and **KakaoTalk** for South Korea).

The usefulness of some products — and hence your demand for them — is also shaped by the choices of others.

**Congestion Effect:** When a good becomes less valuable because other people use it. If more people buy such a product, your demand for it will decrease.

**Example:** Your demand for driving on a particular road declines if you know many other people are also taking that route creating a **traffic jam**. Hence you try and switch to a less congested route.

# Demand Shifter 6: Type and Number of Buyers

If the composition of the market changes because of a **change in demographic composition**, then the market demand will also change.

**Types of Buyers:** As baby boomers continue to age, this will cause the demand for health care services to increase.

**Number of Buyers:** An **increase in the population** over time can increase the demand for goods and services, shifting the demand curve to the right.

- **International trade** can also increase the **number of buyers**. For example, the opening of the Chinese economy means there are now an additional 1 billion consumers (a big shift in demand!).

# Key take-aways: What shifts a demand curve?

**Increase in demand:** A shift of the demand curve to the **right**.

- An increased quantity is demanded at each and every price.

**Decrease in demand:** A shift of the demand curve to the **left**.

- A decreased quantity is demanded at each and every price.

Six factors shift the demand curve.

- **Be Careful:** The effect of changing **income** depends on whether the good is **normal** or **inferior**.
- **Be Careful:** The effect of changing the **price of a related good** depends on whether the two goods are **complements** or **substitutes**.

# Chapter 2 (5 of 5)

Summarizing key points:

- Shifts versus movements
- Change in quantity demanded versus change in demand

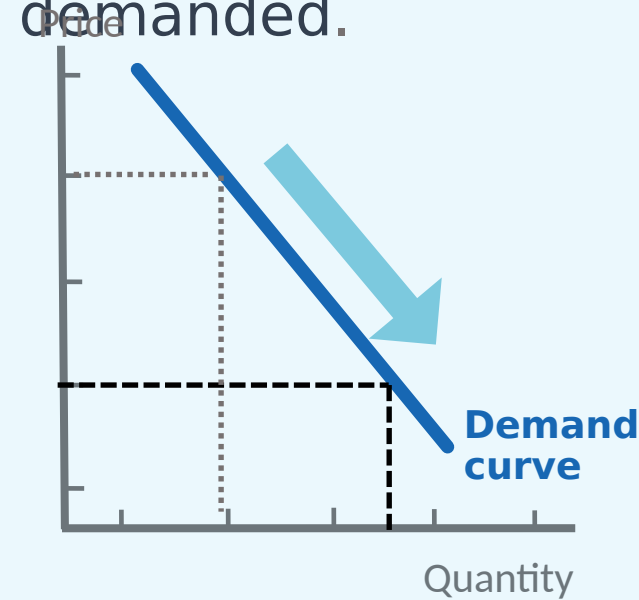
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# Shift versus Movement Along Demand

If the only thing changing is the **price** of the good itself, then you are thinking about a **movement** along the demand curve. This is a **change in the quantity demanded**.

But when **other factors change**, you need to think about a **shift** in the demand curve (recall the

Changes in price cause change in quantity demanded.



Changes in other factors cause shifts in demand.



## Concept Check: Change in Quantity Demanded versus Demand

Consider the market for candy. Which of the following statements describes a change in the **quantity demanded**, and which describes a **change in demand**?

- 1 Consumers are buying less candy because cookies are on sale.
- 2 Consumers are buying more candy because candy is on sale.
- 3 Consumers are buying more candy because it is Halloween.
- 4 Consumers are buying less candy because the price of candy rose.

Answer:

- **2** and **4** describe a change in **quantity demanded**.
- **1** and **3** describe a change in **demand**.