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BUSINESS | MEDIA & MARKETING

Disney+ Users Paid Up When the Price Rose

94% of subscribers absorbed the \$3 a month rise, new data show, suggesting room for further increases

How will consumers' purchasing behavior change when a firm raises prices?
This is what is called elasticity of demand in economics jargon.

What are 3 products you would purchase a similar amount of, even if prices increased significantly?

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Economists would say your demand for these products is INELASTIC.

What are 3 products you would not purchase as much, or at all, if prices increased?

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Economists would say your demand for these products is ELASTIC.

Price Elasticity of Demand (PED)

Definition: Price elasticity of demand measures how sensitive the quantity demanded of a good is to changes in its own price.

PED Formula: (Use absolute value) $PED = \frac{\% \Delta Q_d}{\% \Delta P}$

If you are given two quantities or prices and need to determine the percent change:

$$\% \Delta = \frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100$$

Let's calculate the elasticity of demand using the headline above. In this case the price had increased from \$7.99 to \$10.99. When this happened there was a 6% drop in quantity demanded.

$$PED = \frac{6}{?} \rightarrow \% \Delta P = \frac{\$10.99 - \$7.99}{\$7.99} \times 100 \rightarrow PED = \frac{6}{\square} \rightarrow PED = \square$$

What does this number mean?

PED VALUE	DEFINED	EXAMPLES	VISUAL
PED > 1 ELASTIC	Percentage change in quantity demanded is greater than the percentage change in price. In Simple Terms: <i>A price change causes people to buy a considerable amount less. These are wants, not needs, and items with many substitutes. Luxury goods fit in this category.</i>	Black Opium perfume Starbucks Coffee McDonald's LG Televisions Sprite	<p>Elastic Demand</p>
PED < 1 INELASTIC	Percentage change in quantity demanded is less than the percentage change in price. In Simple Terms: <i>A change in price leads to only a small change in quantity demanded. In the consumer eyes this is a need and no close substitutes are available. If a business knows the demand for their product is inelastic they are likely to raise prices. The purpose of marketing is to create inelastic demand.</i>	Gasoline (short run) Prescription meds Milk Electricity Salt	<p>Inelastic Demand</p>
PED = 1 UNIT ELASTIC	A change in price is met with a proportionate change in quantity demanded. In Simple Terms: <i>Total spending by consumers on the product will remain the same at each price level. More of a theoretical dividing line than a permanent characteristic of a specific good.</i>		<p>Unit Elastic Demand</p>
PED = ∞ PERFECTLY ELASTIC	The quantity demanded changes infinitely in response to even the smallest change in price. In Simple Terms: <i>In this case, consumers will only purchase the good at one specific price, and at any price even slightly higher, quantity demanded falls to zero. This happens in markets with many identical substitutes. Store shelves often have many identical water brands. If one is even slightly more expensive, consumers immediately buy the cheaper substitute.</i>	Wheat Bottled Water Crude Oil Printer Paper No. 2 Pencils	<p>Perfectly Elastic Demand</p>
PED = 0 PERFECTLY INELASTIC	The quantity demanded remains constant regardless of changes in price. In Simple Terms: <i>Consumers will purchase the same amount of the good no matter how high or low the price goes. This applies to goods that are essential with no substitutes.</i>	Insulin Emergency Surgery Blood Transfusion Cap & Gown Funeral Services	<p>Perfectly Inelastic Demand</p>

Determinants of PED

- Availability of substitutes – More substitutes → more elastic.
- Necessities vs. luxuries – Necessities → inelastic; luxuries → elastic.
- Proportion of income – Higher share of income → more elastic.
- Time horizon – Demand is more elastic in the long run as consumers have time to adjust.
- Definition of the market – Narrowly defined markets (pizza) → more elastic than broad markets (food).

Try It: Circle the good with a more elastic demand relative to the other.

GOOD 1		GOOD 2
Potato Chips	or	Cell Phone
Prescribed medication	or	85" television
Pack of gum	or	New laptop
Gasoline demand tomorrow for someone with a gas powered vehicle on a 3 year lease	or	Gasoline demand 5 years from now
Tacos	or	Food

PED and Total Revenue (TR)

Total revenue equals price multiplied by quantity. Firms care about total revenue because it tells them how much money they bring in from sales. Elasticity tells you the responsiveness of buyers to changes in price. Total revenue shows you the revenue impact of price changes. The Total Revenue Test is a quick way to determine if demand is elastic or inelastic without calculating the exact coefficient.

Why do firms need to know this?

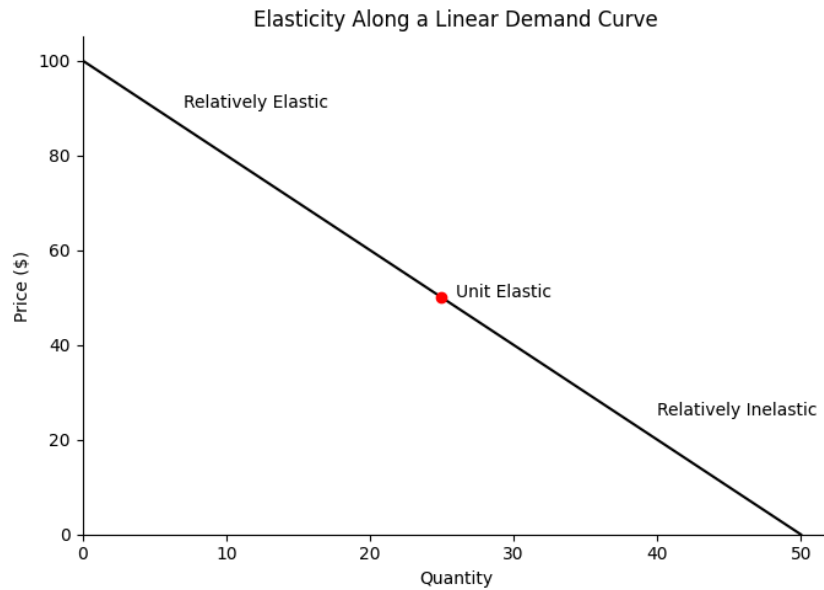
- **IF DEMAND IS ELASTIC, LOWERING PRICE CAN RAISE TOTAL REVENUE. RAISING PRICE CAN DECREASE TOTAL REVENUE**
- **IF DEMAND IS INELASTIC, LOWERING PRICE CAN DECREASE TOTAL REVENUE. RAISING PRICE CAN RAISE TOTAL REVENUE.**

PRICE	TOTAL REVENUE	PED	PRICE	TOTAL REVENUE
↑	↓	ELASTIC <i>Move Opposite</i>	↓	↑
↑	↑	INELASTIC <i>Move Same Direction</i>	↓	↓

Try it! With these types of problems you will always be given two of the three pieces and have to determine the missing piece.

If price increases and demand is elastic, what happens to total revenue?	If price decreases and total revenue increases is the demand elastic or inelastic?	If demand is inelastic and total revenue increases, what has happened to prices?

ELASTICITY CHANGES ALONG THE DEMAND CURVE



- **Elastic Demand:** At the top of the demand curve the price is high and there is a low quantity demanded. At this point buyers are very sensitive to price changes. A 10% decrease in price may cause the quantity demanded to double, a 100% increase.
 - Example: The price falls from \$10 to \$9, a 10% decrease. Quantity demanded increases from 1 to 10, a 900% increase.
- **Inelastic Demand:** At the bottom of the demand curve the price is low and the quantity is high. At this point most buyers who want the product have already purchased it. A 10% decrease in price may only increase quantity demanded by 2%.
 - Example: The price falls from \$1 to \$0.90, a 10% decrease. Quantity demanded increases from 90 to 91, a 1.1% increase.

Cross Price Elasticity of Demand

Measures how the quantity demanded of one good (A) changes in response to a price change in another good (B). A positive value indicates that two goods are substitutes. If the price of Good B increases, the quantity demanded for Good A will increase. A negative value indicates that two goods are complements. If the price of Good B increases, the quantity demanded for Good A will decrease. A value near zero means the goods are unrelated.

$$XED = \frac{\% \Delta Q_d^A}{\% \Delta P^B}$$

VALUE	RELATIONSHIP	EXAMPLE
XED > 0	Substitutes	If the price of hamburgers rises, the quantity demanded of hot dogs increases.
XED < 0	Complements	If the price of hot dogs rises, the quantity demanded of hot dog buns falls.
XED = 0	Unrelated	If the price of hot dogs changes, it won't affect demand for pencils.

Try It!

	When the price of Netflix increases by 10%, the quantity demanded of Disney+ rises by 15%.	When the price of McDonald's burgers rises by 20%, the quantity demanded of Wendy's burgers rises by 10%.	The price of PlayStation consoles falls by 25%, and the quantity demanded of PlayStation games rises by 20%.
Cross Price Elasticity			
These goods are			

NEGATIVE OR POSITIVE

If you only need to determine the relationship for cross price elasticity and don't need a calculated value just determine if the final value is positive or negative by using a + if price or quantity increased and a - if price or quantity decreased.

$$XED = \frac{\% \Delta Q_d^A}{\% \Delta P^B}$$

COMPLEMENTS	SUBSTITUTES
$\frac{+}{-}$ OR $\frac{-}{+}$	$\frac{+}{+}$ OR $\frac{-}{-}$

Income Elasticity of Demand

Measures how the quantity demanded of a good responds to a change in consumer income.

$$YED = \frac{\% \Delta Q_d}{\% \Delta \text{Income}}$$

VALUE	RELATIONSHIP	EXAMPLE
YED > 0	NORMAL GOOD <i>Demand increases when income rises</i>	Restaurant Meals
YED < 0	INFERIOR GOOD <i>Demand decreases when income rises</i>	Ramen Noodles

Try It!

	When teenagers' average income increases by 10%, the quantity demanded of Nike sneakers rises by 15%.	When student incomes increase by 20%, the quantity demanded of instant ramen falls by 5%.	When teen incomes increase by 8%, the quantity demanded of concert tickets increases by 12%.
Income Elasticity			
This good is a(n)			

Q-TOP



Notice that quantity demanded always goes on *top* of these calculations.

$$PED = \frac{\% \Delta Q_d}{\% \Delta P} \quad XED = \frac{\% \Delta Q_d^A}{\% \Delta P^B} \quad YED = \frac{\% \Delta Q_d}{\% \Delta Income}$$

Price Elasticity of Supply (PES)

Definition: Price elasticity of supply (PES) measures how responsive the quantity supplied of a good is to a change in its price. The availability of raw materials, time needed for production, and the mobility of resources affect how quickly producers can respond to price changes. Supply is generally more elastic in the long run.

PES Formula: (Use absolute value) $PES = \frac{\% \Delta Q_s}{\% \Delta P}$

ELASTIC SUPPLY	INELASTIC SUPPLY	UNIT ELASTIC SUPPLY	PERFECTLY ELASTIC SUPPLY	PERFECTLY INELASTIC SUPPLY
PES > 1	PES < 1	PES = 1	PES = ∞	PES = 0

Determinants of PES

- Time Horizon – The most important factor.
 - Short run → supply often inelastic (can't change production quickly).
 - Long run → supply more elastic (firms can adjust resources, enter/exit industry).
- Availability of Inputs – If resources are easy to find/move, supply is more elastic.
- Spare Capacity – If firms have unused capacity, they can increase output more easily.
- Storability of the Good – Goods that can be stored (like canned food) have more elastic supply than perishable goods (like fresh fruit).

Christmas Tree Supply Runs Short During Pandemic

You can blame the 2008 recession for fewer Christmas trees this year

By [Alex Hickey](#)

DECEMBER 22, 2020

One explanation: the recession

But not the one fresh on your mind. After the 2008 financial crisis, trees were plentiful and prices fell, so some farmers planted fewer trees. Because a Christmas tree typically takes 8–12 years to mature, those reduced plantings = today's supply crunch.

Even if the selling price of fresh cut Christmas trees doubles, supply is inelastic in the short term. Businesses need time to plant and grow more trees in order to impact the quantity supplied.

PRACTICE

- Assume this price increase from \$119 to \$139 for Amazon Prime membership decreased quantity demanded by 2%. What is the elasticity for Amazon Prime membership?
 - 0.12, Inelastic
 - 20, Elastic
 - 16.8, Inelastic
 - 12.4, Elastic
 - 5.6, Elastic
- Costco Executive Membership fees increased from \$120 to \$130 in 2024. Suppose the company assumes elasticity for Executive Membership is 0.75. What must have been the percentage change in quantity demanded as a result of their action?
 - Decrease of 9.05%
 - Decrease of 0.75%
 - Decrease of 75.0%
 - Decrease of 8.3%
 - Decrease of 6.225%
- Assume Kraft Heinz raised prices on all of their products by 5%. This increase in price was met with a decrease in quantity demanded of 12%. What can be said about the elasticity of demand for Kraft Heinz products?
 - 7, Inelastic
 - 0.4, Elastic
 - 2.4, Elastic
 - 60, Elastic
 - 0.4, Inelastic
- Assume the price of YouTube Streaming was \$79.99. Suppose we know for certain that DirectTV is a substitute good for YouTube Streaming. Which of the following statements must be true?
 - DirectTV must have also raised their prices.
 - DirectTV had a positive increase in quantity demanded.
 - The cross price elasticity is 3.75.
 - The cross price elasticity is negative.
 - YouTube Streaming demand is inelastic.

TECH

Amazon increases the price of Prime nearly 17% to \$139 per year

PUBLISHED THU, FEB 3 2022 4:09 PM EST | UPDATED THU, FEB 3 2022 5:16 PM EST

By Annie Palmer @IN/ANNIERPALMER / @ANNIERPALMER

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Costco WHOLESALE

Welcome to Costco Customer Service

What can we help you with?

Membership Costco.com Warehouse Returns & Exchanges Products & Services Payment & Tax Info Technic

Customer Service Home Page

Membership Fee Increase

Effective September 1, 2024, membership fees have increased.

	Old Fee	New Fee
Gold Star	\$60	\$65
Business	\$60	\$65
Business Add-on/Affiliate	\$60	\$65
*Executive	\$120	\$130

MarketWatch

Investing Personal Finance Retirement

ING Has Honeywell suddenly become a quantum-computing powerhouse?

KEY WORDS

Kraft Heinz's higher prices have cost it some customers, but don't expect price cuts

CEO Miguel Patricio says price gaps with competitors have lasted longer than he would have liked

BUSINESS | MEDIA

YouTube Raises Price on TV Streaming Service to \$82.99

The video platform is increasing its rate for the first time since March 2023

By Joseph De Avila [Follow](#)

Updated Dec. 12, 2024 3:34 pm ET

5. A movie theater raises ticket prices from \$10 to \$12. As a result, attendance falls from 200 to 180. What is the price elasticity of demand?
- 0.25
 - 0.50
 - 1.00
 - 1.50
 - 2.00
6. Suppose the cross-price elasticity between laptops and software is +0.4. If the price of laptops rises, the demand for software will
- Increase, since they are substitutes
 - Decrease, since they are complements
 - Remain unchanged
 - Increase, since both are luxuries
 - Decrease, since software has inelastic demand
7. If a firm faces unit-elastic demand at its current price, then an increase in price will
- Increase total revenue
 - Decrease total revenue
 - Leave total revenue unchanged
 - Decrease marginal revenue
 - Eliminate consumer surplus
8. A good with a vertical demand curve has which of the following characteristics?
- Perfect substitutes exist
 - Total revenue changes proportionally with price
 - The price elasticity of demand is zero
 - It has many close substitutes
 - Demand becomes elastic at high prices
9. If the income elasticity of demand for cruises is +2.0, then a 10% increase in consumer incomes will cause the demand for cruises to
- Increase by 2%
 - Increase by 20%
 - Decrease by 2%
 - Decrease by 20%
 - Remain unchanged
10. A firm finds that when it raises the price of its product, total revenue falls. This implies that demand is
- Inelastic
 - Elastic
 - Unit Elastic
 - Perfectly Elastic
 - Perfectly inelastic

11. Suppose at a price of \$5, quantity demanded is 100 units, and when the price increases to \$6, quantity demanded decreases to 80 units. What is the elasticity?
- 0.4
 - 0.6
 - 1.0
 - 1.6
 - 2.0
12. Which of the following best explains why demand for a narrowly defined good (e.g., "Vanilla Coke Zero") is more elastic than demand for a broadly defined good (e.g., "soft drinks")?
- Necessities tend to have elastic demand
 - There are fewer substitutes for narrowly defined goods
 - Consumers can more easily substitute among close varieties within the broad category
 - Narrowly defined goods are always luxuries
 - Broad categories usually represent a small portion of income
13. A restaurant raises the price of burgers by 20%, and as a result, the quantity demanded falls by 30%. What is the price elasticity of demand, and how is demand classified?
- 0.67, inelastic
 - 0.67, elastic
 - 1.5, elastic
 - 1.5, inelastic
 - 2.0, perfectly elastic
14. If the demand for public transportation is price inelastic, a decrease in fares will cause total revenue for the transit authority to
- Increase, since more riders will use the service
 - Decrease, since the percentage rise in riders is smaller than the fare decrease
 - Remain unchanged, since inelastic demand implies no revenue change
 - Fall to zero, since demand is insensitive to price
 - Become infinite, since ridership grows without limit
15. Which of the following goods is most likely to have perfectly inelastic demand?
- Electricity for a household
 - Insulin for diabetics
 - Bottled water at a convenience store
 - Fast food meals
 - Airline tickets during the holidays
16. A company sells designer shoes. The income elasticity of demand is +2.0. If consumer incomes rise by 5%, what happens to demand for shoes?
- Decreases by 10%
 - Decreases by 2.5%
 - Increases by 5%
 - Increases by 10%
 - Increases by 15%

17. If the cross-price elasticity between Good A and Good B is $+0.8$, which of the following is true?
- A and B are substitutes, and an increase in the price of A increases demand for B.
 - A and B are substitutes, and an increase in the price of B increases demand for A.
 - A and B are complements, and an increase in the price of B increases demand for A.
 - A and B are unrelated, so price changes in A or B will not affect the other.
 - A is inferior, while B is normal.
18. Which of the following situations would make the supply of wheat more elastic?
- Farmers have more time to adjust production levels.
 - There is a sudden drought that limits planting.
 - The cost of fertilizer increases dramatically.
 - Government restricts imports of seeds.
 - Farm equipment becomes less mobile across crops.
19. A firm sells a product with a downward-sloping linear demand curve. At high prices, demand tends to be
- Relatively inelastic
 - Relatively elastic
 - Unit elastic
 - Perfectly inelastic
 - Perfectly elastic
20. The market for “food” is less elastic than the market for “pizza” because
- Food is a necessity and broadly defined, while pizza has many substitutes
 - Food is more expensive, so it takes a larger share of income
 - Pizza has no close substitutes in the short run
 - Food has a positive cross-price elasticity with all other goods
 - Food has a perfectly inelastic supply curve

PROVE - AP PRACTICE QUESTIONS

1. If the price of coffee increases by 10% and the quantity demanded falls by 20%, the price elasticity of demand is
 - a. 0.2
 - b. 0.5
 - c. 1.0
 - d. 2.0
 - e. 5.0
2. If demand for gasoline is inelastic, an increase in the price of gasoline will cause total revenue to
 - a. Increase
 - b. Decrease
 - c. Remain constant
 - d. Fall to zero
 - e. Increase only if supply shifts as well
3. Which of the following goods is most likely to have the most elastic demand?
 - a. Insulin for diabetics
 - b. Tap water from the city utility
 - c. Designer handbags
 - d. Electricity
 - e. Basic food staples like rice
4. If the cross-price elasticity of demand between peanut butter and jelly is -0.8 , these goods are
 - a. Substitutes
 - b. Complements
 - c. Unrelated
 - d. Normal goods
 - e. Inferior goods
5. The income elasticity of demand for restaurant meals is estimated at $+1.5$. This means restaurant meals are
 - a. Inferior goods
 - b. Normal goods
 - c. Unrelated goods
 - d. Complements to income
6. Suppose the demand curve for a good is linear and downward sloping. At higher prices, demand is
 - a. Perfectly elastic
 - b. Relatively elastic
 - c. Unit elastic
 - d. Relatively inelastic
 - e. Perfectly inelastic
7. A good with perfectly inelastic demand will have a price elasticity of demand equal to
 - a. 0
 - b. 1
 - c. Infinity
 - d. Greater than 1
 - e. Less than 0

8. If a firm lowers its price and total revenue decreases, demand in that range of the demand curve must be
- Elastic
 - Unit elastic
 - Inelastic
 - Perfectly elastic
 - Perfectly inelastic
9. Which of the following changes will increase the price elasticity of demand for a product?
- The product has fewer available substitutes
 - The product is a necessity rather than a luxury
 - Consumers have a shorter time to adjust to price changes
 - The product represents a smaller share of the consumer's budget
 - The market definition becomes narrower (e.g., "Coca-Cola" vs. "soft drinks")
10. A recent headline noted that it will take Intel a couple of years to increase its supply of computer chips. Which of the following situations would make the supply of computer chips more elastic?
- Intel has more time to expand factories and train workers.
 - A shortage of rare earth minerals reduces chip production.
 - New government regulations limit the construction of chip plants.
 - Existing chip factories operate at full capacity with no ability to expand.
 - Energy costs for running chip plants increase significantly.

SCAN TO SEE THE CORRECT ANSWERS AND EXPLANATION



WONDER - BEYOND THE GRAPH

Read [Why Are Fast Food Prices So High?](#) independently. Then, respond to the following three questions. Be prepared to discuss your answers with a partner and the whole class in order to be exposed to a variety of perspectives.

1. Despite rising prices, demand for fast food remains high. Based on the article, would you say the demand for fast food is elastic or inelastic in the short run? Why might consumers still buy it even at higher prices?

2. If McDonald's raises the price of a Big Mac meal and total revenue increases, what does that tell us about the elasticity of demand for Big Macs? How might this influence how fast food companies set prices?

3. The article notes that many Americans consider eating out a "luxury," yet 75% of people still eat fast food weekly, even with rising prices. Using at least two determinants of price elasticity of demand (availability of substitutes, necessity vs. luxury, proportion of income, time horizon, and definition of the market), explain which factors help make the demand for fast food relatively inelastic in the short run.

TEACHER ANSWER KEY

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PERSONAL ANSWERS BUT	SHOULD BE THINGS THEY FEEL	THEY NEED
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What does this number mean?

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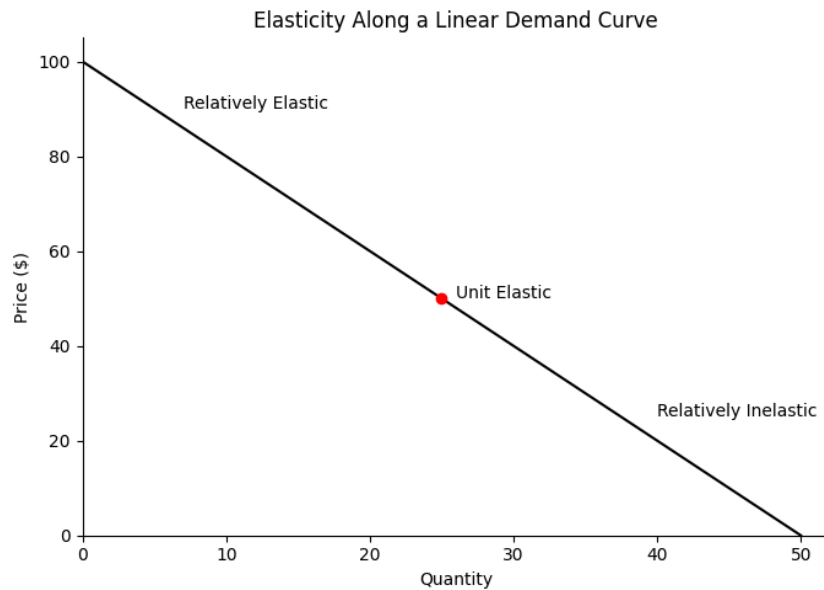
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Decreases	Elastic	Increased

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XED = 0	Unrelated	If the price of hot dogs changes, it won't affect demand for pencils.

Try It!

	When the price of Netflix increases by 10%, the quantity demanded of Disney+ rises by 15%.	When the price of McDonald's burgers rises by 20%, the quantity demanded of Wendy's burgers rises by 10%.	The price of PlayStation consoles falls by 25%, and the quantity demanded of PlayStation games rises by 20%.
Cross Price Elasticity	1.5	0.5	-0.8
These goods are	SUBSTITUTES	SUBSTITUTES	COMPLEMENTS

NEGATIVE OR POSITIVE

If you only need to determine the relationship for cross price elasticity and don't need a calculated value just determine if the final value is positive or negative by using a + if price or quantity increased and a - if price or quantity decreased.

$$XED = \frac{\% \Delta Q_d^A}{\% \Delta P^B}$$

COMPLEMENTS	SUBSTITUTES
$\frac{+}{-}$ OR $\frac{-}{+}$	$\frac{+}{+}$ OR $\frac{-}{-}$

Income Elasticity of Demand

Measures how the quantity demanded of a good responds to a change in consumer income.

$$YED = \frac{\% \Delta Q_d}{\% \Delta Income}$$

VALUE	RELATIONSHIP	EXAMPLE
YED > 0	NORMAL GOOD <i>Demand increases when income rises</i>	Restaurant Meals
YED < 0	INFERIOR GOOD <i>Demand decreases when income rises</i>	Ramen Noodles

Try It!

	When teenagers' average income increases by 10%, the quantity demanded of Nike sneakers rises by 15%.	When student incomes increase by 20%, the quantity demanded of instant ramen falls by 5%.	When teen incomes increase by 8%, the quantity demanded of concert tickets increases by 12%.
Income Elasticity	1.5	-0.25	1.5
This good is a(n)	NORMAL GOOD	INFERIOR GOOD	NORMAL GOOD

Q-TOP



Notice that quantity demanded always goes on top of these calculations.

$$PED = \frac{\% \Delta Q_d}{\% \Delta P} \quad XED = \frac{\% \Delta Q_d^A}{\% \Delta P^B} \quad YED = \frac{\% \Delta Q_d}{\% \Delta Income}$$

Price Elasticity of Supply (PES)





Definition: Price elasticity of supply (PES) measures how responsive the quantity supplied of a good is to a change in its price. The availability of raw materials, time needed for production, and the mobility of resources affect how quickly producers can respond to price changes. Supply is generally more elastic in the long run.

PES Formula: (Use absolute value) $PES = \frac{\% \Delta Q_s}{\% \Delta P}$

ELASTIC SUPPLY	INELASTIC SUPPLY	UNIT ELASTIC SUPPLY	PERFECTLY ELASTIC SUPPLY	PERFECTLY INELASTIC SUPPLY
PES > 1	PES < 1	PES = 1	PES = ∞	PES = 0

Determinants of PES

- Time Horizon – The most important factor.
 - Short run → supply often inelastic (can't change production quickly).
 - Long run → supply more elastic (firms can adjust resources, enter/exit industry).
- Availability of Inputs – If resources are easy to find/move, supply is more elastic.
- Spare Capacity – If firms have unused capacity, they can increase output more easily.
- Storability of the Good – Goods that can be stored (like canned food) have more elastic supply than perishable goods (like fresh fruit).

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AGRICULTURE

Christmas Tree Supply Runs Short During Pandemic

You can blame the 2008 recession for fewer Christmas trees this year

By [Alex Hickey](#)

DECEMBER 22, 2020

One explanation: the recession

But not the one fresh on your mind. After the 2008 financial crisis, trees were plentiful and prices fell, so some farmers planted fewer trees. Because a Christmas tree typically takes 8–12 years to mature, those reduced plantings = today's supply crunch.

Even if the selling price of fresh cut Christmas trees doubles, supply is inelastic in the short term. Businesses need time to plant and grow more trees in order to impact the quantity supplied.

PRACTICE

5. Assume this price increase from \$119 to \$139 for Amazon Prime membership decreased quantity demanded by 2%. What is the elasticity for Amazon Prime membership?
 - a. **0.12, Inelastic**
 - b. 20, Elastic
 - c. 16.8, Inelastic
 - d. 12.4, Elastic
 - e. 5.6, Elastic

6. Costco Executive Membership fees increased from \$120 to \$130 in 2024. Suppose the company assumes elasticity for Executive Membership is 0.75. What must have been the percentage change in quantity demanded as a result of their action?
 - a. Decrease of 9.05%
 - b. Decrease of 0.75%
 - c. Decrease of 75.0%
 - d. Decrease of 8.3%
 - e. **Decrease of 6.225%**

7. Assume Kraft Heinz raised prices on all of their products by 5%. This increase in price was met with a decrease in quantity demanded of 12%. What can be said about the elasticity of demand for Kraft Heinz products?
 - a. 7, Inelastic
 - b. 0.4, Elastic
 - c. **2.4, Elastic**
 - d. 60, Elastic
 - e. 0.4, Inelastic

8. Assume the price of YouTube Streaming was \$79.99. Suppose we know for certain that DirectTV is a substitute good for YouTube Streaming. Which of the following statements must be true?
 - a. DirectTV must have also raised their prices.
 - b. **DirectTV had a positive increase in quantity demanded.**
 - c. The cross price elasticity is 3.75.
 - d. The cross price elasticity is negative.
 - e. YouTube Streaming demand is inelastic.

TECH

Amazon increases the price of Prime nearly 17% to \$139 per year

PUBLISHED THU, FEB 3 2022 4:09 PM EST | UPDATED THU, FEB 3 2022 5:16 PM EST

By Annie Palmer @IN/ANNIERPALMER / @ANNIERPALMER

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Welcome to Costco Customer Service

What can we help you with?

Membership | Costco.com | Warehouse | Returns & Exchanges | Products & Services | Payment & Tax Info | Technical Support

Customer Service Home Page

Membership Fee Increase

Effective September 1, 2024, membership fees have increased.

	Old Fee	New Fee
Gold Star	\$60	\$65
Business	\$60	\$65
Business Add-on/Affiliate	\$60	\$65
*Executive	\$120	\$130

MarketWatch

Investing | Personal Finance | Retirement

ING Has Honeywell suddenly become a quantum-computing powerhouse?

KEY WORDS

Kraft Heinz's higher prices have cost it some customers, but don't expect price cuts

CEO Miguel Patricio says price gaps with competitors have lasted longer than he would have liked

BUSINESS | MEDIA

YouTube Raises Price on TV Streaming Service to \$82.99

The video platform is increasing its rate for the first time since March 2023

By Joseph De Avila [Follow](#)

Updated Dec. 12, 2024 3:34 pm ET

21. A movie theater raises ticket prices from \$10 to \$12. As a result, attendance falls from 200 to 180. What is the price elasticity of demand?
- a. 0.25
 - b. 0.50**
 - c. 1.00
 - d. 1.50
 - e. 2.00
22. Suppose the cross-price elasticity between laptops and software is +0.4. If the price of laptops rises, the demand for software will
- a. Increase, since they are substitutes
 - b. Decrease, since they are complements**
 - c. Remain unchanged
 - d. Increase, since both are luxuries
 - e. Decrease, since software has inelastic demand
23. If a firm faces unit-elastic demand at its current price, then an increase in price will
- a. Increase total revenue
 - b. Decrease total revenue
 - c. Leave total revenue unchanged**
 - d. Decrease marginal revenue
 - e. Eliminate consumer surplus
24. A good with a vertical demand curve has which of the following characteristics?
- a. Perfect substitutes exist
 - b. Total revenue changes proportionally with price
 - c. The price elasticity of demand is zero**
 - d. It has many close substitutes
 - e. Demand becomes elastic at high prices
25. If the income elasticity of demand for cruises is +2.0, then a 10% increase in consumer incomes will cause the demand for cruises to
- a. Increase by 2%
 - b. Increase by 20%**
 - c. Decrease by 2%
 - d. Decrease by 20%
 - e. Remain unchanged
26. A firm finds that when it raises the price of its product, total revenue falls. This implies that demand is
- a. Inelastic
 - b. Elastic**
 - c. Unit Elastic
 - d. Perfectly Elastic
 - e. Perfectly inelastic

27. Suppose at a price of \$5, quantity demanded is 100 units, and when the price increases to \$6, quantity demanded decreases to 80 units. What is the elasticity?
- a. 0.4
 - b. 0.6
 - c. 1.0**
 - d. 1.6
 - e. 2.0
28. Which of the following best explains why demand for a narrowly defined good (e.g., "Vanilla Coke Zero") is more elastic than demand for a broadly defined good (e.g., "soft drinks")?
- a. Necessities tend to have elastic demand
 - b. There are fewer substitutes for narrowly defined goods
 - c. Consumers can more easily substitute among close varieties within the broad category**
 - d. Narrowly defined goods are always luxuries
 - e. Broad categories usually represent a small portion of income
29. A restaurant raises the price of burgers by 20%, and as a result, the quantity demanded falls by 30%. What is the price elasticity of demand, and how is demand classified?
- a. 0.67, inelastic
 - b. 0.67, elastic
 - c. 1.5, elastic**
 - d. 1.5, inelastic
 - e. 2.0, perfectly elastic
30. If the demand for public transportation is price inelastic, a decrease in fares will cause total revenue for the transit authority to
- a. Increase, since more riders will use the service
 - b. Decrease, since the percentage rise in riders is smaller than the fare decrease**
 - c. Remain unchanged, since inelastic demand implies no revenue change
 - d. Fall to zero, since demand is insensitive to price
 - e. Become infinite, since ridership grows without limit
31. Which of the following goods is most likely to have perfectly inelastic demand?
- a. Electricity for a household
 - b. Insulin for diabetics**
 - c. Bottled water at a convenience store
 - d. Fast food meals
 - e. Airline tickets during the holidays
32. A company sells designer shoes. The income elasticity of demand is +2.0. If consumer incomes rise by 5%, what happens to demand for shoes?
- a. Decreases by 10%
 - b. Decreases by 2.5%
 - c. Increases by 5%
 - d. Increases by 10%**
 - e. Increases by 15%

33. If the cross-price elasticity between Good A and Good B is +0.8, which of the following is true?
- a. A and B are substitutes, and an increase in the price of A increases demand for B.
 - b. A and B are substitutes, and an increase in the price of B increases demand for A.**
 - c. A and B are complements, and an increase in the price of B increases demand for A.
 - d. A and B are unrelated, so price changes in A or B will not affect the other.
 - e. A is inferior, while B is normal.
34. Which of the following situations would make the supply of wheat more elastic?
- a. Farmers have more time to adjust production levels.**
 - b. There is a sudden drought that limits planting.
 - c. The cost of fertilizer increases dramatically.
 - d. Government restricts imports of seeds.
 - e. Farm equipment becomes less mobile across crops.
35. A firm sells a product with a downward-sloping linear demand curve. At high prices, demand tends to be
- a. Relatively inelastic
 - b. Relatively elastic**
 - c. Unit elastic
 - d. Perfectly inelastic
 - e. Perfectly elastic
36. The market for “food” is less elastic than the market for “pizza” because
- a. Food is a necessity and broadly defined, while pizza has many substitutes**
 - b. Food is more expensive, so it takes a larger share of income
 - c. Pizza has no close substitutes in the short run
 - d. Food has a positive cross-price elasticity with all other goods
 - e. Food has a perfectly inelastic supply curve

PROVE - AP PRACTICE QUESTIONS

11. If the price of coffee increases by 10% and the quantity demanded falls by 20%, the price elasticity of demand is
- a. 0.2
 - b. 0.5
 - c. 1.0
 - d. 2.0**
 - e. 5.0
12. If demand for gasoline is inelastic, an increase in the price of gasoline will cause total revenue to
- a. Increase**
 - b. Decrease
 - c. Remain constant
 - d. Fall to zero
 - e. Increase only if supply shifts as well
13. Which of the following goods is most likely to have the most elastic demand?
- a. Insulin for diabetics
 - b. Tap water from the city utility
 - c. Designer handbags**
 - d. Electricity
 - e. Basic food staples like rice
14. If the cross-price elasticity of demand between peanut butter and jelly is -0.8 , these goods are
- a. Substitutes
 - b. Complements**
 - c. Unrelated
 - d. Normal goods
 - e. Inferior goods
15. The income elasticity of demand for restaurant meals is estimated at $+1.5$. This means restaurant meals are
- a. Inferior goods
 - b. Normal goods**
 - c. Unrelated goods
 - d. Complements to income
16. Suppose the demand curve for a good is linear and downward sloping. At higher prices, demand is
- a. Perfectly elastic
 - b. Relatively elastic**
 - c. Unit elastic
 - d. Relatively inelastic
 - e. Perfectly inelastic
17. A good with perfectly inelastic demand will have a price elasticity of demand equal to
- a. 0**
 - b. 1
 - c. Infinity
 - d. Greater than 1
 - e. Less than 0

18. If a firm lowers its price and total revenue decreases, demand in that range of the demand curve must be
- a. Elastic
 - b. Unit elastic
 - c. Inelastic**
 - d. Perfectly elastic
 - e. Perfectly inelastic
19. Which of the following changes will increase the price elasticity of demand for a product?
- a. The product has fewer available substitutes
 - b. The product is a necessity rather than a luxury
 - c. Consumers have a shorter time to adjust to price changes
 - d. The product represents a smaller share of the consumer's budget
 - e. The market definition becomes narrower (e.g., "Coca-Cola" vs. "soft drinks")**
20. A recent headline noted that it will take Intel a couple of years to increase its supply of computer chips. Which of the following situations would make the supply of computer chips more elastic?
- a. Intel has more time to expand factories and train workers.**
 - b. A shortage of rare earth minerals reduces chip production.
 - c. New government regulations limit the construction of chip plants.
 - d. Existing chip factories operate at full capacity with no ability to expand.
 - e. Energy costs for running chip plants increase significantly.

SCAN TO SEE THE CORRECT ANSWERS AND EXPLANATION



WONDER - BEYOND THE GRAPH

Read [Why Are Fast Food Prices So High?](#) independently. Then, respond to the following three questions. Be prepared to discuss your answers with a partner and the whole class in order to be exposed to a variety of perspectives.

1. Despite rising prices, demand for fast food remains high. Based on the article, would you say the demand for fast food is elastic or inelastic in the short run? Why might consumers still buy it even at higher prices?

In the short run, the demand for fast food is relatively inelastic. Even when prices increase, consumers continue to buy it because it is convenient, relatively cheap compared to sit-down restaurants, and habit-forming. Since substitutes like cooking at home or sit-down dining require more time or higher costs, many consumers still purchase fast food despite the price increases.

2. If McDonald's raises the price of a Big Mac meal and total revenue increases, what does that tell us about the elasticity of demand for Big Macs? How might this influence how fast food companies set prices?

If total revenue increases after a price increase, then demand in that range must be inelastic ($|PED| < 1$). This means consumers are not very sensitive to price changes for Big Macs, so McDonald's can raise prices without losing many customers. Fast food companies may use this information to strategically increase prices, especially on popular menu items, because they know the higher price won't cause a large drop in sales.

3. The article notes that many Americans consider eating out a "luxury," yet 75% of people still eat fast food weekly, even with rising prices. Using at least two determinants of price elasticity of demand (availability of substitutes, necessity vs. luxury, proportion of income, time horizon, and definition of the market), explain which factors help make the demand for fast food relatively inelastic in the short run.

Fast food demand is relatively inelastic in the short run for several reasons:

- **Availability of substitutes:** While alternatives exist (home-cooked meals or sit-down restaurants), they are not close substitutes for the speed and convenience of fast food.
- **Necessity vs. luxury:** Although fast food is technically a luxury, for many families with busy schedules it functions more like a necessity, making demand less responsive to price changes.
- **Proportion of income:** Even at higher prices, fast food makes up only a small share of a typical household's budget, so consumers don't drastically cut back.
- **Time horizon:** In the short run, people are less likely to change habits, but in the long run they may adjust by cooking more at home if prices stay high.
- **Definition of the market:** "Fast food" as a category is broader than one brand. While demand for a specific menu item might be elastic, overall demand for the category is less sensitive to price.

Together, these factors explain why fast food restaurants remain crowded despite noticeable price increases.