**What Are Examples of Elastic and Inelastic Goods?**

Elasticity is a term that describes how much the demand or supply for a product or service changes in relation to that product’s price. Each product on the market today has a different level of elasticity. Products considered to be necessities by a majority of consumers are typically less affected by price changes, causing them to be less elastic. By contrast, if consumers do not consider a product to be essential, they are likely to buy less of it if the price is increased, making that product elastic.

Examples of elastic products are coffee, airline tickets, and stocks. If there is a change in the price of an elastic product, it is likely to cause a shift in demand for that product. One factor that affects the elasticity of a product’s demand is the availability of close substitutes for the product. For example, if one coffee chain chooses to increase prices, consumers can easily switch to a new brand, causing demand for the now more expensive brand of coffee to decrease.

Examples of inelastic goods are water, electricity, phone service, and gasoline. These are goods that will not experience a large change in demand as a result of a price increase. Often this is because these goods fill a biological human need, such as water, or because there are no convenient substitutes for these products on the market, as is the case with gasoline.

There are several different ways to measure a good or product’s elasticity. Price elasticity of demand, income elasticity of demand, and elasticity of supply are three ways to measure specific dynamics relating to a product’s supply, demand, and price.

Price elasticity of demand measures how the demand for a product changes in relation to changes in the price of that product, assuming that all other factors remain constant. The formula for price elasticity of demand is:

Price Elasticity = (% change in quantity) / (% change in price)

Price elasticity is negative for most products. This means that as the price of a good increases, the demand for that good decreases. While rare, there are some products with positive price elasticity, meaning that as their prices increase, they are perceived as being more valuable, and are purchased more often. Examples of products that can have positive price elasticity are designer handbags, high end cars, and wine.

Income elasticity of demand measures how much demand for a good changes in relation to a change in an individual’s income, assuming that all other factors remain constant. This measure is often used by businesses to predict how changes in the market will affect their product sales. The formula to determine income elasticity of demand for a product is:

Income Elasticity = (% change in quantity demanded) / (% change in income)

This formula can be used to determine if a specific good is a luxury good or a necessity. The higher the absolute income elasticity of a good is, the more likely demand for that good is to change along with consumers’ income. If a product’s income elasticity is positive, it indicates that consumers are likely to spend more money on that product if their income increases. If the income elasticity of a product is negative, that indicates that consumers will spend less money on that product if their income increases. Examples of products with positive income elasticity are luxury cars, vacation packages, and high end clothing, shoes, and housewares. Examples of goods with negative income elasticity are low quality shoes and clothing.

Elasticity of supply is a measure of how much supply of a product changes in response to a change in the product’s price, assuming that all other factors remain constant. The formula to measure elasticity of supply is:

Elasticity of Supply = (% change in quantity supplied) / (% change in price)

If a product has a high elasticity of supply, the supply volume will increase when the demand and price increase for that product. Examples of products with highly elastic supply are mass market toys, electronics, and clothing, as these are all products that a manufacturer can supply more of on short notice. An example of a product with inelastic supply is a ticket to a concert, as the total amount of tickets available is typically unable to be increased.

# Economics Basics: Elasticity

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We’ve seen that the demand and supply of goods react to changes in price, and that prices in turn move along with changes in quantity. We’ve also seen that the [utility](https://www.investopedia.com/terms/u/utility.asp), or satisfaction received from consuming or acquiring goods diminishes with each additional unit consumed. The degree to which demand or supply reacts to a change in price is called [elasticity](https://www.investopedia.com/terms/e/elasticity.asp).

Elasticity varies from product to product because some products may be more essential to the consumer than others. Demand for products that are considered necessities is less sensitive to price changes because consumers will still continue buying these products despite price increases. On the other hand, an increase in price of a good or service that is far less of a necessity will deter consumers because the opportunity cost of buying the product will become too high.

A good or service is considered highly elastic if even a slight change in price leads to a sharp change in the quantity demanded or supplied. Usually these kinds of products are readily available in the market and a person may not necessarily need them in his or her daily life, or if there are good [substitutes](https://www.investopedia.com/terms/s/substitute.asp). For example, if the price of Coke rises, people may readily switch over to Pepsi. On the other hand, an [inelastic](https://www.investopedia.com/terms/e/inelastic.asp) good or service is one in which large changes in price produce only modest changes in the quantity demanded or supplied, if any at all. These goods tend to be things that are more of a necessity to the consumer in his or her daily life, such as gasoline.

To determine the elasticity of the [supply](https://www.investopedia.com/terms/s/supply.asp) or [demand](https://www.investopedia.com/terms/d/demand.asp) of something, we can use this simple equation:

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| **Elasticity = (% change in quantity / % change in price)** |

If elasticity is greater than or equal to 1, the curve is considered to be elastic. If it is less than one, the curve is said to be inelastic.

As we saw previously, the demand curve has a negative slope. If a large drop in the quantity demanded is accompanied by only a small increase in price, the demand curve will appear looks flatter, or more horizontal. People would rather stop consuming this product or switch to some alternative rather than pay a higher price. A flatter curve means that the good or service in question is quite elastic.

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Meanwhile, inelastic demand can be represented with a much steeper curve: large changes in price barely affect the quantity demanded.

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Elasticity of supply works similarly. If a change in price results in a big change in the amount supplied, the supply curve appears flatter and is considered elastic. Elasticity in this case would be greater than or equal to one. The elasticity of supply works similarly to that of demand. Remember that the supply curve is upward sloping. If a small change in price results in a big change in the amount supplied, the supply curve appears flatter and is considered elastic. Elasticity in this case would be greater than or equal to one.

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On the other hand, if a big change in price only results in a minor change in the quantity supplied, the supply curve is steeper and its elasticity would be less than one. The good in question is inelastic with regard to supply.

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## **Factors Affecting Demand Elasticity**

There are three main factors that influence a good’s price elasticity of demand:

**1. Availability of Substitutes** In general, the more good substitutes there are, the more elastic the demand will be. For example, if the price of a cup of coffee went up by $0.25, consumers might replace their morning caffeine fix with a cup of strong tea. This means that coffee is an elastic good because a small increase in price will cause a large decrease in demand as consumers start buying more tea instead of coffee.

However, if the price of caffeine itself were to go up, we would probably see little change in the consumption of coffee or tea because there may be few good substitutes for caffeine. Most people in this case might not willing to give up their morning cup of caffeine no matter what the price. We would say, therefore, that caffeine is an inelastic product. While a specific product within an industry can be elastic due to the availability of substitutes, an entire industry itself tends to be inelastic. Usually, unique goods such as diamonds are inelastic because they have few if any substitutes.

**2. Necessity**As we saw above, if something is needed for survival or comfort, people will continue to pay higher prices for it. For example, people need to get to work or drive for any number of reasons. Therefore, even if the price of gas doubles or even triples, people will still need to fill up their tanks.

**3. Time**The third influential factor is time. If the price of cigarettes goes up $2 per pack, a smoker with very few available substitutes will most likely continue buying his or her daily cigarettes. This means that tobacco is inelastic because the change in price will not have a significant influence on the quantity demanded. However, if that smoker finds that he or she cannot afford to spend the extra $2 per day and begins to kick the habit over a period of time, the price elasticity of cigarettes for that consumer becomes elastic in the long run.

## **Income Elasticity of Demand**

[Income elasticity of demand](https://www.investopedia.com/terms/i/incomeelasticityofdemand.asp) is the amount of income available to spend on goods and services. This also affects demand since it regulates how much people can spend in general. Thus, if the price of a car goes up from $25,000 to $30,000 and income stays the same, the consumer is forced to reduce his or her demand for that car. If there is an increase in price and no change in the amount of income available to spend on the good, there will be an elastic reaction in demand: demand will be sensitive to a change in price if there is no change in income. It follows, then, that if there is an increase in income, demand in general tends to increase as well. The degree to which an increase in income will cause an increase in demand is called the “income elasticity of demand,” which can be expressed in the following equation:

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If EDy is greater than 1, demand for the item is considered to have a high income elasticity. If EDy is less than 1, demand is considered to be income inelastic. Luxury items usually have higher income elasticity because when people have a higher income, they don't have to forfeit as much to buy these luxury items. As an example, consider what some consider a luxury good: vacation travel. Bob has just received a $10,000 increase in his salary, giving him a total of $80,000 per year. With this new higher purchasing power, he decides that he can now afford to go on vacation twice a year instead of his previous once a year. With the following equation we can calculate income demand elasticity:

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Income elasticity of demand for Bob's air travel is 7, which is highly elastic.

With some goods and services, we may actually notice a decrease in demand as income increases. These cases often involve goods and services considered of inferior quality that will be dropped by a consumer who receives a salary increase. An example may be the decrease in going out to fast food restaurants as income increases, which are generally considered to be of lower quality that other dining alternatives. Products for which the demand decreases as income increases have an income elasticity of less than zero. Products that witness no change in demand despite a change in income usually have an income elasticity of zero. These goods and services are considered necessities and are sometimes referred to as [Giffin Goods](https://www.investopedia.com/terms/g/giffen-good.asp).

Another anomaly in elasticity occurs when the demand for something increases as its price rises. We’ve learned that if the price of something goes up, people will demand less – but certain luxury or status items may be demanded because they are expensive. For example, designer label clothing or accessories or luxury car brands signal status and prestige. A work of art, a personal chef, or a diamond ring all may be in high demand precisely because they are expensive. These types of goods are referred to as [Veblen Goods](https://www.investopedia.com/terms/v/veblen-good.asp).

## **Reading: Examples of Elastic and Inelastic Demand**

Lumen - Microeconomics

Now that you have a general idea of what elasticity is, let’s consider some of the factors that can help us predict whether demand for a product is likely to be elastic or inelastic. The following are important considerations:

* **Substitutes**: Price elasticity of demand is fundamentally about substitutes. If it’s easy to find a substitute product when the price of a product increases, the demand will be more elastic. If there are few or no alternatives, demand will be less elastic.
* **Necessities vs. luxuries**: A necessity is something you absolutely must have, almost regardless of the price. A luxury is something that would be nice to have, but it’s not absolutely necessary. Consider the elasticity of demand for cookies. A buyer may enjoy a cookie, but it doesn’t fulfill a critical need the way a snow shovel after a blizzard or a life-saving drug does. In general, the greater the necessity of the product, the less elastic, or more inelastic, the demand will be, because substitutes are limited. The more luxurious the product is, the more elastic demand will be.
* **Share of the consumer’s budget**: If a product takes up a large share of a consumer’s budget, even a small percentage increase in price may make it prohibitively expensive to many buyers. Take rental housing that’s located close to downtown. Such housing might cost half of one’s budget. A small percentage increase in rent could cause renters to relocate to cheaper housing in the suburbs, rather than reduce their spending on food, utilities, and other necessities. Therefore the larger the share of an item in one’s budget, the more price elastic demand is likely to be. By contrast, suppose the local grocery store increased the price of toothpicks by 50 percent. Since toothpicks represent such a small part of a consumer’s budget, even a significant increase in price is likely to have only a small effect on demand. Thus, the smaller the share of an item in one’s budget, the more price inelastic demand is likely to be.
* **Short run versus long run:**Price elasticity of demand is usually lower in the short run, before consumers have much time to react, than in the long run, when they have greater opportunity to find substitute goods. Thus, demand is more price elastic in the long run than in the short run.
* **Competitive dynamics**: Goods that can only be produced by one supplier generally have inelastic demand, while products that exist in a competitive marketplace have elastic demand. This is because a competitive marketplace offers more options for the buyer.

With these considerations in mind, take a moment to see if you can figure out which of the following products have elastic demand and which have inelastic demand. It may be helpful to remember that when the buyer is **in**sensitive to price, demand is **in**elastic.

* Gasoline
* College textbooks
* Coffee
* Airline tickets
* Concert tickets
* Soft drinks
* Medical procedures

| **Inelastic Demand** | **Elastic Demand** |
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| Gasoline  The demand for gasoline generally is fairly inelastic, especially in the short run. Car travel requires gasoline. The substitutes for car travel offer less convenience and control. Much car travel is necessary for people to move between activities and can’t be reduced to save money. In the long run, though, more options are available, such as purchasing a more fuel-efficient car or choosing a job that is closer to where you work. | Gas from a Particular Station  The demand for gasoline from any single gas station, or chain of gas stations, is highly elastic. Buyers can choose between comparable products based on price. There are often many stations in a small geographic area that are equally convenient. |
| Traditional Textbooks  Generally an instructor assigns a textbook to the student, and the student who wants access to the learning materials must buy it, regardless of the price level. Because the student can’t easily identify another textbook or resource that will ensure the same content and grade for the class, he has no substitutes and must buy the book at any price (or opt not to buy it at all). | New Textbook Distribution Channels  Increasingly, students have new options to buy the same textbooks from different distribution channels at different price points. The introduction of new distribution channels is increasing options for buyers and having an impact on the price elasticity for publishers. |
| Specialty Coffee Drinks  Many coffee shops have developed branded drinks and specialized experiences in order to reduce substitutes and build customer loyalty. While black coffee is available almost universally, there are few substitutes for a Starbucks Java Chip Frappuccino. Demand for such products is more inelastic. | Black Coffee  Coffee is generally widely available at a level of quality that meets the needs of most buyers. The combination of a low price, relative to the buyer’s spending power, and the fact that the product is sold by many different suppliers in a competitive market, make the demand highly elastic. |
| Concert Tickets  Only Taylor Swift can offer a Taylor Swift concert. She holds a monopoly on the creation and delivery of that experience. There is no substitute, and loyal fans are willing to pay for the experience. Because it is a scarce resource and the delivery is tightly controlled by a single provider, access to concerts has inelastic demand. | Airline Tickets  Airline tickets are sold in a fiercely competitive market. Buyers can easily compare prices, and buyers experience the services provided by competitors as being very similar. Buyers can often choose not to travel if the cost is too high or substitute travel by car or train. |
| Medical Procedures  Essential medical procedures have inelastic demand. The patient will pay what she can or what she must. In general, products that significantly affect health and well-being have inelastic demand. | Soft Drinks  Soft drinks and many other nonessential items have highly elastic demand. There is competition among every brand and type of soda, and there are many substitutes for the entire category of soft drinks. |