

Introduction

Price Elasticity is a measure of how demand for a product is affected by price changes. This measure can help determine whether to change the price of products by calculating what effect price changes have on the quantities customers buy. The Price Elasticity indicator can help answer questions like:

- If I increase my unit price by 20%, how much unit sales volume will I lose?
- If I lower my unit price by 10%, how much unit sales volume will I gain?

To calculate the PE

$$PE = \frac{Q2 - Q1 / ((Q1 + Q2) / 2)}{P2 - P1 / ((P1 + P2) / 2)}$$

Where

Q1 = Initial quantity

Q2 = Final quantity

P1 = Initial price

P2 = Final price

Understanding the calculation results

PE > 1

The category is **relatively elastic**, so if you change the price, demand will change in a greater proportion. An increase in price would result in a decrease in revenue, and a decrease in price would result in an increase in revenue. For example, if your PE = 3.0, a 10% price increase could cause a decrease of approximately 30% in quantity demanded.

PE < 1

The category is **relatively inelastic**, so if you change the price, demand will change in a smaller proportion. An increase in price would result in an increase in revenue, and a decrease in price would result in a decrease in revenue. For example, if your PE = 0.3, a 10% increase in price could cause a decrease of approximately 3% in quantity demanded.

	Price	Unit Sales	Common Examples
PE > 1	Increase Decrease	Decrease Increase	Tomatoes, automobiles, airline travel, restaurant meals, private education
PE < 1	Increase Decrease	Increase Decrease	Salt, gasoline, coffee, taxi, tobacco, physician services

Factors Influencing the Price Elasticity of Demand

The price elasticity of demand for a particular demand curve is influenced by the following factors:

- Availability of substitutes: the greater the number of substitute products, the greater the elasticity.
- Degree of necessity or luxury: luxury products tend to have a greater elasticity than necessities.
- Proportion of income required by the item: products requiring a larger portion of the consumer's income tend to have greater elasticity.
- Time period considered: elasticity tends to be greater over the long run because consumers have more time to adjust their behavior to price changes.
- Permanent or temporary price change: a one-day sale will result in a different response than a permanent price decrease of the same magnitude.
- Price Points: decreasing the price point from \$2.00 to \$1.99 may result in a greater increase in quantity demanded than decreasing it from \$1.99 to \$1.98.