

# Effect of Price Change on a Substitute Good

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**Abstract:** *The concept of substitute goods plays a vital role in understanding consumer behavior and market dynamics in microeconomics. This research paper examines the effect of a price change in one good on the demand for its substitute good. Using the law of demand and cross elasticity of demand, the paper explains how a rise or fall in the price of one product influences consumer preferences and market equilibrium of related goods. Real-life examples such as Coca-Cola and pepsico are used to illustrate the concept. The study concludes that substitute goods have a direct relationship in terms of demand and that cross elasticity of demand is positive in such cases.*

**Keywords:** Substitute goods, Cross elasticity of demand, Law of demand, Consumer behavior, Market equilibrium, Price effect, Demand curve, Competitive market, Microeconomics

## 1. Introduction

In microeconomics, the relationship between goods plays a significant role in determining consumer choices and overall market behavior. Among these relationships, substitute goods hold particular importance because they directly influence demand patterns when price changes occur. Substitute goods are products that can be used in place of one another to satisfy similar needs or wants. When the price of one good changes, consumers often shift their preference toward an alternative product, thereby affecting the demand for the substitute. This interdependent relationship is essential for understanding market dynamics in competitive environments.

The concept of substitute goods is closely associated with the Law of Demand and the principle of cross elasticity of demand. According to the Law of Demand, when the price of a good rises, its quantity demanded generally falls, assuming other factors remain constant. However, in the case of substitute goods, a rise in the price of one product leads to an increase in the demand for its substitute. This positive relationship between the price of one good and the demand for another is measured through cross elasticity of demand, which is positive for substitute goods. Therefore, substitute goods demonstrate how markets are interconnected rather than isolated.

In modern economies, substitute goods are widely observed across various sectors such as food and beverages, transportation, technology, and consumer electronics. For instance, if the price of one soft drink brand increases, consumers may switch to another brand offering similar taste and satisfaction. Similarly, if petrol prices rise significantly, some consumers may opt for public transportation or electric vehicles. These real-life examples illustrate how price fluctuations influence consumer decision-making and reshape market equilibrium.

Understanding the effect of price changes on substitute goods is crucial for producers, marketers, and policymakers. Businesses must analyze competitor pricing strategies to

maintain their market share, while policymakers need to anticipate shifts in demand that may impact supply chains and economic stability. By examining the interaction between price movements and substitute goods, this study aims to provide a clear explanation of consumer behavior, demand responsiveness, and competitive market adjustments. The analysis contributes to a deeper understanding of how pricing strategies shape economic outcomes in a dynamic marketplace.

## Concept of Substitute Goods

### 1) Meaning

Substitute goods are goods that can replace each other in consumption. A consumer can switch from one product to another when there is a change in price.

### Examples:

- Tea and Coffee
- Butter and Margarine
- Coca-Cola and PepsiCo
- Airtel and Jio services

Substitute goods have positive cross elasticity of demand.



**Figure 1:** Flow chart representing different types of substitute goods

**2) Types of Substitute Goods**

Substitute goods can also be classified based on market structure, geography, and time. The following are four important types:

**a) Generic Substitutes**

Generic substitutes are goods that satisfy the same basic need but may differ in form, technology, or composition.

**Features:**

- Broad functional similarity
- Moderate cross elasticity of demand
- Used to satisfy the same want in different ways

**Examples:**

- Petrol vehicles and electric vehicles
- Butter and margarine
- Printed books and e-books

If petrol prices rise, consumers may gradually shift to electric vehicles, benefiting companies like Tata Motors.

**b) Brand Substitutes**

Brand substitutes are different brands offering similar products within the same product category.

**Features:**

- High competition
- Influenced by advertising and brand loyalty
- High positive cross elasticity

**Examples:**

- Coca-Cola and PepsiCo
- Apple Inc. and Samsung Electronics smartphones
- Bharti Airtel and Reliance Jio telecom services

If one brand increases its price, consumers may switch to the competing brand.

**c) Regional Substitutes**

Regional substitutes are goods that are preferred differently across regions but can replace each other based on availability and cultural preference.

**Features:**

- Influenced by geography and culture
- Availability plays an important role
- Moderate substitution effect

**Examples:**

- Rice in South India and wheat in North India
- Mustard oil in North India and coconut oil in South India

If the price of rice increases in a region, some consumers may shift towards wheat products.

**d) Temporal Substitutes**

Temporal substitutes are goods that substitute each other over time rather than at the same moment.

**Features:**

- Time-based substitution
- Affected by expectations of future prices

- Related to intertemporal choice

**Examples:**

- Buying now vs. buying later during a sale
- Using public transport today and purchasing a car in the future

If consumers expect prices to rise in future, they may increase present demand.

**2. Theoretical Framework**

**a) Law of Demand**

According to the law of demand, other things remaining constant, quantity demanded of a good decreases when its price increases and vice versa.

However, in case of substitute goods, the price change of one good affects the demand for the other good.

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**b) Cross Elasticity of Demand**

Cross elasticity of demand measures the responsiveness of demand for one good due to change in price of another good.

Formula:

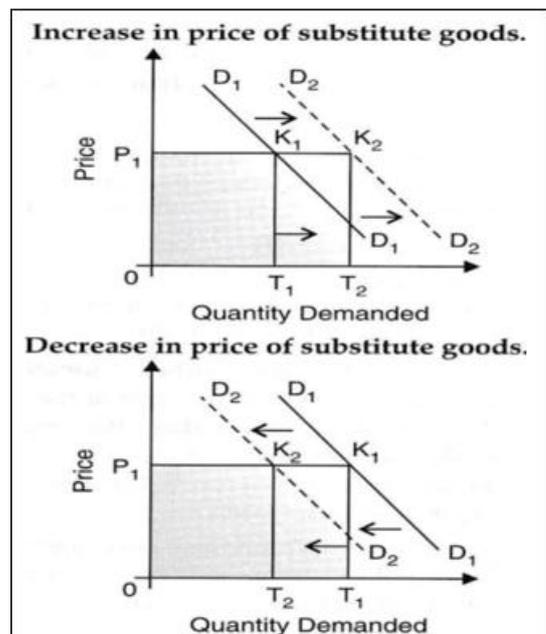
Cross Elasticity of Demand =

% Change in Quantity Demanded of Good B / % Change in Price of Good A

For substitute goods:

Cross elasticity is positive (> 0).

**3. Effect of Price Change on a Substitute**



**Figure 2:** Graphical representation elaborating effect of change in price on Substitute good

**Case 1: Rise in Price of Good A**

When the price of Good A increases:

- Demand for Good A decreases.
- Consumers shift to Good B (substitute).
- Demand for Good B increases.
- Demand curve of Good B shifts rightward.

**Example:**

If the price of Coca-Cola increases, consumers may buy products of PepsiCo, increasing its demand.

**Case 2: Fall in Price of Good A**

When the price of Good A decreases:

- Demand for Good A increases.
- Consumers shift away from Good B.
- Demand for Good B decreases.
- Demand curve of Good B shifts leftward.

**Graphical Representation**

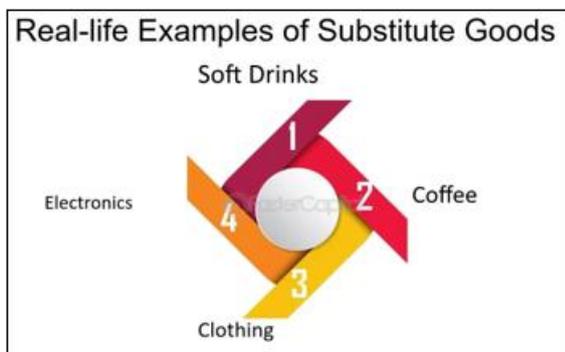
When price of Good A rises:

Demand curve of Good B shifts from D1 to D2 (rightward shift).

When price of Good A falls:

Demand curve of Good B shifts from D2 to D1 (leftward shift).

**Real-World Applications of Price Change in Substitute Goods**



**Figure 3:** Flow chart elucidating real world substitute goods examples

Understanding the effect of price change on substitute goods is extremely important in real markets. Businesses, governments, and consumers all respond strategically when the price of one product changes.

Below are the major real-world applications explained in detail:

**1) Competitive Pricing Strategy in Oligopoly Markets**

In highly competitive industries, firms closely monitor the prices of their substitutes.

For example, in the soft drink market, products of Coca-Cola and PepsiCo are close substitutes.

**Application:**

If Coca-Cola increases its price, consumers may switch to Pepsi.

PepsiCo may maintain its price to capture a larger market share.

If PepsiCo increases price too, Coca-Cola might gain customers.

**Business Impact:**

- Firms avoid sudden price hikes.
- Price wars may occur.
- Strategic pricing becomes essential for survival.

This is common in oligopolistic markets where few firms dominate.

**2) Telecom Industry Competition**

In India, telecom companies like Bharti Airtel and Reliance Jio offer substitute services.

**Application:**

When Jio reduced data prices drastically, consumers shifted from Airtel.

Airtel responded by revising its tariff plans.

**Outcome:**

- Increased competition
- Better consumer benefits
- Lower prices and improved services

This shows how price change in one substitute directly affects demand for another.

**3) Taxation Policy by Government**

Governments use taxation to influence demand for substitute goods.

**Example:**

If the government increases tax on petrol:

- Price of petrol rises.
- Consumers may shift towards CNG vehicles or electric vehicles.
- This shift benefits companies manufacturing electric cars such as Tata Motors.

**Policy Use:**

- To promote environmentally friendly goods.
- To discourage harmful goods like cigarettes.

Thus, taxation affects demand patterns through substitute relationships.

**4) Marketing and Promotional Strategies**

Companies use discounts and offers to attract customers from competitors.

**Example:**

- If Pepsi offers “Buy 1 Get 1 Free” scheme,
- Consumers may temporarily switch from Coca-Cola.

**Impact:**

- Short-term demand shift.
- Increase in market share.
- Competitive advertising battles.

Hence, substitute goods create dynamic marketing environments.

**5) Forecasting and Revenue Planning**

Firms analyze cross elasticity of demand before changing prices.

Why?

**If demand is highly elastic:**

A small price increase may lead to large loss of customers.

**For example:**

- If Airtel increases recharge price significantly,
- Many users may switch to Jio.

**Therefore:**

- Firms study consumer sensitivity before pricing decisions.
- Revenue forecasting depends on substitute analysis.

**6) Consumer Welfare and Choice**

Price changes increase consumer power.

If one company raises price:

- Consumers can switch.
- Firms cannot exploit customers easily.

**Example:** Ride services like Uber and Ola Cabs are substitutes.

If Uber raises fare:

- Customers book Ola.

Thus:

- Competition protects consumer interests.
- Quality and service improve.

**Overall Importance**

The effect of price change on substitute goods helps in:

- Strategic decision making
- Competitive analysis
- Government economic policy
- Consumer behavior study
- Market equilibrium analysis

It plays a crucial role in modern microeconomic planning and business strategy

**4. Nutshell**

The price change of one substitute good significantly affects the demand for its related substitute. The relationship is direct and positive, meaning an increase in price of one good increases demand for the other good. Cross elasticity of demand serves as an important tool in measuring this relationship. The concept is crucial for businesses, policymakers, and consumers in understanding market behavior and competitive strategy.

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