

Engineering economics

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What is economics?

- **Economics** is a social science that studies the production, distribution, and consumption of goods and services.
- Alfred Marshall- “Economics is a study of man in the ordinary business of life. It enquires how he gets his income and how he uses it. Thus, it is on the one side, the study of wealth and on the other and more important side, a part of the study of man”.
- Economics focuses on the behavior and interactions of economic agents and how economies work.

People respond to incentive

An incentive is something (the prospect of a punishment or reward) that induces a person to act in a certain manner

Primary School - To avoid parents coming late, what could have been done?

WHY IS IT IMPORTANT TO ANALYSE THE IMPACT OF INCENTIVE?

TAX

SUBSIDIES

RATIONALITY

PEOPLE FACE TRADE OFF

OPPORTUNITY COST

MARKETS ARE EFFICIENT

syllabus

- Ten Principles of Economics
- Thinking like an Economist
- Market Forces of Demand & Supply
- Elasticity and its Applications
- Consumer, Producer and Efficiency of Markets
- Cost of Production
- Market Structure
- Measuring a nation's income
- Measuring the cost of living
- The Monetary System
- Public Economics-Externalities, Public Goods, and tax system
- Open Economy and basic concepts

TH

The Hindu

<https://www.thehindu.com> > ... > ICC World Cup

India-Aus World Cup Final match creates record peak ...

20 Nov 2023 — India-Aus WC Final sets record peak viewership of **5.9 cr** on Disney+Hotstar. Surpassing 5.3 cr peak concurrency in India-NZ semi-final.

bt

Business Today

<https://www.businesstoday.in> > LATEST > Trends

IPL 2023 records massive viewership of half a billion ...

8 Jun 2023 — **IPL 2023** registered 505 million **viewers** on television. The television broadcaster of the cricketing bonanza Indian Premiere League (**IPL**) **2023** ...

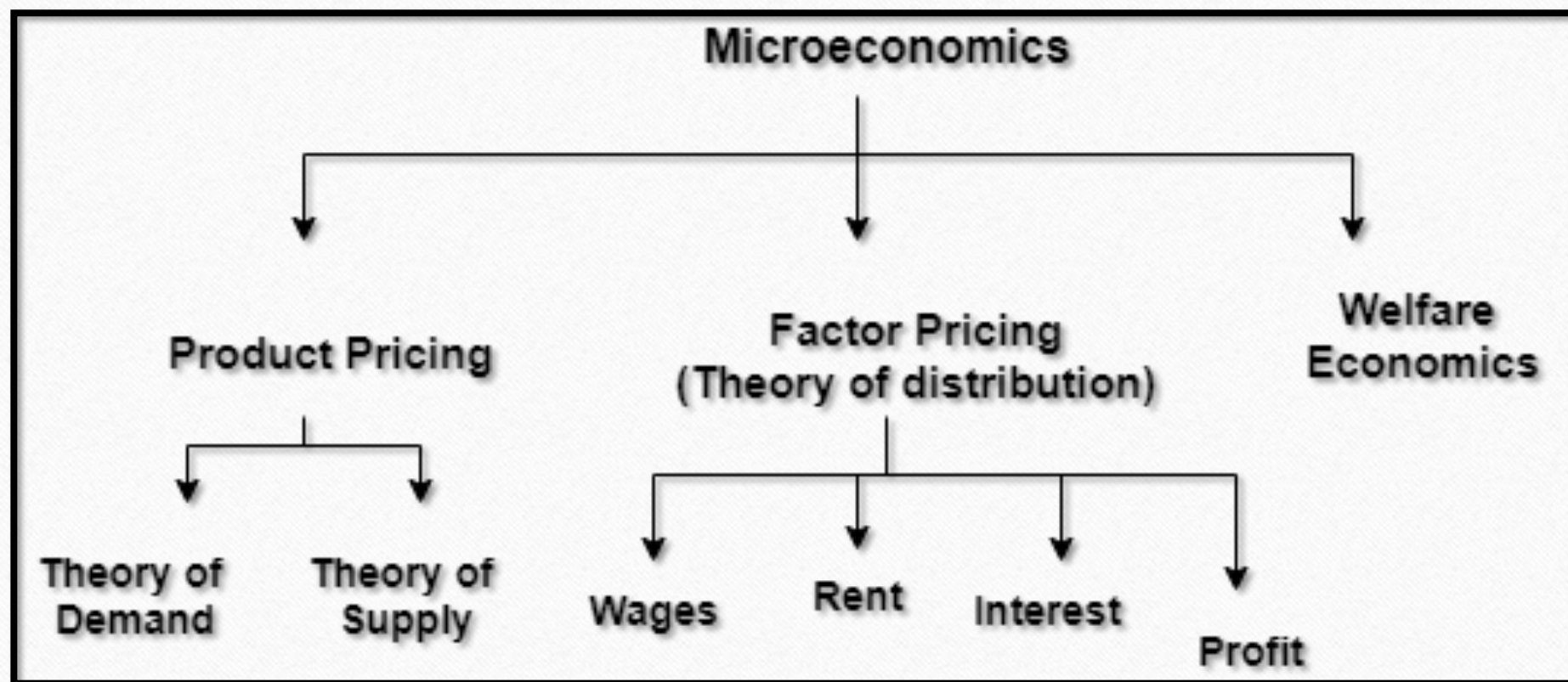
Quantitative Insights into Sports Media Consumption Pattern

...

The **Hockey India** League (HIL) attracts around 40 million **viewers** per year! How are Indians Watching their Favorite Sport. Infographic on how ...

Microeconomics

- Microeconomics deals with analysis of small individual units of economics- Individual consumers, firms, industries, wages, income, etc-
- It is generally believed that microeconomics is not concerned with the study of economy as a whole- Untrue-Microeconomics examines the behaviour of individual units to determine the allocation of resources.
- Microeconomics answers 4 basic questions
 1. What goods shall be produced
 2. How to produce
 3. How to distribute
 4. Whether the production and distribution is efficient



Demand

- Quantity that the consumer is willing to purchase at different prices in a given time period.
- Demand for a commodity= **Desire** to purchase+ **Ability** of Buy
- Demand is determined by several factors like income of the consumer, taste & preferences, price of the good, price of related goods, etc.
- **Utility- Want satisfying power of a commodity**
- Market demand is the summation of individual demand functions.

Law of demand

- Shows the relationship between quantity demanded and price.

$$Q_x = f(P_x, Y)$$

Q_x = quantity demanded of good X

P_x - Price of good X

Y = Other factors which are kept constant.

If price of a particular commodity increase, then its quantity demanded falls.

- Demand for a commodity also depends on other factors apart from price (Discussed Later)



<https://www.indiatoday.in> › india › story › lockdown-q... ⋮

Lockdown: Queues outside liquor shops amid confusion on ...

04-May-2020 — Long queues were seen outside **liquor** outlets in Mumbai and Pune on Monday, a day after the state government said **shops** of non-essential items, ...

<https://www.livemint.com> › companies › news › steep-c... ⋮

Steep cess on alcohol has affected sales: AB InBev - Mint

18-Jun-2020 — ... due to the **coronavirus lockdown**. Even as the restrictions were eased and **liquor stores opened**, consumers lapped up hard liquor for its ...

<https://www.business-standard.com> › ... › News ⋮

Liquor sales fall 60% in states with high Corona cess in May ...

02-Aug-2020 — States, which imposed more than 50 per cent **Covid-cess** on **liquor** after the resumption of retail trade post **lockdown**, witnessed an average 59 ...

Exceptions to law of demand

- Veblen Effect- Goods having prestige value

- I. Some consumers measure the utility of a commodity on the basis of its price- Higher price= Higher utility.
- II. E.g. -?
- III. For these kind of goods quantity demanded will increase with the increase in price.
- IV. High-quality, premium goods

Determinants of demand

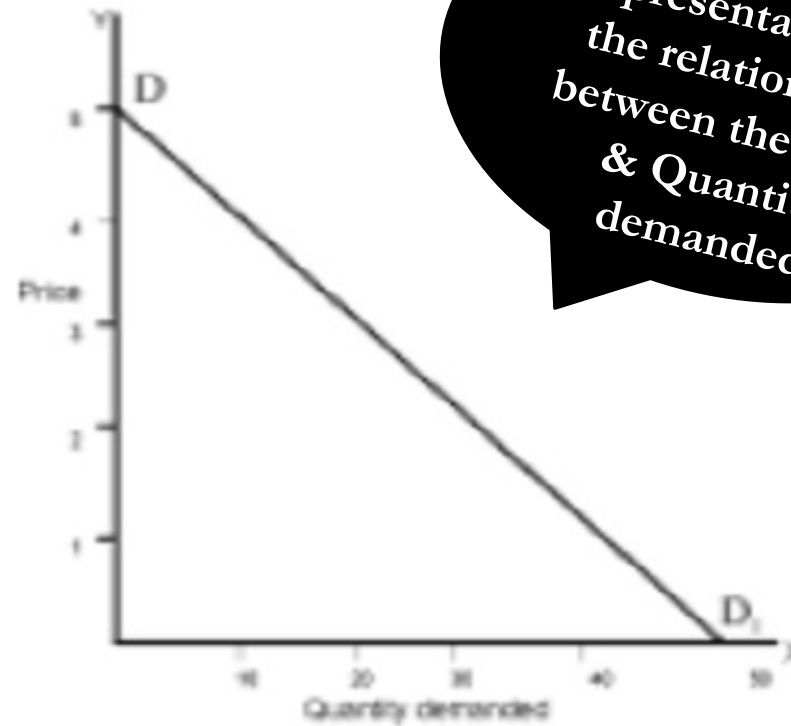
- Taste and Preferences of Consumers
- Income
- Price of related goods
- Number of consumers in the market
- **Consumers' expectation regarding future prices**

Demand schedule

**Table Demand
Schedule**

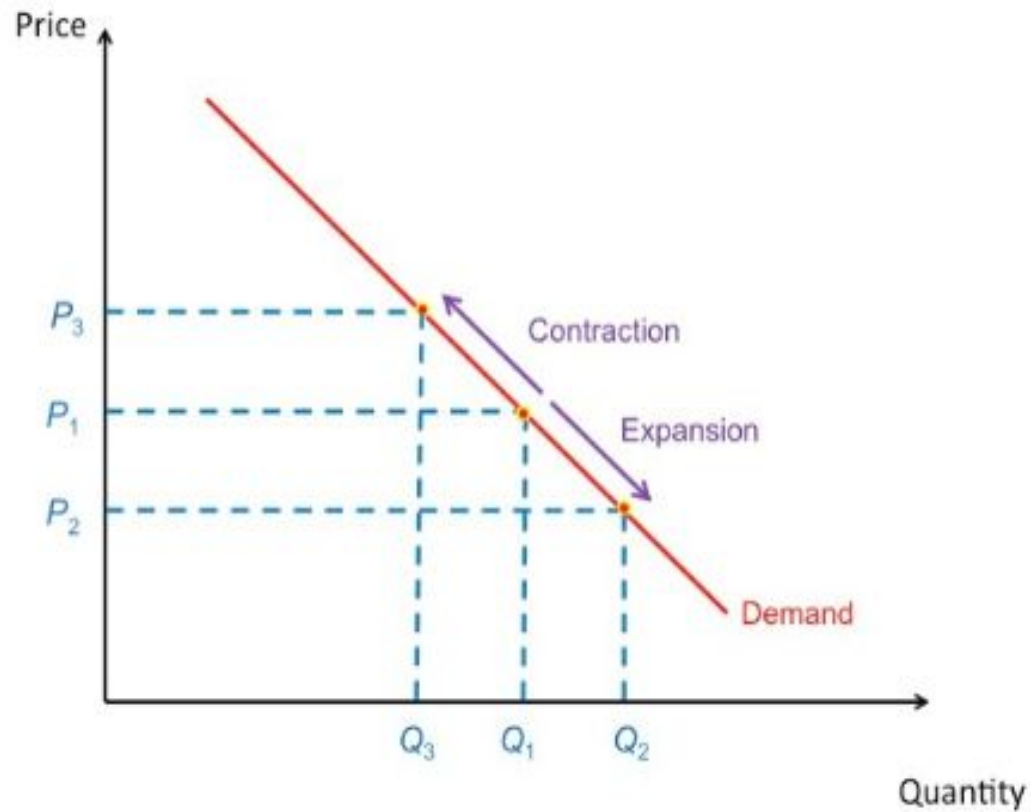
Price (Rs)	Quantity Demanded (Units)
5	10
4	20
3	30
2	40
1	50

**Figure Demand
Curve**



Graphical
representation of
the relationship
between the price
& Quantity
demanded

Expansion and contraction in demand

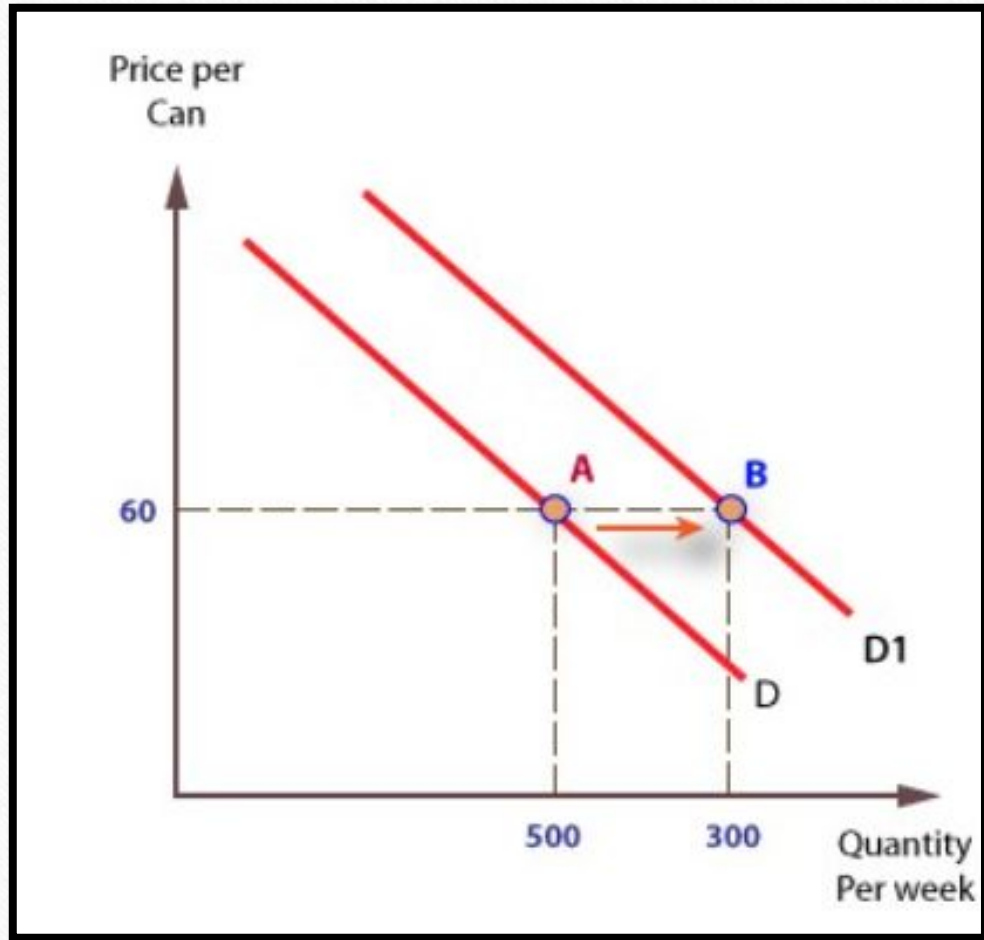


- If quantity demanded increases/decreases due to change in price expansion/contraction
- In case of expansion and contraction, only price effect is considered, **other factors** are assumed to be constant.

Demand Vs Quantity Demanded

- Demand represents entire schedule or curve
- Quantity demanded refers to the quantity an individual buys at a **particular price**.

Increase/decrease in demand



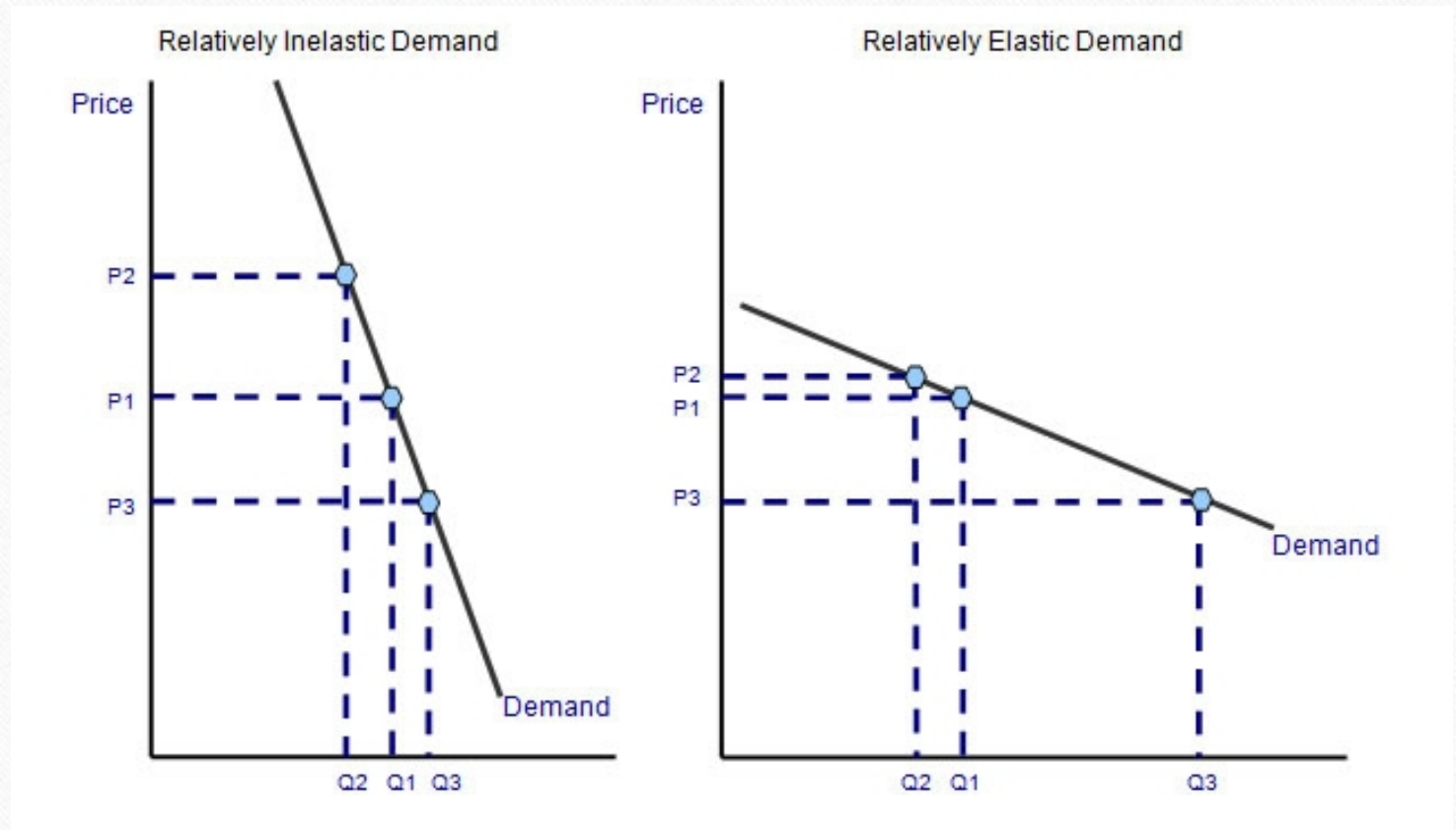
- When demand changes due to factors other than price, then the entire demand curve shifts.
- If there is an adverse change in factor influencing demand then it will lead to decrease in demand causing a leftward shift in the demand curve & vice-versa.
- The factors which cause shifts in demand are called shift factors.
- Generally demand is considered to be of linear form.
- $Q_d = a - bP_x$ ($Q_d = 12 - 6P_x$)
- a = Constant intercept term, b = Slope of Demand curve

Elasticity of demand and its applications

- Law of demand indicates only the direction of change in quantity demanded
- It is imperative to know the extent to which quantity demanded of a good will change in response to change in price.
- Price elasticity represents the degree of responsiveness of quantity demanded of a good in response to change in its price.
- Cross elasticity is the degree of responsiveness of quantity demanded of a good to change in price of related good (Substitute/Complementary Goods)
- Income elasticity shows change in quantity demanded to change in Income.

Price elasticity of demand

- $E_p = \text{Percentage change in quantity demanded} / \text{Percentage change in price}$
- If $e_p > 1$ – Elastic
- $E_p < 1$ – Inelastic
- Unitary elastic- $e_p = 1$



Perfectly inelastic & Elastic demand

