Theory of Demand and Supply (Part 1)

Ch 3, Economics 9th Ed, R.A. Arnold
Markets

Ch. 2 was about production and trade. After production the producers (sellers) sell the goods to buyers in a market. In Ch. 3 we study, understand the market using the Theory of Demand and Supply.

**Market:** A place where buyers and sellers meet to trade (e.g. NSU cafeteria, NSU bookstore, bikroy.com, bdjobs.com, Uber App)

Buyers demand goods
And sellers supply the goods
Hence, any market has a demand side and a supply side
The first part of the chapter 3 focuses on the demand side of a market
Demand: Definition

1) The willingness and ability of buyers to purchase different quantities of a good
2) At different prices
3) During a specific period of time

e.g. Buyers may purchase 1000 cups of coffee per day when price of coffee is 20tk per cup. But buyers may consume 1500 cups per day when price is 10 tk per cup.

Note: in the above example, different quantities of a good (1000 and 1500 cups of coffee) are being purchased at different prices (20tk and 15tk) during a specific time period (per day). This is Demand.
Law of Demand

In the previous definition there were two variables:

1) Quantity of a good that buyers want (and are able to buy). This is called quantity demanded. Symbol: $Q_d$

2) Price of the good in the market. Symbol: $P$

The relationship between these two variables is called the law of demand. The relationship can be studied and represented in different ways as discussed in the next two slides. Remember: when studying the relationship between variables we need to assume ceteris paribus
Law of Demand

Four ways to represent the law:

1. In words: As the **price** \((P)\) of a good **rises**, the **quantity demanded** \((Q_d)\) of the good **falls**, and as the **price** of a good **falls**, **quantity demanded** of the good **rises**, ceteris paribus.

2. In symbols: if, \( P \uparrow \) then \( Q_d \downarrow \) and if, \( P \downarrow \) then \( Q_d \uparrow \), ceteris paribus.
3. Demand schedule: The numerical tabulation of the quantity demanded of a good at different prices (numerical representation of the law of Demand)

4. Demand curve: The graphical representation of the law of demand. Plotted or drawn using the demand schedule.
Difference between **Change In Quantity Demanded** & **A Change in Demand**

In the Theory of Demand and Supply, change in quantity demanded is not the same as change in demand.

**Change in quantity demanded** occurs when there is a change in price (variable in the graph). Change in quantity demanded is represented by a movement along the curve (see next slide).

**Change in demand** occurs when a factor other than price (outside of the graph) affects quantity demanded. Change in demand is represented by a shift in the demand curve (see next slide).
A Change in Demand Versus a Change in Quantity Demanded

(a) A change in demand refers to a shift in the demand curve. A change in demand can be brought about by a number of factors (see the exhibit and text). (b) A change in quantity demanded refers to a movement along a given demand curve. A change in quantity demanded is brought about only by a change in (a good's) own price.

A change in any of these (shift) factors can cause a change in demand:
1. Income
2. Preferences
3. Prices of related goods
4. Number of buyers
5. Expectations of future price

A change in this (movement) factor will cause a change in quantity demanded:
1. (A good's) own price
Factors Affecting Demand

1) **Income**: Income and demand can be related in three different ways.

   i) In case of some products, if the income increases, the demand increases. For example, in case of a Bangladeshi family, if income increases, then the demand for red meat increases and the demand curve shifts right [see diagram (a) of previous slide]. If the demand for a product increases with income, then it is called a normal good.

   Think about your household (family). Which are normal goods in your household?
Continued

ii) In case of most Bangladeshi households, if income increases, then the demand for local bus rides decreases and demand curve shifts left (diagram below). Therefore, local bus ride is an inferior good in Bangladesh.

iii) In some cases, a change in income might not affect the demand. For example, a change in income does not affect the demand for medicine and the demand curve does not shift. Therefore, medicine is a neutral good.
2) **Preferences:** (affected by information, advertisement)
- Change in preferences in favour of the good increases demand of the good (Ceteris Paribus)
- Change in preferences away from the good decreases demand for the good Ceteris Paribus (C.P.)

  e.g. scientists have found out fish oil is good for our brain and hearts. This information may change the preference in favour of fish. Demand for fish will increase (C.P.) and demand curve shifts right.

3) **Prices of related goods (substitutes and complements)**

  Substitute goods satisfy similar needs and wants (tea and coffee)
  Complements are consumed together (pen and paper; milk and coffee)

  If \( P(\text{coke}) \uparrow \), then \( D(\text{pepsi}) \uparrow \) (C.P.) coke and peps are substitutes
  If \( P(\text{milk}) \uparrow \), then \( D(\text{coffee}) \downarrow \) (C.P.) milk and coffee are complements
Substitutes and Complements

(a) Coca-Cola and Pepsi-Cola are substitutes. The price of one and the demand for the other are directly related. As the price of Coca-Cola rises, the demand for Pepsi-Cola increases. (b) Tennis rackets and tennis balls are complements. The price of one and the demand for the other are inversely related. As the price of tennis rackets rises, the demand for tennis balls decreases.

If Coca-Cola and Pepsi-Cola are substitutes, a higher price for Coca-Cola leads to...

If tennis rackets and tennis balls are complements, a higher price for tennis rackets leads to...

...a rightward shift in the demand curve for Pepsi-Cola.

...a leftward shift in the demand curve for tennis balls.
4) **Number of buyers**

If number of buyers ↑, then Demand ↑

Number of buyers might increase due to a higher birth rate, increased migration, etc

5) **Expectations of future prices**

If buyers expect the P to ↑ in the future, then Demand (now) ↑

If buyers expect the P to ↓ in the future, then Demand (now) ↓

e.g. If we expect that the price of rice might increase in the future, then we are likely to purchase rice now and store them for future use.

Current demand for rice increases because of future expectations.