

Economics for Managers

Session 1-2 | 06-July-2019

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Welcome and Congratulations!

Introductions

About me:

- 16 years primarily in banking (HSBC, ANZ)
 - MDI Gurgaon (2003)
 - Warwick University (2018)
- Now a freelance researcher
- **Current research:** focused on the linkages between financial sector and the macroeconomy

Best way to reach me: email

- You can email me any questions or anything else that's bothering you in your course/ career (e.g. work-life balance).

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Your expectations from the course?

Evaluation etc.

- 5 formal evaluations- 90 marks
 - 1. Surprise quiz (might do more & consider only one for grading; Multiple Choice)- 10 marks
 - 2. Group work (economic data analysis, visualization & presentation of findings)- 20 marks
 - 3. Case study analysis- 15 marks
 - 4. Group presentation- 20 marks
 - 5. Announced class test (5 essay type questions with applications of what we study)- 25 marks
- **Class participation** though not graded is **important** for me to understand what you are finding tough (& will influence my choice of number of surprise quizzes)
- This is a class where you ask questions, otherwise I will have to
- Less about the maths of economics; focus on concepts/ applications
- Readings assigned before & after every session- fun to read!

Session objectives: 1-2

- Economics in a nutshell
- Key questions in Micro vs Macro (course structure)
- Key assumptions in economics
- Basic tools of economic analysis

Economics in a nutshell

- Demand, Supply and Price
- Shapes of demand and supply curves
- Short, medium and long run
- Rational/ optimizing agents
- Relevance of Microeconomics for managers: assuming ‘other things remaining the same’
 - deals with a single market, a single firm, a single consumer etc
 - **your role:** thinking of what pricing to quote on RFP? And what to pay when your role involves purchasing?
- Relevance of Macroeconomics for managers: assuming ‘other things NOT remaining the same’
 - deals with all markets, all firms and all consumers in an economy
 - **your role:** how do economic conditions affect demand for your products? And how will depreciation of the rupee impact your revenues?

Key questions in Microeconomics

Course structure: first 15 sessions

- **1-3. Introduction to basic tools** of microeconomic analysis
 - Law of demand & law of supply
 - Why is trade good for everyone?
 - What happens when government distorts the functioning of markets?
 - What is elasticity (and its applications)?
- **4-5. Modelling Demand (Consumer Theory)**
 - How economists think about consumers preferences
 - What happens when prices change/ income changes?
 - How do taxes and subsidies lead you to under or over consume?
- **6. *Advanced Tools: What happens when basic assumptions are violated?***
Behavioural Economics
- **7-12. Modelling Supply (Producer Theory)**
 - How economists think about how firms make supply decisions
 - What makes agriculture different from airlines?
 - How can we estimate the degree of competition?
 - How do monopolies lead to higher prices?
 - **12. *Advanced Tools: Game Theory for Managers***
- **13-14. Market Failures**
 - Why does the market mechanism fail?
 - What role do incentives play?
- **15. *Advanced Tools: How do auctions work?***

Key questions in Macroeconomics

Course structure: next 15 sessions

- **16-17. Intro to key concepts** in macroeconomic analysis
 - Simplified circular flow model of an economy
 - Distinction b/w nominal & real variables
 - What is GDP & how to calculate it?
- **18-19. Aggregate Demand (AD) & Supply (AS)**
 - AS in short, medium and long run; Sticky prices
- **20. Interaction of AD & AS**
 - What are Business cycles? Expansion, boom, contraction & recession
- **21. Inflation & its impact on businesses**
 - How is inflation harmful?
- **22. Financial sector**
 - What makes banks special? (Deposit & Money Multiplier)
- **23-24. What can influence AD?**
 - Central banks via monetary policy, Governments via fiscal policy
- **25-26. Exchange Rates & International Trade**
- **27-29. Case Studies & applications**
 - Global Financial Crisis
 - NPAs in Indian banking system
 - Global Value Chains in Trade
- **30. Summary/ wrap-up**

Key Assumptions/ Propositions

Agents = Economic Decision Makers

- Agents face Trade-offs: limited resources and many 'wants'
- Agents are Rational: optimize & think at the 'Margin' when making decisions (compare marginal benefits & marginal costs)
- Representative agent vs heterogenous agents
- Decisions require comparing costs and benefits of alternatives: opportunity costs/ foregone opportunity
- Agents change their behaviour in response to the incentives they face
- Trade can make everyone better-off
- The invisible hand of markets: prices guide decision makers
- Market Failure can lead to inefficient allocation of resources: sometimes calls for govt intervention (externalities, Monopoly etc)

How would you (a consumer) think about demand?

- What all do you consume?
- What all do you produce out of these?
- What will you pay for it?
- What will induce you to buy more?
- What happens when your income increases?
- What happens when price of other goods increases?
- **What is the Consumer Surplus at a particular price?**

How would you (a producer) think about supply?

- What all do you produce?
- What will you ask for it?
- What will induce you to supply more?
- What happens when your cost of production decreases?
- What happens when price of other goods increases?
- **What is the Producer Surplus at a particular price?**

When is there an equilibrium?

- Equilibrium is defined by a price where quantity demanded equals quantity supplied i.e. the market clears.
- Excess demand & excess supply
- Gains from Trade
 - Consumer Surplus
 - Producer Surplus

Tools of economic analysis

- We use models that abstract from details
- We focus on most important determinants of economic behaviour-cause & effect
- Basic algebra & diagrams (no calculus unless you want it!)
- Common sense

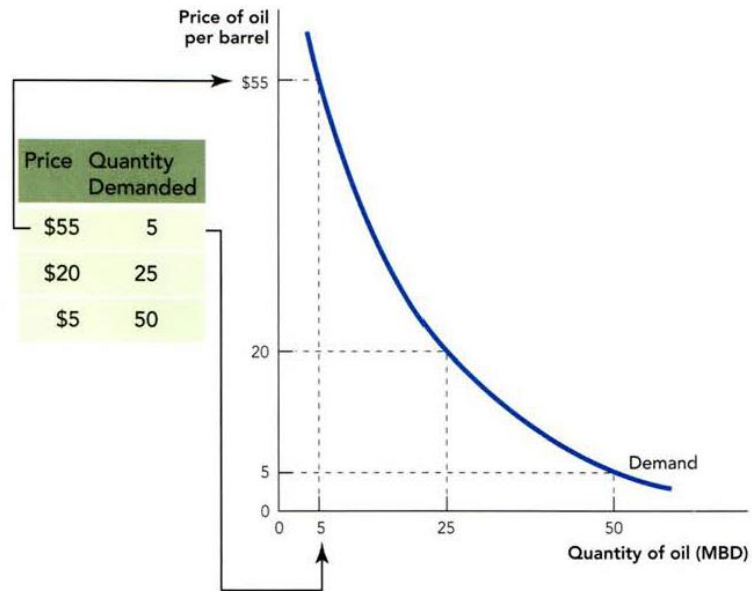
Next sessions: 3-5

- We will discuss demand & supply elasticity
- Impact of price ceilings & floors on consumer welfare
- Consumer Theory
 - Indifference Curves & Budget Constraints
 - Price change decomposed into substitution effect and income effect
- **Readings:**
 - Main- Salvatore & Rastogi: Ch: 1-3
 - Supplementary- IMF Back to Basics- Micro and Macro: The Economic Divide

Appendix 1

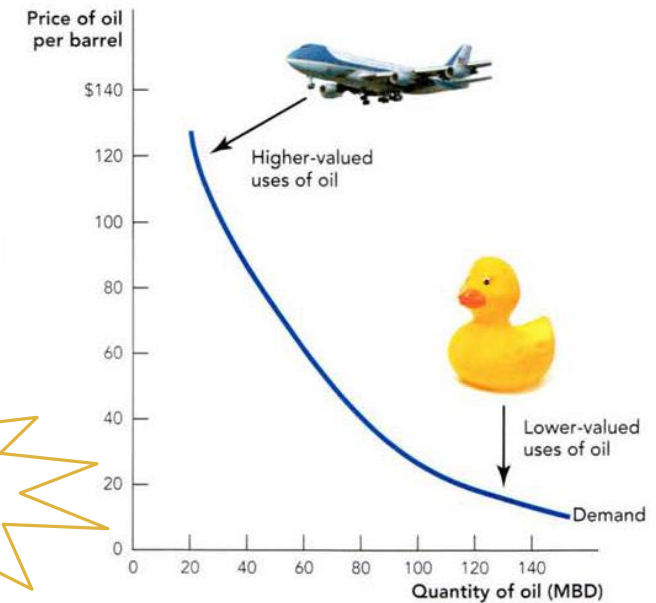
Note: This covers the Oil demand & supply example I used in class

Demand Curve for Oil



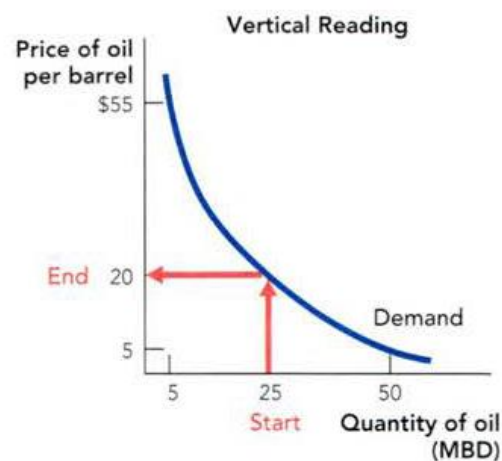
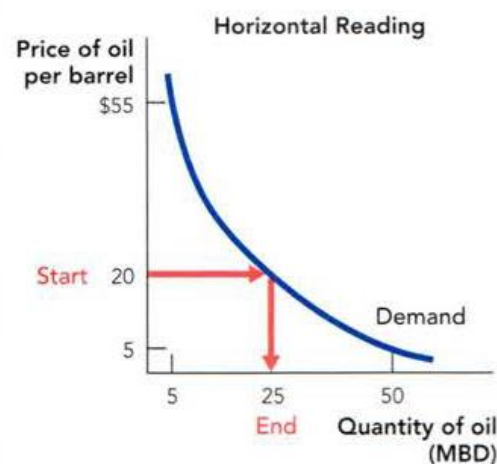
The Demand Curve for Oil Is a Function Showing the Quantity of Oil Demanded at Different Prices If the price of oil was \$55 per barrel, the quantity demanded would be 5 million barrels of oil per day. If the price was \$20 per barrel, what would the quantity demanded be?

Low-value use:
Oil used for
making toys



The Demand for Oil Depends on the Value of Oil in Different Uses When the price of oil is high, oil will only be used in its higher-valued uses. As the price of oil falls, oil will also be used in lower-valued uses.

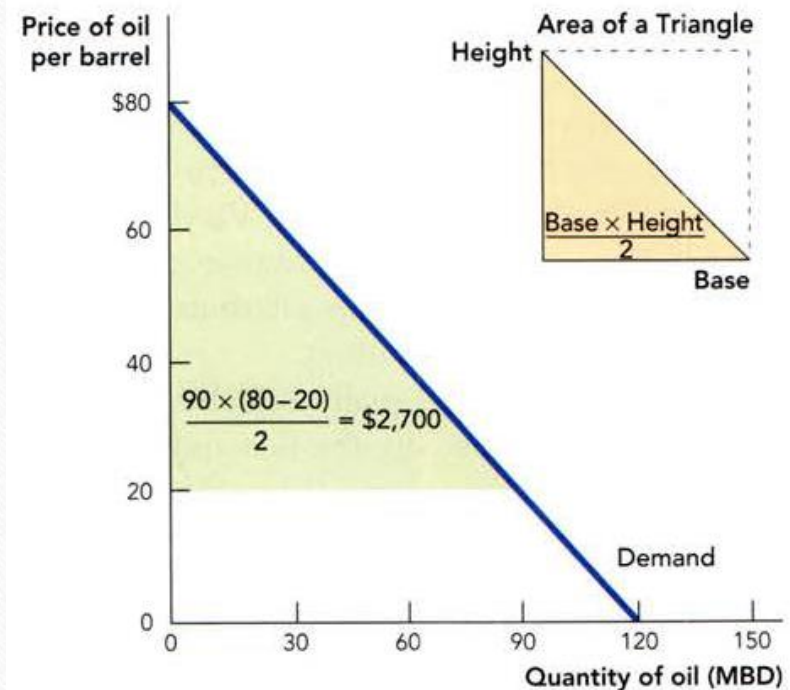
Reading a Demand Curve (left panel) & Consumer Surplus if market price = \$ 20 (right panel)



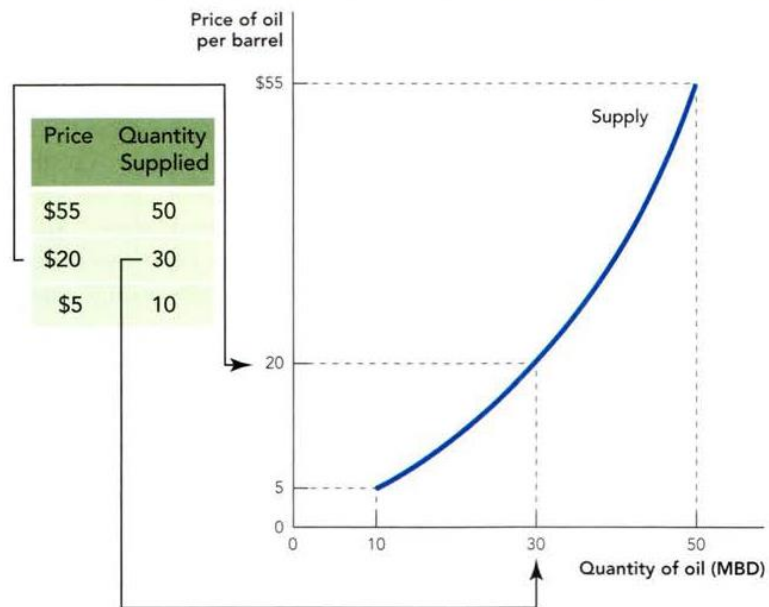
Reading a Demand Curve in Two Different Ways

Horizontal Reading: At a price of \$20 per barrel, buyers are willing to buy 25 million barrels of oil per day.

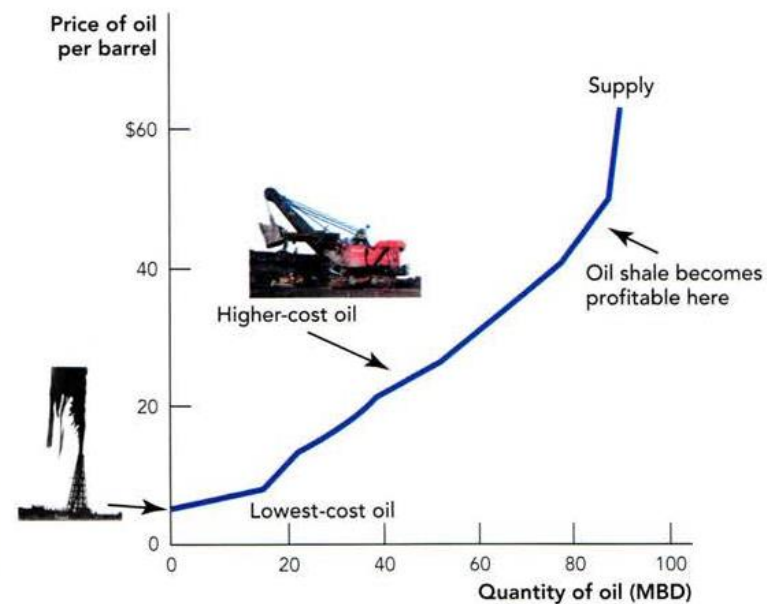
Vertical Reading: The maximum price that demanders are willing to pay to purchase 25 million barrels of oil per day is \$20 per barrel.



Supply Curve for Oil

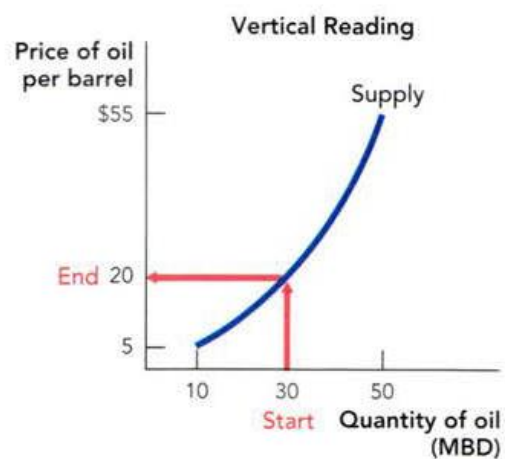
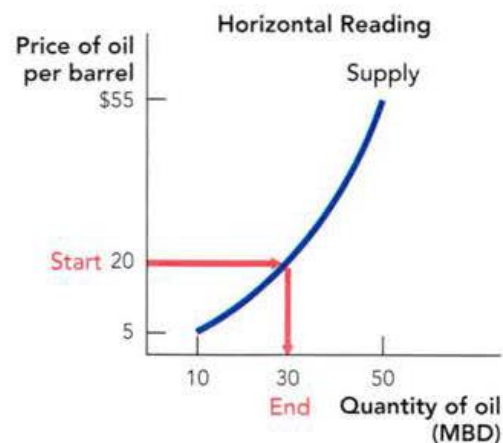


The Supply Curve for Oil Is a Function Showing the Quantity of Oil Supplied at Different Prices If the price of oil was \$20 per barrel, the quantity of oil supplied would be 30 million barrels of oil per day. How much oil would suppliers be willing and able to sell at \$55?



The Supply Curve for Oil As the price of oil rises, it becomes profitable to extract oil from more costly sources. Thus, as the price of oil rises, the quantity of oil supplied increases.

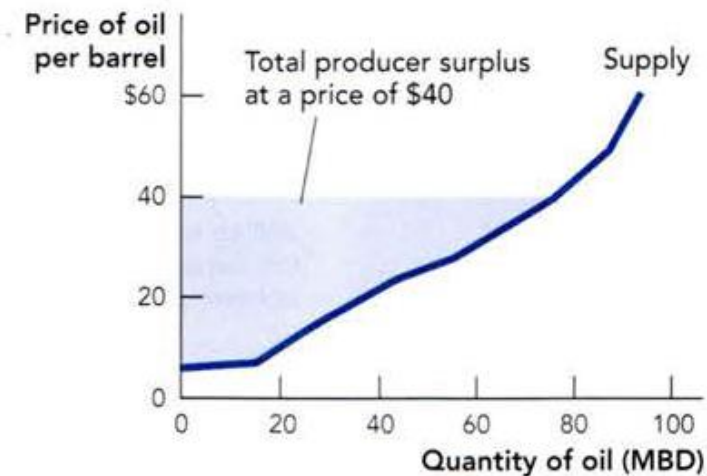
Reading a Supply Curve (left panel) & Producer Surplus if market price = \$ 40 (right panel)



Reading a Supply Curve in Two Different Ways

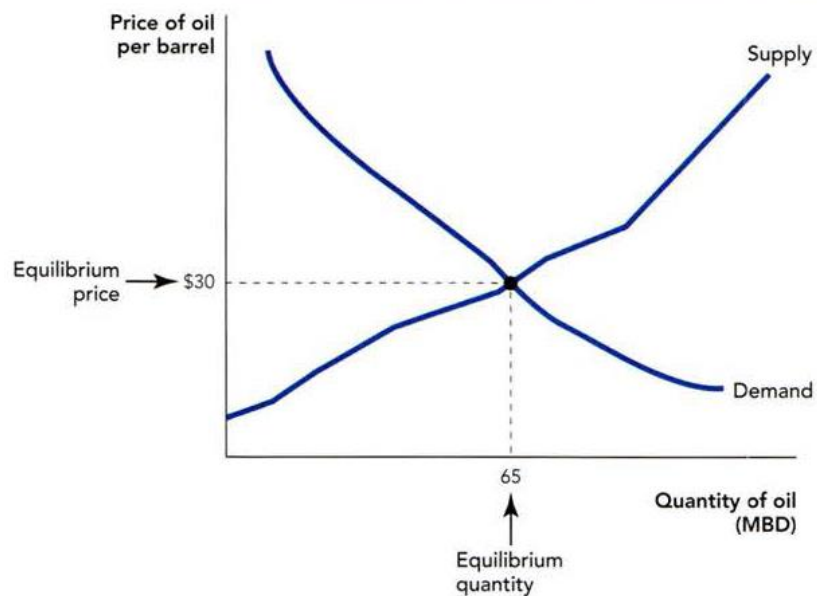
Horizontal Reading: At a price of \$20 per barrel, suppliers are willing to sell 30 million barrels of oil per day.

Vertical Reading: To produce 30 million barrels of oil a day, suppliers must be paid at least \$20 per barrel.

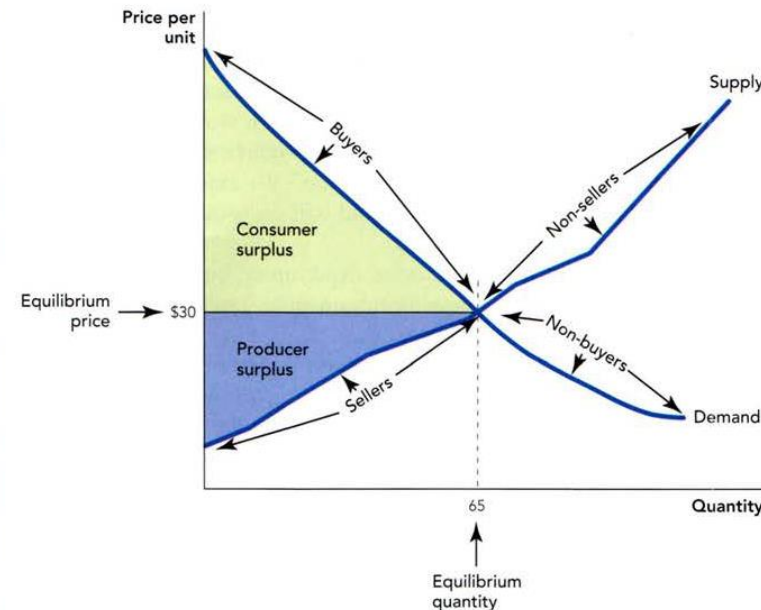


Total Producer Surplus Is the Area Above the Supply Curve and Below the Price Total producer surplus is the sum of the producer surplus of each seller, the area above the supply curve and below the price.

Equilibrium (Demand = Supply) & Gains from Trade

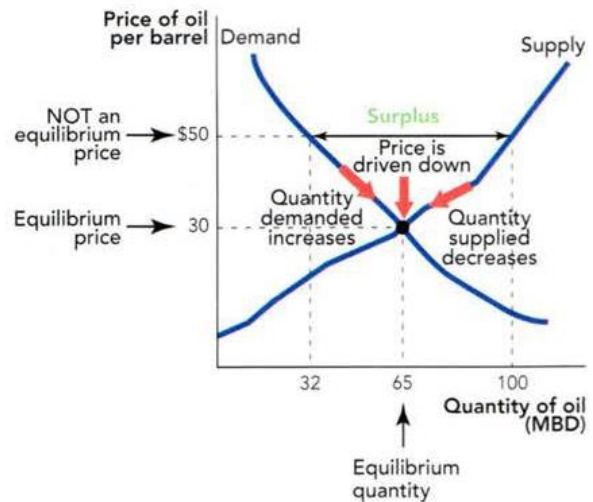


Price Is Determined by Supply and Demand Equilibrium occurs when the quantity demanded equals the quantity supplied. The quantity demanded equals the quantity supplied only when the price is \$30 and the quantity exchanged is 65; hence, \$30 is the equilibrium price and 65 the equilibrium quantity.

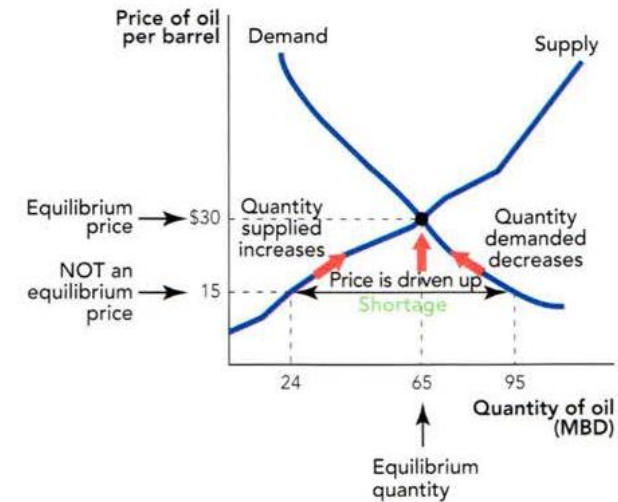


A Free Market Maximizes Producer Plus Consumer Surplus (the Gains from Trade) A free market maximizes the gains from trade because (1) buyers are willing to pay more for the good than non-buyers, (2) sellers are willing to sell the good at a lower price than non-sellers, and (3) there are no mutually profitable deals between non-sellers and non-buyers.

Excess Demand & Excess Supply



A Surplus Drives Prices Down At a price of \$50 there is a surplus of oil. When there is a surplus, sellers have an incentive to decrease their price and buyers have an incentive to offer lower prices. The price decreases until at \$30 the quantity demanded equals the quantity supplied and there is no longer an incentive for price to fall.

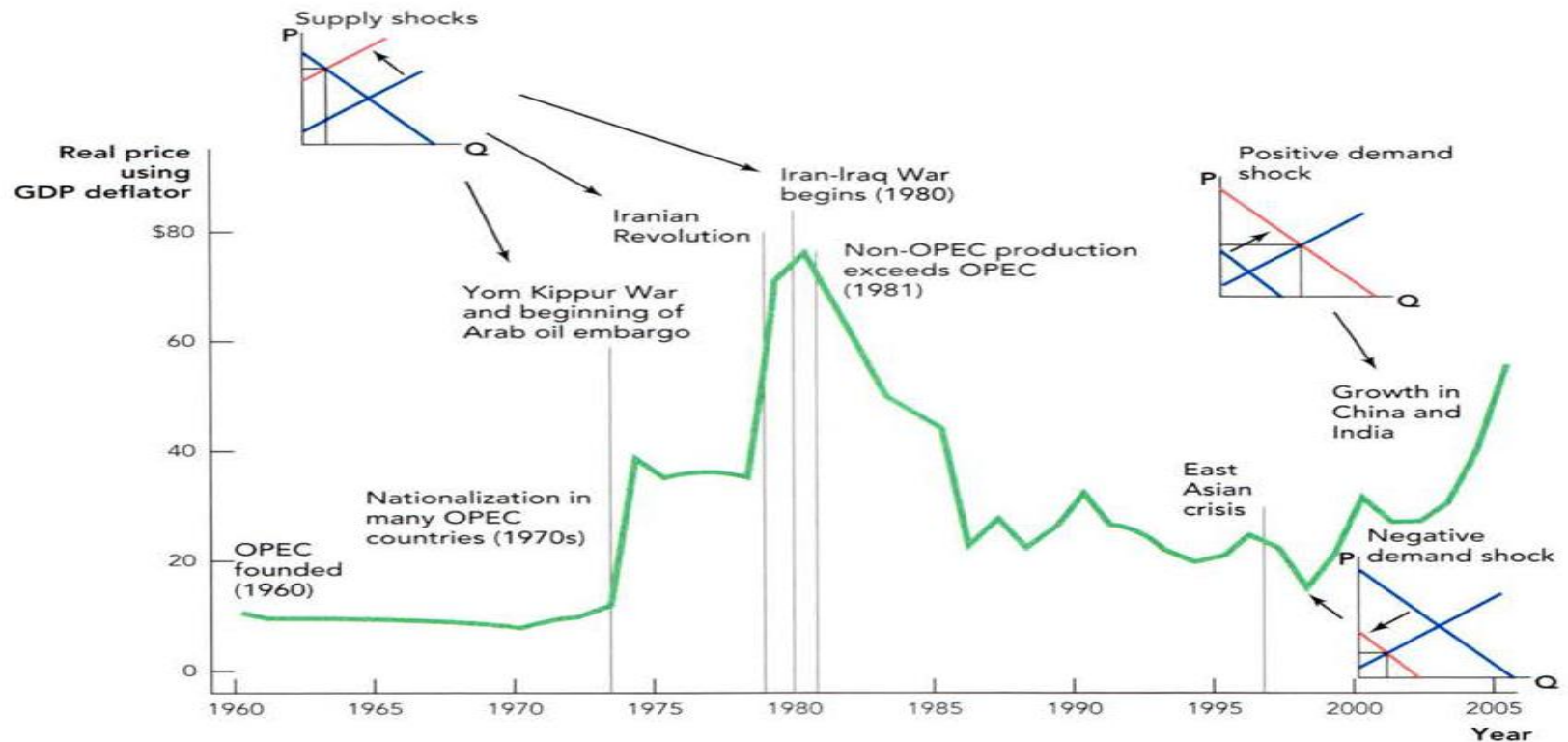


A Shortage Drives Prices Up At a price of \$15 there is a shortage of oil. When there is a shortage, sellers have an incentive to increase the price and buyers have an incentive to offer higher prices. The price increases until at \$30 the quantity supplied equals the quantity demanded and there is no longer an incentive for the price to rise.

How can we use theory of demand & supply to make sense of the world around us? (for next session)

In blue are
original
demand &
supply curves

In red are
'shifted'
demand &
supply curves



The Price of Oil, 1960–2005

Source: BP Statistical Review of World Energy, June 2006
Note: Corrected for inflation using the GDP deflator (2005 dollars).

Appendix 2

Note on these slides:

1. These are based on your textbook – Salvatore & Rastogi
2. My annotations are in red font

Chapter Two

Demand, Supply and Equilibrium Analysis

Individual Consumer's Demand

$$Qd_x = f(P_x, I, P_y, T)$$

Qd_x = quantity demanded of commodity X
by an individual per time period

P_x = price per unit of commodity X

I = consumer's income

P_y = price of related (substitute or
complementary) commodity

T = tastes of the consumer

Law of Demand

Holding all other things constant (*ceteris paribus*), there is an inverse relationship between the price of a good and the quantity of the good demanded per time period.

- Substitution Effect
- Income Effect

$$Qd_X = f(P_X, I, P_Y, T)$$

$\Delta Qd_X / \Delta P_X < 0$ (consider P_X & Qd_X only- all else constant)

$\Delta Qd_X / \Delta I > 0$ if a good is normal (eg. cars)

$\Delta Qd_X / \Delta I < 0$ if a good is inferior (eg. entry-level bikes)

$\Delta Qd_X / \Delta P_Y > 0$ if X and Y are substitutes (eg. Pepsi and Coke)

$\Delta Qd_X / \Delta P_Y < 0$ if X and Y are complements (eg. printers & cartridges)

Demand Schedule and Demand Curve

- **Demand Schedule:** a table showing the quantity of a commodity that a consumer is willing to purchase over a given period of time at each price of the commodity, while holding constant all other relevant economic variables on which demand depends.
- **Demand Curve:** A negatively-sloped curve showing the various price-quantity combinations given by the demand schedule.

TABLE 2-1 An Individual's Demand Schedule for Commodity X

Price of commodity X per unit (P_X)	₹2	₹1	₹0.50
Quantity demanded of X per time period (Qd_X)	1	3	4.5

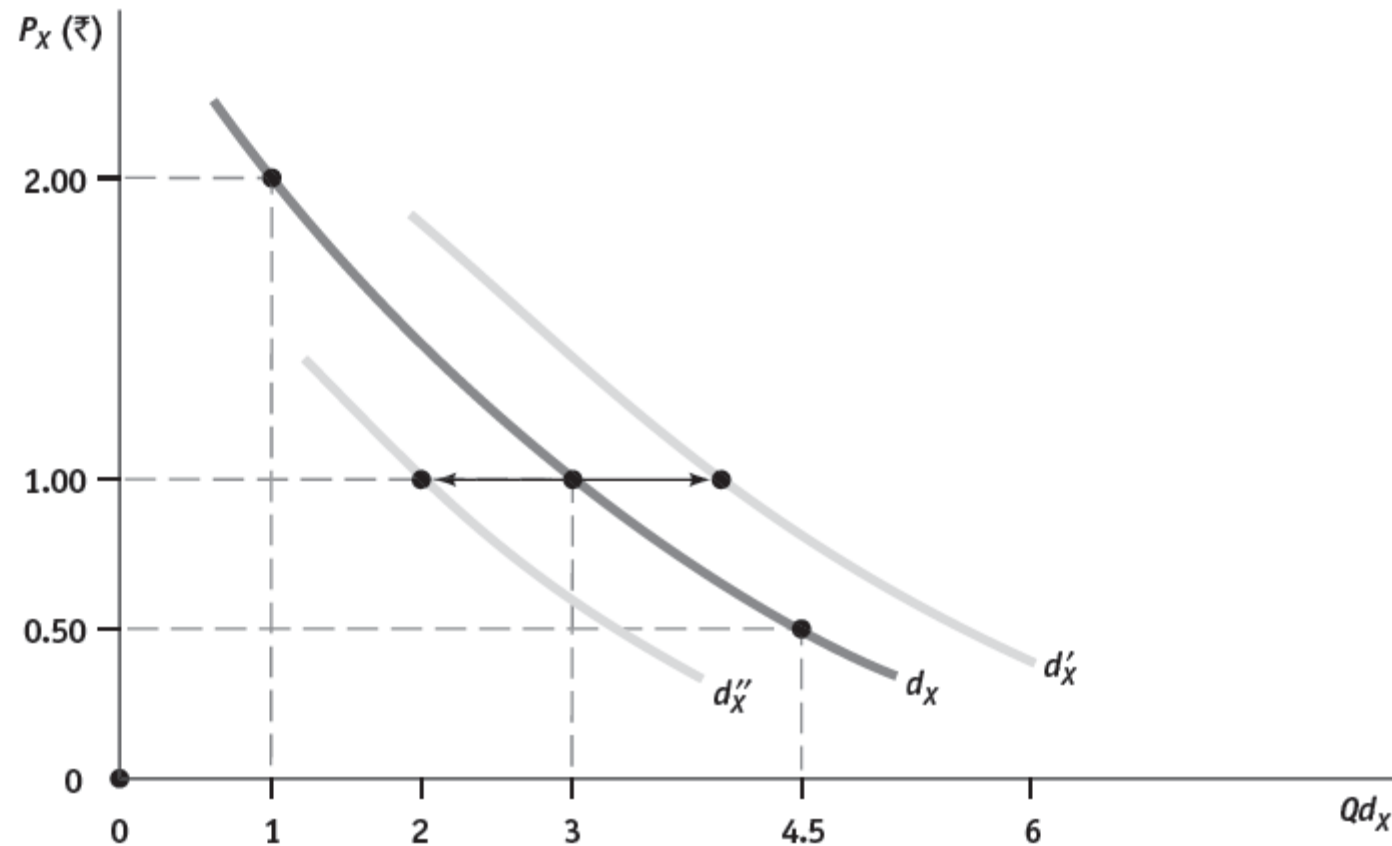


FIGURE 2-1 An Individual's Demand Curve for Commodity X At the price of ₹2, the individual purchases 1 unit of the commodity per time period. At $P_X = ₹1$, the individual purchases 3 units of X , and at $P_X = ₹0.50$, $Qd_X = 4.5$. The inverse relationship between P_X and Qd_X (negative slope of d_X) is called the "law of demand." d_X shifts to the right, say, to d'_X , with an increase in the consumer's income, in the price of a substitute commodity, in tastes for the commodity, and with a reduction in the price of a complementary commodity. d_X shifts to the left, say, to d''_X , with the opposite changes.

Components of Demand: The Substitution Effect

- Assuming that *real income* is constant:
 - If the *relative price* of a good rises, then consumers will try to substitute away from the good. Less will be purchased.
 - If the *relative price* of a good falls, then consumers will try to substitute away from other goods. More will be purchased.
- The substitution effect is consistent with the law of demand.

Components of Demand: The Income Effect

- The *real value* of income is inversely related to the prices of goods.
- A change in the real value of income: (normal & inferior goods to be discussed in next session)
 - will have a direct effect on quantity demanded if a good is normal.
 - will have an inverse effect on quantity demanded if a good is inferior.
- The income effect is consistent with the law of demand only if a good is normal.

Market

- **Market:** an institutional arrangement under which buyers and sellers can exchange some quantity of a good or service at a mutually agreeable price.
- **Perfectly competitive market:** market in which there are so many buyers and sellers of a product that each of them cannot affect the price of the product, all units of the product are homogeneous or identical, resources are mobile, and knowledge of the market is perfect.

Market Demand Schedule

- A **market demand schedule** is a table showing the quantity of a commodity that consumers are willing and able to purchase over a given period of time at each price of the commodity,
- while holding constant all other relevant economic variables on which demand depends (the *ceteris paribus* assumption).
- Among the variables held constant are consumers' incomes, their tastes, the prices of related commodities (substitutes and complements), and the number of consumers in the market.

Market Demand Schedule

TABLE 2-2 Market Demand Schedule for Brown Bread

Price per Packet of Brown Bread (₹)	Quantity Demanded per Day (million packets)
20	2
15	4
10	6
7.5	7
5	8

Market Demand Curve

- Horizontal summation of demand curves of individual consumers

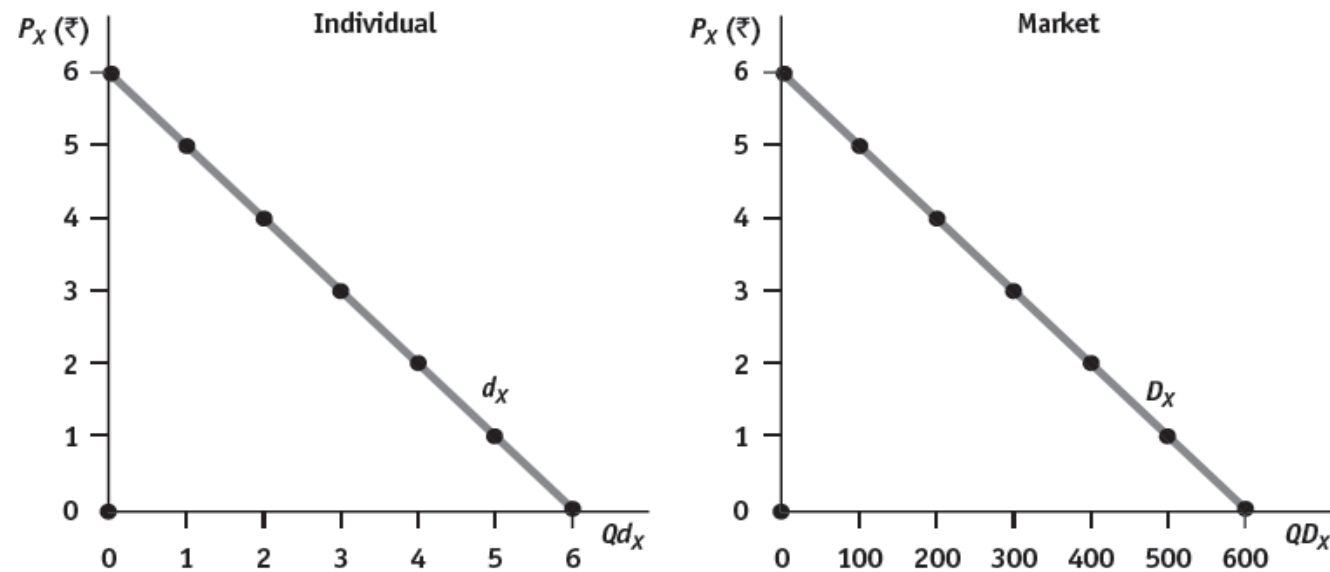
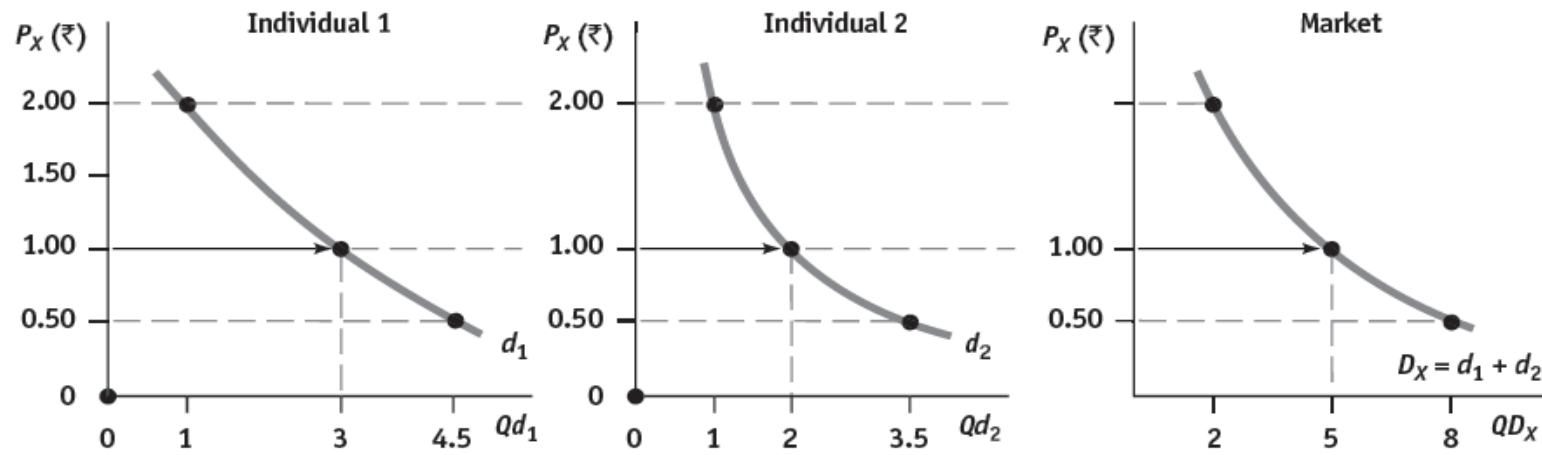


FIGURE 2-4 From Individual to Market Demand The top part of the figure shows that the market demand curve for the commodity, D_X , is obtained from the horizontal summation of the demand curve of individual 1 (d_1) and individual 2 (d_2). The bottom part of the figure shows an individual's demand curve, d_x , and the market demand curve, D_X , on the assumption that there are 100 individuals in the market with demand curves identical to d_x .

Changes in Demand

The entire demand curve for a commodity would shift with a change in

- 1) Consumers' incomes,
- 2) Consumers' tastes,
- 3) The price of related commodities,
- 4) The number of consumers in the market, or in any other variable held constant in drawing a market demand curve.

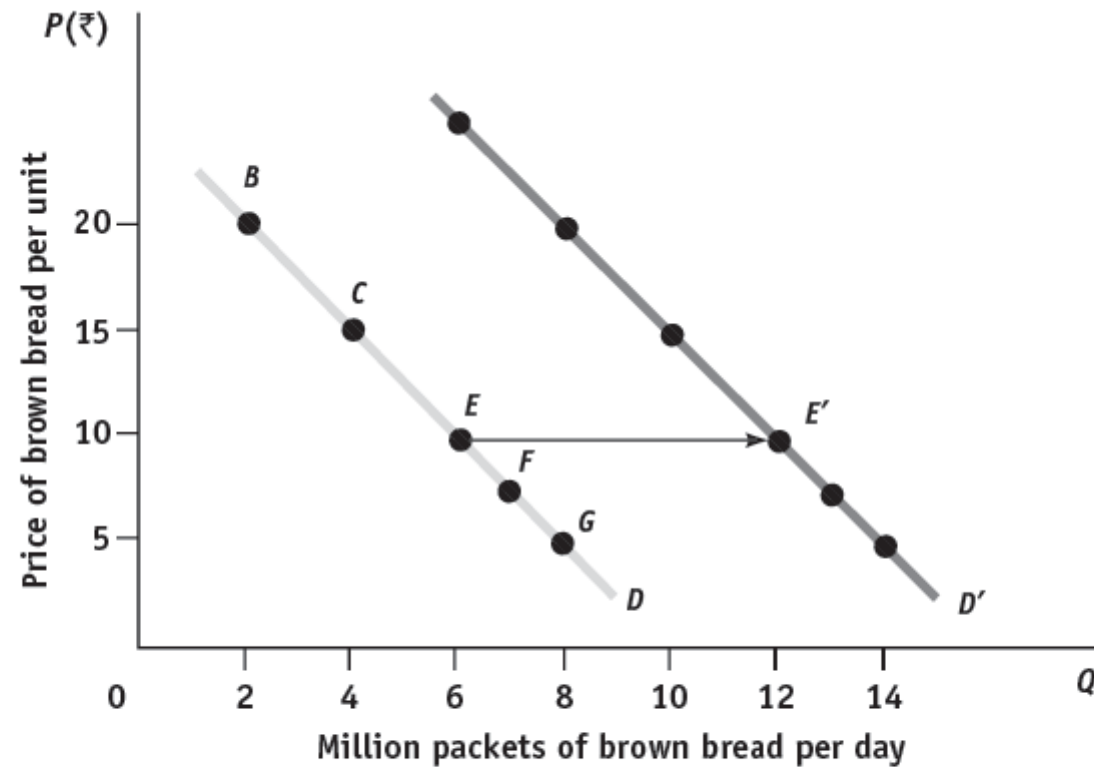


FIGURE 2-3 Change in Demand for Brown Bread Consumers demand more packets of brown bread at each price when the demand curve shifts to the right from D to D' . Thus, at $P = ₹10$, consumers purchase 12 million packets of brown bread with D' instead of only 6 million with D .

Market Supply

- **Market Supply Schedule:** a table showing the quantity supplied of a commodity at each price for a given period of time.
- **Market Supply Curve:** A positively-sloped curve showing the various price-quantity combinations given by the market supply schedule.

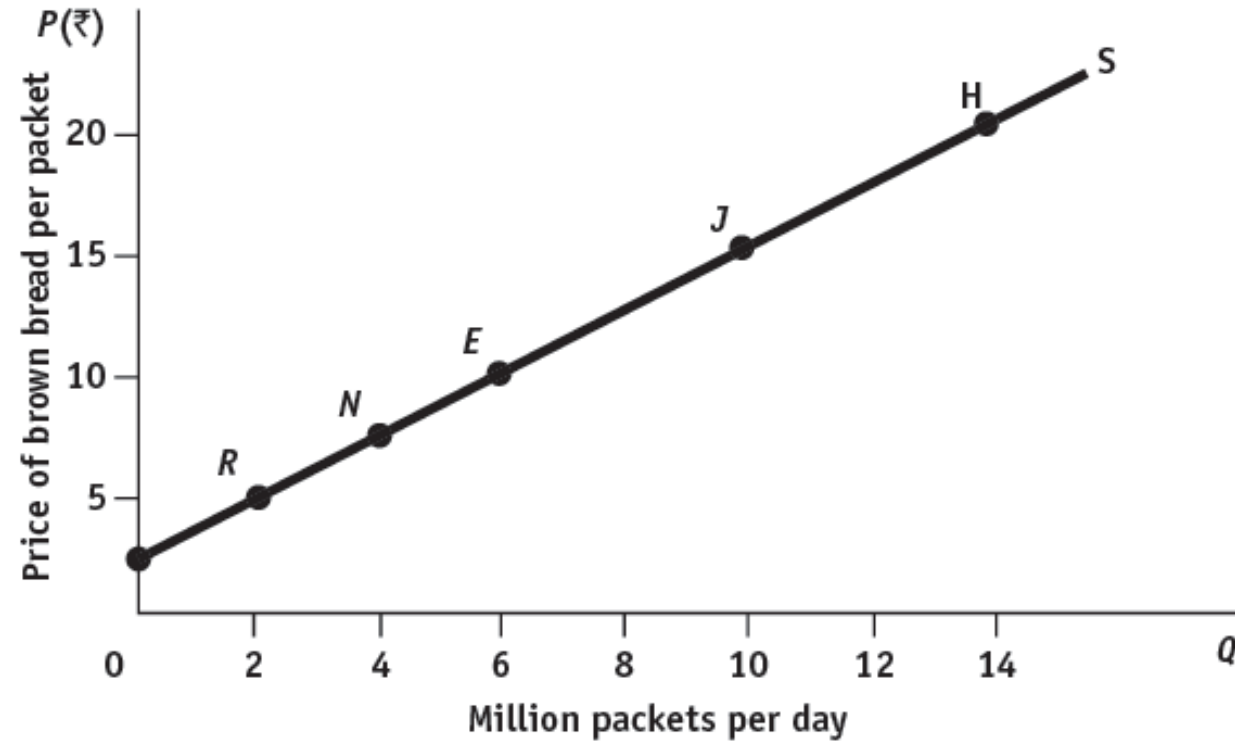


FIGURE 2-10 Market Supply Curve for Brown Bread Market supply curve S shows that higher prices induce producers to supply greater quantities.

Changes in Supply

Examples of things that could shift the supply curve:

- 1) An improvement in technology,
- 2) A reduction in the price of resources used in the production of the commodity,
- 3) For agricultural commodities, more favorable weather conditions.

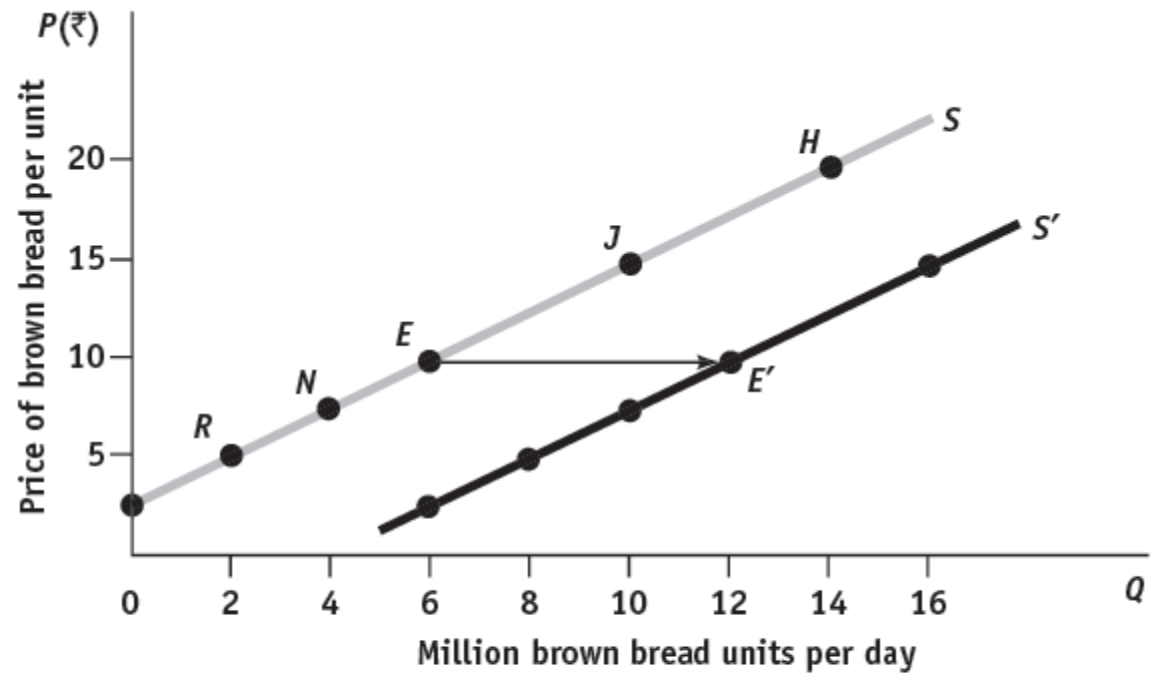


FIGURE 2-11 Change in the Supply of Brown Bread When the supply curve shifts to the right from S to S' , producers supply more packets of brown bread at each price. Thus, at $P = ₹10$, producers supply 12 million packets of brown bread with S' instead of only 6 million with S .

Market Equilibrium

- **Equilibrium Price of a Commodity:** the price at which the quantity demanded of the commodity equals the quantity supplied and the market clears.
- **Surplus:** occurs when the quantity supplied exceeds the quantity demanded.
- **Shortage:** occurs when the quantity demanded exceeds the quantity supplied.

TABLE 2-4 Market Supply Schedule, Market Demand Schedule, and Equilibrium for Brown Bread

Price per Packet of brown bread (₹)	Quantity Supplied per Day (million packets)	Quantity Demanded per Day (million packets)	Surplus (+) or Shortage (–)	Pressure on Price
20	14	2	12	↓ Downward
15	10	4	6	↓ Downward
10	6	6	0	Equilibrium
7.5	4	7	–3	↑ Upward
5	2	8	–6	↑ Upward

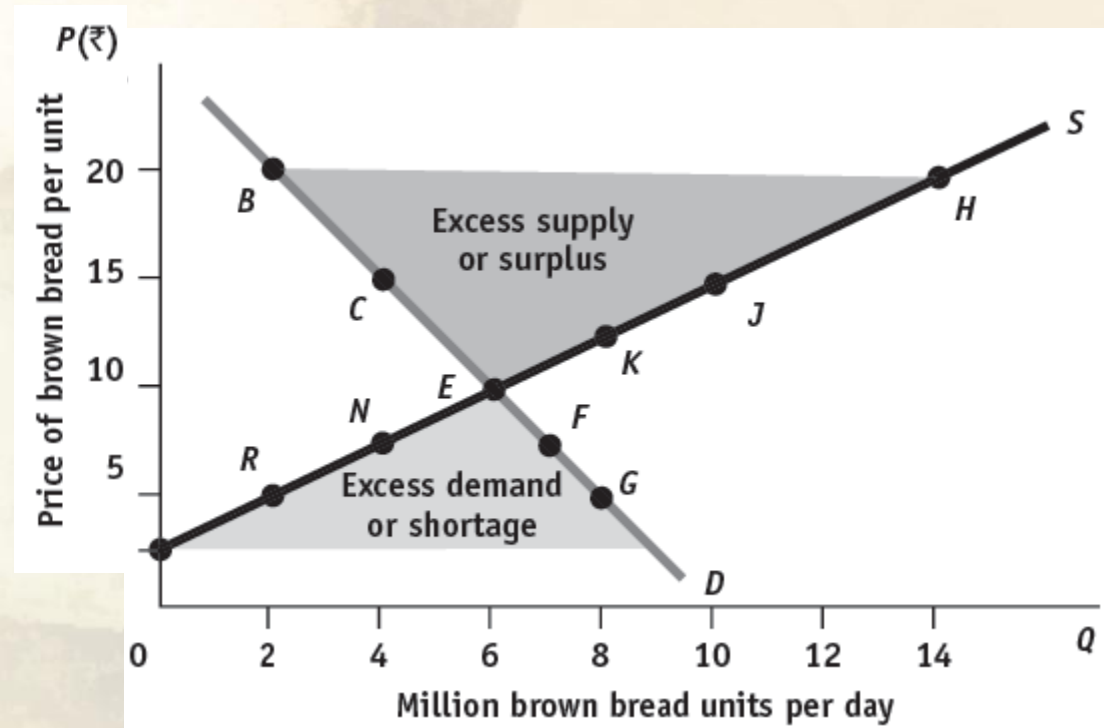


FIGURE 2-12 Demand, Supply, and Equilibrium The intersection of D and S at point E defines the equilibrium price of ₹10 per packet of brown bread and the equilibrium quantity of 6 million packets per day. At P greater than ₹10, the resulting surplus will drive P down toward equilibrium. At P smaller than ₹10, the resulting shortage will drive P up toward equilibrium.

The Algebra of Demand, Supply, and Equilibrium (to be discussed in the next session)

- If $Q_D = 10 - 4P$ and $Q_S = -2 + 8P$, then to find the equilibrium price and quantity, set
- $Q_D = Q_S$ to get: $10 - 4P = -2 + 8P$ and so
- $P = \$1$
- Substitute this into either Q_D or Q_S to get $Q = 6$.

Appendix: Shifts in Demand and Supply

- A shift from D to D' can be represented by $D' = 16 - 4P$. Find the equilibrium price the same way, by setting:
- $Q_{D'} = Q_S$ to get: $16 - 4P = -2 + 8P$ to get:
- $P = \$1.50$ and $Q = 10$
- A shift in supply can be done in a similar manner.