9 The Price Puzzle: What Drives the Market

The Big Questions (Page - 195)

1. What are the factors that influence the demand for and supply of goods and services in a market?

Ans. The demand and supply of goods and services are influenced by several factors.

Factors influencing demand:

- **Price of the good:** When price rises, demand generally falls; when price falls, demand generally rises.
- **Income of consumers:** Higher income generally increases the demand for many goods.
- **Price of related goods:** These include substitute goods and complementary goods.
- **Taste and preferences:** People's likes and choices affect demand.
- **Seasonality:** Weather, festivals and seasons can change demand.
- **Future price expectations:** People may buy more today if they expect prices to rise in the future.
- **Population:** The size and composition of the population affect demand.

Factors influencing supply:

- **Price of the good:** Higher prices generally encourage sellers to supply more.
- **Price of related goods:** Producers may shift towards goods that are more profitable.
- **Number of sellers:** More sellers generally increase market supply.
- **Technology:** Better technology can reduce production costs and increase supply.
- **Future expectations:** Producers may increase or hold back supply depending on expected future prices and demand.
- **Input costs, weather and other conditions:** These can increase or reduce supply.

2. How are prices of goods and services determined through demand and supply interactions?

Ans. Prices are determined by the interaction between demand and supply.

- When **demand** is **greater** than **supply**, there is a shortage, and prices tend to rise.
- When **supply** is **greater** than **demand**, there is a surplus, and prices tend to fall.
- When **quantity demanded** equals quantity supplied, the market reaches equilibrium.

Thus, buyers and sellers continuously interact in the market, causing prices to adjust according to changing demand and supply.

- **Example**: If mangoes are scarce but many people want to buy them, their price rises. When more mangoes become available, the price may fall.

3. What is market equilibrium, and does it exist in the real world?

Ans. Market equilibrium is the point where the quantity demanded equals the quantity supplied. At this point, there is neither a shortage nor a surplus, so there is no immediate pressure for the price to change. However, in the real world, equilibrium is not permanently fixed. Markets are dynamic and conditions keep changing because of:

- Weather and natural disasters
- Changes in technology
- Changes in income
- Wages and interest rates
- Wars and political events
- Pandemics
- Changes in trends and consumer preferences

Therefore, markets are constantly adjusting towards a new equilibrium rather than remaining at one fixed equilibrium.

- **In short:** Equilibrium exists as a useful concept, but in real life it keeps changing.

4. How and why does the government intervene in the market?

Ans. The government intervenes when markets do not produce fair or desirable outcomes.

The main reasons are:

- **To protect consumers and producers:** The government regulates unfair practices and may control prices of essential goods.
- **To make essential goods affordable:** A price ceiling may be used to prevent sellers from charging excessively high prices for essential goods such as medicines.
- **To protect workers:** The government can set a minimum wage, which acts as a price floor.
- **To control monopolies:** The government regulates markets where a single or a few sellers may charge high prices or restrict supply.
- **To provide public goods:** The government provides goods and services such as roads, bridges, public parks, streetlights, sanitation and national defence because these may not be adequately provided by private businesses.

However, excessive government intervention can also cause problems, such as reduced production, compliance burdens and less incentive for innovation. Therefore, government intervention should be careful and balanced.

LET'S EXPLORE (Page - 200)

- **Create your own demand schedule for buying notebooks at different prices. At what price would you buy the most? At what price would you stop buying altogether? What could be the reason behind your choices?**

Ans.

- **At what price would you buy the most? -** I would buy the most notebooks at ₹10, because the price is lowest and I can afford to buy more.
- **At what price would you stop buying altogether? -** I would stop buying if the price were ₹150 or more per notebook, because it would be too expensive for me.

Price of Notebook	Quantity I would buy
₹100	1 notebook
₹80	2 notebooks
₹60	3 notebooks
₹40	4 notebooks
₹20	6 notebooks
₹10	8 notebooks

Reason for my choices: My choices are mainly based on my budget and need for notebooks. When the price falls, I can afford to buy more notebooks. When the price becomes very high, I would reduce my purchase or stop buying altogether. This shows the Law of Demand—as price falls, quantity demanded generally rises.

- **Ask your family members if they postponed or advanced buying any product because of future expectations of changes in price?**

Ans. I asked my family members whether they had changed the timing of a purchase because they expected prices to change in the future. One family member said that they advanced the purchase of a mobile phone because they expected its price to increase. Another family member said that they postponed buying a household appliance because they expected a festival discount and a lower price in the future.
This shows that future price expectations can affect present demand. If people expect prices to rise, they may buy earlier. If they expect prices to fall, they may postpone their purchases.
Key point to remember:

- Expected price rise → buy now → present demand increases.
- Expected price fall → postpone buying → present demand decreases.

LET'S EXPLORE (Page - 203)
What happens to the supply of a product in case of a change in the cost of inputs, discovery of an alternate input, depletion of resources, change in weather, disaster, etc.? Discuss in class using examples of diverse goods and services.
Ans. Changes in the cost of inputs, technology, weather and availability of resources affect the supply of goods and services.

- **Increase in input costs:** Supply decreases because production becomes expensive.
  - **Example**: If the price of fertilisers increases, farmers may produce fewer crops.
- **Discovery of an alternative input:** Supply may increase because production becomes cheaper or easier.
  - **Example**: If a cheaper raw material is discovered for making notebooks, manufacturers can produce more notebooks.
- **Depletion of resources:** Supply decreases when resources become scarce.
  - **Example**: If coal reserves decrease, the supply of electricity produced using coal may fall.
- **Change in weather:** Good weather can increase supply, while bad weather can reduce it.
  - **Example**: Good rainfall can increase the supply of crops, while drought can reduce it.
- **Natural disasters:** Supply decreases because production and transportation may be disrupted.
  - **Example**: Floods can damage crops and reduce the supply of vegetables.

In short: Lower production costs and favourable conditions increase supply, while higher costs and unfavourable conditions decrease supply.

LET'S ANALYSE (Page - 204)

- **Using data from Table 9.3, plot the demand and supply curve at the three prices, i.e., ₹40, ₹100, and ₹150. Identify and mark excess demand and supply on the graph. Think about how equilibrium could be reached in these scenarios.**

Table 9.3

Price (₹)	Quantity demanded (Qd) of Mangoes (in kg)	Quantity supplied (Qs) of Mangoes (in kg)	Quantity Supplied and Quantity Demanded	Outcome
40	38	6	Qs<Qd	Excess Demand
100	12	12	Qs= Qd	Market Equilibrium
150	8	43	Qs > Qd	Excess Supply
Equilibrium Price = ₹ 100		Equilibrium Quantity = 12 kg		

Ans. According to Table 9.3:

- At ₹40, the quantity demanded is 38 kg and the quantity supplied is 6 kg. Therefore, there is an excess demand of 32 kg.
- At ₹100, the quantity demanded and quantity supplied are both 12 kg. Hence, the market is in equilibrium.
- At ₹150, the quantity demanded is 8 kg, while the quantity supplied is 43 kg. Therefore, there is an excess supply of 35 kg.

Thus, the market reaches equilibrium at ₹100, where the quantity demanded is equal to the quantity supplied at 12 kg.

THINK ABOUT IT (Page - 205)

Can you think of another real-life example (other than hotels) where prices change frequently? Explain why the prices keep changing.

Our choices today affect future resources. For example, high demand for fast fashion, overfishing and overuse of groundwater can harm future supply. So, should we focus only on short-term gains, or also think about long-term sustainability? How could this affect the market equilibrium?

Ans.

- **Example of a product whose price changes frequently:** The price of vegetables changes frequently. This is because their prices depend on demand and supply. For example, if heavy rainfall damages crops, the supply of vegetables decreases and their prices increase. When the supply increases, prices may fall.

- **Short-term gains and long-term sustainability:** We should not focus only on short-term gains. We should also think about long-term sustainability. Overuse of resources such as water, fish and forests can reduce their availability in the future.

When resources become scarce, supply decreases. If demand remains high, prices may increase and the market may reach a new equilibrium. Therefore, we should use resources wisely to maintain supply for the future.

- **Remember the key idea —** Overuse of resources → Decrease in future supply → Increase in prices → New market equilibrium.

THINK ABOUT IT (Page - 206)

Have you ever seen or heard of the government fixing prices or wages (for example, bus fares, medicines, or minimum wages)? Share an example and why you think it was done.

Ans. Yes, the government fixes minimum wages for workers. For example, a worker must be paid at least the minimum wage fixed by the government.

This is done to protect workers from exploitation, ensure fair wages, and provide them with a basic standard of living.

- **Example**: If the government fixes a minimum wage of ₹500 per day, an employer cannot legally pay a worker less than ₹500 for that day's work.

This is an example of a price floor, where the government sets a minimum price for labour.

THINK ABOUT IT (Page - 207)

- **During COVID-19, the demand for sanitisers surged, leading to stockouts and sharp price increases. Some shopkeepers began hoarding and black-marketing. The government intervened by declaring sanitisers essential commodities under the Essential Commodities Act, 1955, capping the maximum retail price at ₹100 for 200 ml bottles. Meanwhile, many companies started production, and sanitisers soon became widely available at fair prices. How do such price controls affect suppliers and consumers? While in this case the price control was for an emergency, do you think such controls should be in practice forever?**

Ans. Price controls help consumers by keeping essential goods affordable and preventing overcharging. However, they may reduce the profit of suppliers and discourage them from supplying more if the fixed price is too low.

In the case of sanitisers, the price control was useful during the COVID-19 emergency because it helped prevent hoarding and black-marketing.

Such controls should not be used forever. They should mainly be used during emergencies or when essential goods become too expensive or scarce.

LET'S EXPLORE (Page - 207)

From your surroundings, list two goods or services that are provided by the government (for example: roads, streetlights, parks, police, and so on.). Choose one of the goods you listed and answer:

- **Who does benefit from it?**
- **Why would it be difficult for a private company to provide this service on its own?**
- **Imagine the government stops providing this good or service, what problems might people in your area face?**

Ans. Two goods/services provided by the government:

- Roads
- Streetlights

Chosen service: Streetlights

- **Who benefits from it? -** Everyone in the area, including pedestrians, drivers and shopkeepers, benefits from streetlights.
- **Why is it difficult for a private company to provide it? -** It would be difficult because streetlights are used by everyone, and it is not easy to charge each person for using them.
- **What if the government stops providing it? -** The area may become dark at night, increasing the risk of accidents, theft and other safety problems.

LET'S RECALL (Page - 208)

- **In the chapter 'Democracy', you have read that a democratic government is accountable to the people and is expected to act in their interest.**

According to you, how should a democratic government decide when and how much it should intervene in markets to protect people's welfare?

Ans. A democratic government should intervene in markets when necessary to protect people's welfare, prevent unfair practices, and ensure that essential goods and services remain affordable and accessible. It should intervene only as much as needed and maintain a balance between the interests of consumers, producers and workers.

- **In short:** The government should intervene when the market fails to protect public welfare, but avoid unnecessary control.

- **Whose voices should a democratic government consider while making such decisions—consumers, producers, workers, or others? Why?**

Ans. A democratic government should consider the voices of consumers, producers, workers and other affected people. This is because each group has different needs and interests. Consumers need affordable goods, producers need fair returns, and workers need fair wages and safe working conditions.
Therefore, the government should consider the views of all groups and make decisions in the larger public interest.

Question - Answers (Page - 210-211)

1. **An increase in income always leads to a rise in demand for goods. Defend or refute, giving reasons for the same.**

Ans. The statement is not always true.
Generally, when a person's income increases, their purchasing power also increases. They may buy more goods or choose better-quality products. Therefore, demand for many goods increases.
However, demand also depends on other factors such as:

- Taste and preferences
- Prices of related goods
- Season
- Future expectations
- Population and its composition

For example, if a person's income increases but they do not like a particular product, their demand for it may not increase.
Therefore, an increase in income generally increases demand for many goods, but it does not always lead to an increase in demand for every good.

2. **If petrol prices double, what happens to:**

(a) Demand for diesel cars
Ans. The demand for diesel cars is likely to increase, because consumers may look for alternatives to petrol cars to reduce their fuel expenses.
(b) Demand for electric cars
Ans. The demand for electric cars is likely to increase significantly, because electric cars can become a more attractive alternative when petrol becomes expensive.
(c) Demand for car accessories
Ans. The demand for car accessories may decrease, because people may reduce their use or purchase of cars due to higher running costs.
(d) Demand for public transport
Ans. The demand for public transport is likely to increase, as people may shift from private vehicles to buses, trains and other public transport to save money.

- **Concept:** Diesel cars and electric cars can act as alternatives to petrol cars. A change in the price of one good can therefore affect the demand for related goods.

3. **A farmer traditionally irrigates fields manually (labour-intensive). He installs drip irrigation (a technology upgrade) that reduces water use by 40 per cent and increases yield by 30 per cent. How does this affect**
   a. His cost of production
   b. His willingness to supply at different prices
   c. The overall market supply if many farmers adopt this technology

Ans.

a. **His cost of production -** His cost of production is likely to decrease, because drip irrigation reduces water use and can make production more efficient.
b. **His willingness to supply at different prices -** His willingness to supply is likely to increase. Since the technology reduces costs and increases yield, the farmer can produce more profitably and supply a greater quantity at different prices.
c. **Overall market supply if many farmers adopt this technology -** The overall market supply will increase because many farmers will be able to produce more at lower production costs.

Thus, improvement in technology can increase supply.

4. During online festival sales, the prices of many products are very low. Use the concept of demand and supply to explain why the sellers sell at such a low price. What happens to the equilibrium when the price is lowered? Does this benefit only consumers or sellers as well? Explain.

Ans. During online festival sales, sellers often reduce prices to attract more customers and increase sales. Discounts can encourage consumers to buy larger quantities.

When the price is lowered:

- Quantity demanded increases.
- Sellers may sell more products because more consumers are willing to buy.
- The market may move towards a new equilibrium as demand and supply adjust.

Festival discounts can benefit both consumers and sellers. Consumers benefit from lower prices, while sellers can benefit from higher sales volume, attracting new customers and increasing revenue.

Therefore, a lower price does not necessarily benefit only consumers; sellers may also gain through increased sales.

5. Suppose the government sets a maximum sale price for an essential vaccine below the market-driven price. What is likely to happen? Choose from the options below and elucidate your point.

a. Surplus **b. Shortage** **c. No effect** **d. Fall in demand**

Ans. (b) Shortage

If the government fixes a maximum price below the market equilibrium price, the price becomes artificially low.

At this low price:

- Consumers will demand more vaccines.
- Producers may be less willing to supply them because their returns are lower.

Therefore, quantity demanded becomes greater than quantity supplied. This creates a shortage.

6. The government levies higher taxes on products such as tobacco and alcohol to promote healthier choices among citizens. Can you find out other goods where price controls have been set in place? What are the reasons for the same?

Ans. Yes. The government may regulate prices of essential goods and services, such as medicines and certain essential commodities. The main reasons are:

- To prevent excessive prices.
- To protect consumers, especially low-income groups.
- To make essential goods accessible to people.
- To prevent unfair trade practices.
- To protect consumer welfare.

For example, during the COVID-19 pandemic, the government placed a maximum retail price on certain sanitiser bottles to prevent overcharging and ensure availability at fair prices.

7. Can excessive government regulation hurt markets? Explain with suitable examples.

Ans. Yes. Excessive government regulation can hurt markets if it reduces the incentives of producers and businesses. Some effects are:

- **Reduced production:** If prices are fixed below the market level, producers may earn less and reduce production. This can cause shortages.
- **Compliance burden:** Too many licences, permits and regulations increase the time and cost of running a business, especially for small businesses.
- **Less innovation:** Excessive regulation may discourage businesses from investing in new technology and better methods of production.

Example: If the government fixes the maximum price of wheat at ₹20 per kg when the market price is ₹30, farmers may receive lower returns and may reduce production.

Therefore, government intervention is necessary in some situations, but it should be careful and balanced.

8. In the table below, different prices of guava are given.

a. Think and write how much guava you will buy at each price.

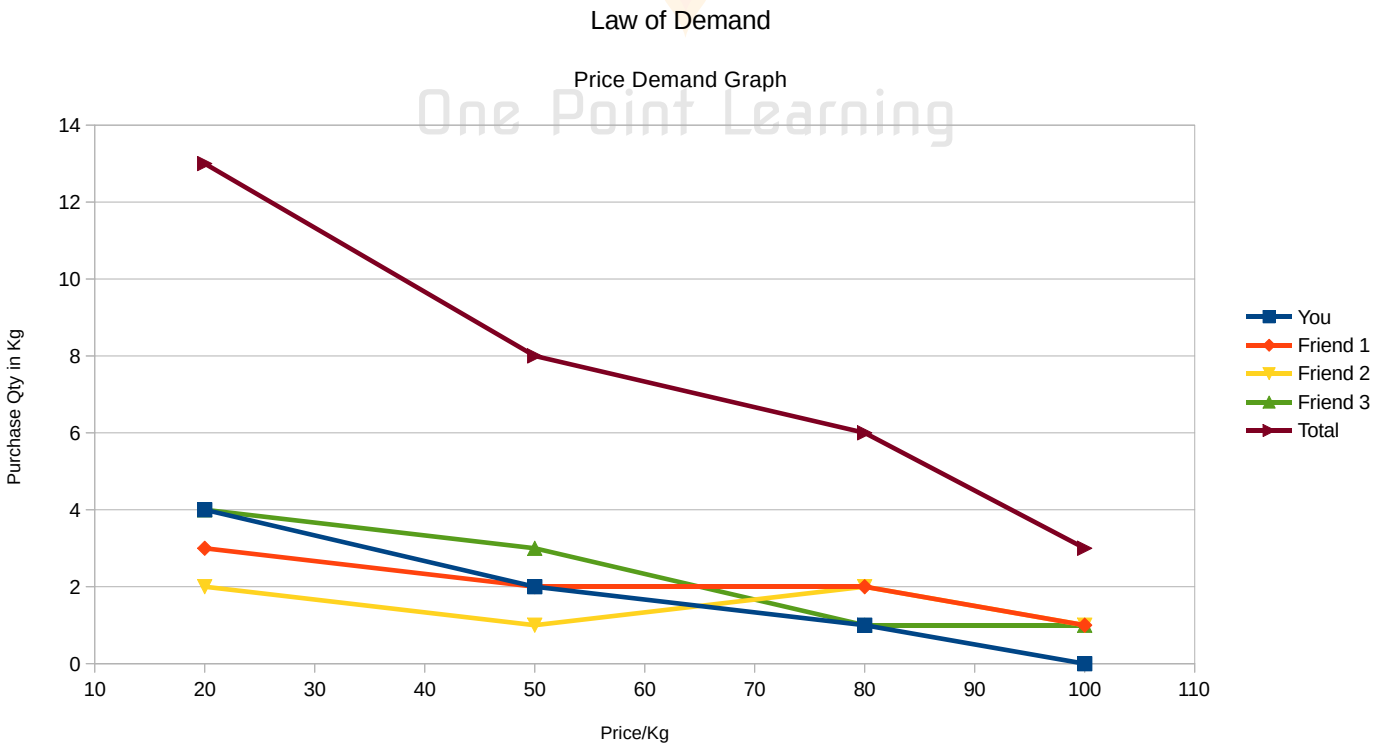
b. Ask the same question to three of your friends and fill in the table.

c. Also make a graph for each one of you and one final graph for the total quantity.

Price	You	Friend 1	Friend 2	Friend 3	Total
₹100/kg					
₹80/kg					
₹50/kg					
₹20/kg					

Ans.

Price	You	Friend 1	Friend 2	Friend 3	Total
• **₹100/kg**	0 kg	1 kg	1 kg	1 kg	**3 kg**
• **₹80/kg**	1 kg	2 kg	2 kg	1 kg	**6 kg**
• **₹50/kg**	2 kg	2 kg	1 kg	3 kg	**8 kg**
• **₹20/kg**	4 kg	3 kg	2 kg	4 kg	**13 kg**



The graph should show that as the price falls, the quantity demanded increases. This demonstrates the Law of Demand.

9. Visit the nearby vegetable market and try to find answers to the following questions.

a. Who decides the prices of different vegetables in the vegetable market?

b. Sometimes the prices of a few vegetables is too high, and sometimes too low. Why is this?

c. The price of tomatoes is high in the morning and eventually gets lower by the evening. Have you ever noticed this? Comment.

Ans.

a. Who decides the prices of different vegetables?

- Prices are mainly determined through the interaction of demand and supply. Sellers consider the availability of vegetables, demand from consumers, competition and other market conditions.

b. Why are the prices of some vegetables sometimes too high and sometimes too low?

- Prices change because demand and supply keep changing.
  - If supply is low but demand is high → prices rise.
  - If supply is high but demand is low → prices fall.

  Weather, seasons, festivals, transportation and crop production can affect supply.

c. Why may tomato prices be high in the morning and lower by evening?

- At the beginning of the day, demand may be high and sellers may expect to sell at higher prices. As the day progresses, sellers with unsold vegetables may reduce prices to sell their remaining stock before the market closes.

This is an example of a dynamic market, where prices change according to changing demand and supply conditions.

10. Categorise the following combination of goods into substitute goods and complementary goods.

a. Movie ticket in the cinema hall and popcorn
b. Eraser and pencil
c. Laptop and computer
d. Air Conditioner and cooler
e. Notebook and pen
f. Apple and banana
g. Mobile and earphones

Ans.

Goods	Type
a. Movie ticket and popcorn	- Complementary goods
b. Eraser and pencil	- Complementary goods
c. Laptop and computer	- Substitute goods
d. Air conditioner and cooler	- Substitute goods
e. Notebook and pen	- Complementary goods
f. Apple and banana	- Substitute goods
g. Mobile and earphones	- Complementary goods

11. Fig. 9.8 shows the demand curve DD' and Supply curve SS'. Based on the figure, answer the following questions:

a. What does point E represent in this market?

b. What is the equilibrium price and equilibrium quantity at point E?

c. Point A lies on DD'. Point B lies on SS'. What do the points A and B indicate about demand and supply? What does the gap between A and B (both on the upper dashed price line) represent?

d. Point F lies on DD'. Point C lies on SS'. What do the points F and C indicate about demand and supply? What does the gap between C and F (both on the lower dashed price line) represent?

e. If the price stays at the lower dashed line, what could happen next in a free market?

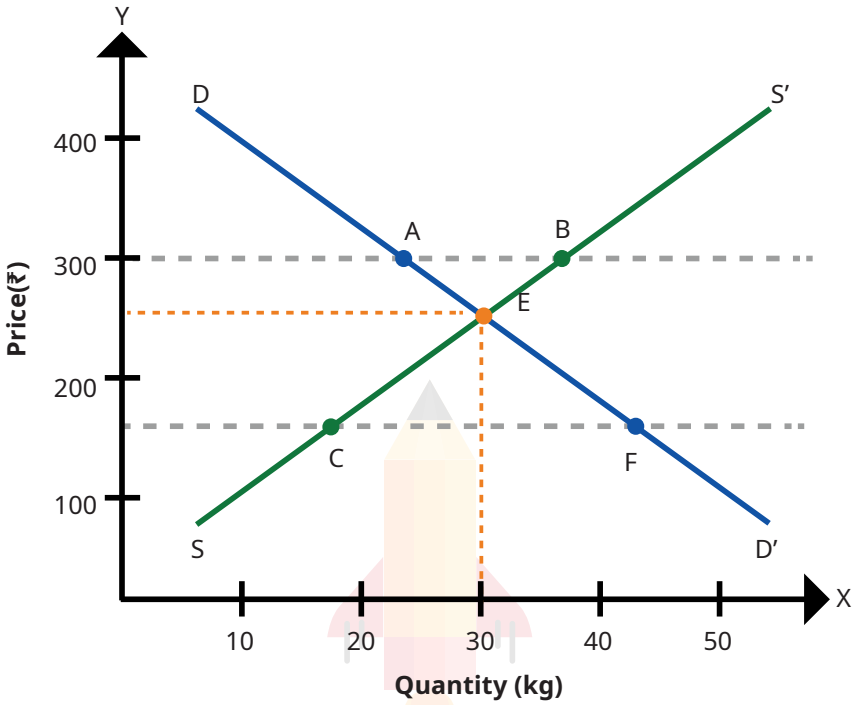


Fig. 9.8

Ans.

a. What does point E represent?

- Point E represents the market equilibrium, where the demand and supply curves intersect.

b. What is the equilibrium price and quantity at point E?

- Equilibrium price = ₹250
- Equilibrium quantity = 30 kg

c. What do points A and B indicate? What does the gap represent?

- A shows the quantity demanded at ₹300.
- B shows the quantity supplied at ₹300.

The gap between A and B represents excess supply (surplus).

d. What do points F and C indicate? What does the gap represent?

- F shows the quantity demanded at the lower price.
- C shows the quantity supplied at the lower price.

The gap between F and C represents excess demand (shortage).

e. If the price stays at the lower dashed line, what could happen?

- There will be excess demand, so the price will tend to increase until the market reaches equilibrium at ₹250.

Easy to remember:

- High price → Surplus → Price falls
- Low price → Shortage → Price rises

12. Draw a market equilibrium graph using the following demand schedule.

Price (₹)	10	20	30	40	50
Q.D. (kg)	5	10	15	20	25
Q.S. (kg)	25	20	15	10	5

a. Plot the demand and supply curve using the above data.
b. Identify the equilibrium price and quantity.
c. Observe the above data and analyse what happens if the price is set at ₹20 or ₹40.

Ans.

a. Plot the demand and supply curves

Using the given data:

- Demand curve (DD): (5, ₹10), (10, ₹20), (15, ₹30), (20, ₹40), (25, ₹50)
- Supply curve (SS): (25, ₹10), (20, ₹20), (15, ₹30), (10, ₹40), (5, ₹50)

The demand curve slopes downward, while the supply curve slopes upward.

b. Identify the equilibrium price and quantity

At ₹30:

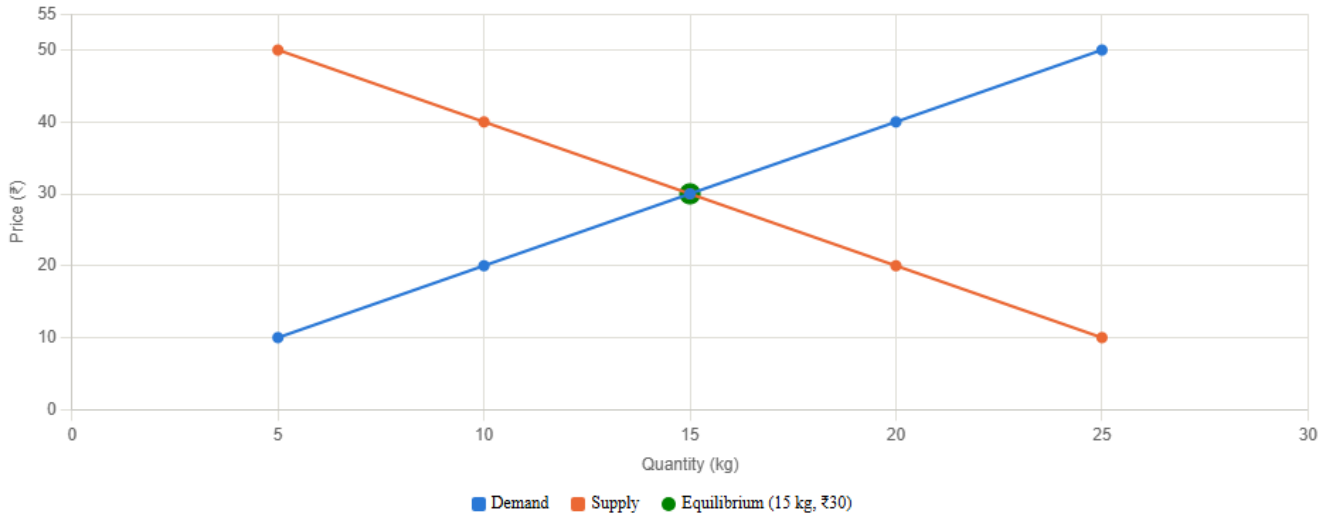
- Quantity demanded = 15 kg
- Quantity supplied = 15 kg

Therefore:

- Equilibrium Price = ₹30
- Equilibrium Quantity = 15 kg

c. What happens if the price is ₹20 or ₹40?

Price	Q.D.	Q.S.	Market Situation	Effect on Price
• **₹20**	10 kg	20 kg	**Excess supply = 10 kg**	Price tends to **fall**
• **₹40**	20 kg	10 kg	**Excess demand = 10 kg**	Price tends to **rise**



Final conclusion: The market reaches equilibrium at ₹30 and 15 kg, where quantity demanded equals quantity supplied.