CLASS XI | CBSE | 2025-26

INTRODUCTORY

MICROECONOMICS

CHAPTER 2

Central Problems of an Economy

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Chapter Overview

What You Will Learn:

1. Three Central Problems of every economy
2. Production Possibility Curve (PPC) — meaning, diagram, properties
3. Opportunity Cost — meaning, calculation, examples
4. Marginal Opportunity Cost — concept and table
5. How PPC shifts (inward and outward)
6. Solutions to central problems in different types of economies

Exam Importance:

This chapter carries VERY HIGH weight in board exams. PPC diagram is almost always asked for 4-6 marks. Opportunity cost numericals appear regularly. Central problems definitions are asked for 1-3 marks.

Real-Life Connection:

Every government faces central problems. India must decide: Should we spend more on defence or education? Should we use land for agriculture or industry? These are real examples of central economic problems.

1. THREE CENTRAL PROBLEMS OF AN ECONOMY

Every economy — whether rich or poor, large or small — faces THREE basic economic problems. These problems arise because resources are scarce but wants are unlimited.

Problem 1: WHAT to Produce?

DEFINITION: What to Produce?

This problem deals with SELECTION — which goods and services should be produced in the economy, and in what quantities. An economy cannot produce everything. It must choose.

Sub-decisions involved in "What to Produce":

(a) Which goods to produce: consumer goods OR capital goods?

(b) Which consumer goods: luxury goods OR necessity goods?

(c) How much of each good to produce?

EXAMPLE: Real-Life Example

India must decide: Should we produce more wheat (food) or more cars (luxury)? Should we focus on building schools (education) or missiles (defence)? Every rupee spent on one thing means less for another.

Problem 2: HOW to Produce?

DEFINITION: How to Produce?

This problem deals with TECHNIQUE of production — which method or combination of factors (labour and capital) should be used to produce the chosen goods. There are two main techniques: Labour-intensive and Capital-intensive.

Technique	Meaning	More use of	Suitable for	Example
Labour-Intensive	Production using more labour and less machinery	Labour (workers)	Developing countries like India	Handloom weaving, farming with workers
Capital-Intensive	Production using more machines and less labour	Capital (machines)	Developed countries like USA	Automated car factory, AI-based production

EXAMPLE: Indian Context

In India, where unemployment is high, should factories use more WORKERS (labour-intensive) to provide jobs? Or should they use more MACHINES (capital-intensive) to produce faster and cheaper? This is the "How to produce" decision every firm and government faces.

Problem 3: FOR WHOM to Produce?

DEFINITION: For Whom to Produce?

This problem deals with DISTRIBUTION — once goods are produced, who gets them? How is the national product distributed among the members of society? Should goods go to those who can pay (rich)? Or should basic needs of poor be fulfilled first?

EXAMPLE: Examples of For Whom to Produce

1. Should luxury apartments be built (for the rich)? Or affordable houses (for the poor)? 2. Should private hospitals serve rich patients or should the government build free hospitals for all? 3. Should scholarships go to meritorious students or economically weak students?

EXAM TIP

"For whom to produce" is essentially the problem of DISTRIBUTION OF INCOME AND WEALTH. In market economies, goods go to those who can pay. In socialist economies, goods are distributed by the government based on need.

MEMORY TRICK

THREE CENTRAL PROBLEMS = "WWF" formula: W = WHAT to produce W = HOW (way) to produce F = FOR WHOM to produce OR remember: "Every Economy Decides — WHAT, HOW, FOR WHOM"

2. PRODUCTION POSSIBILITY CURVE (PPC)

What is PPC?

DEFINITION: Production Possibility Curve (PPC)

Production Possibility Curve (also called Production Possibility Frontier or Transformation Curve) is a curve that shows all the possible combinations of two goods that an economy can produce with its given resources and technology, when all resources are FULLY AND EFFICIENTLY utilised.

Key Assumptions of PPC:

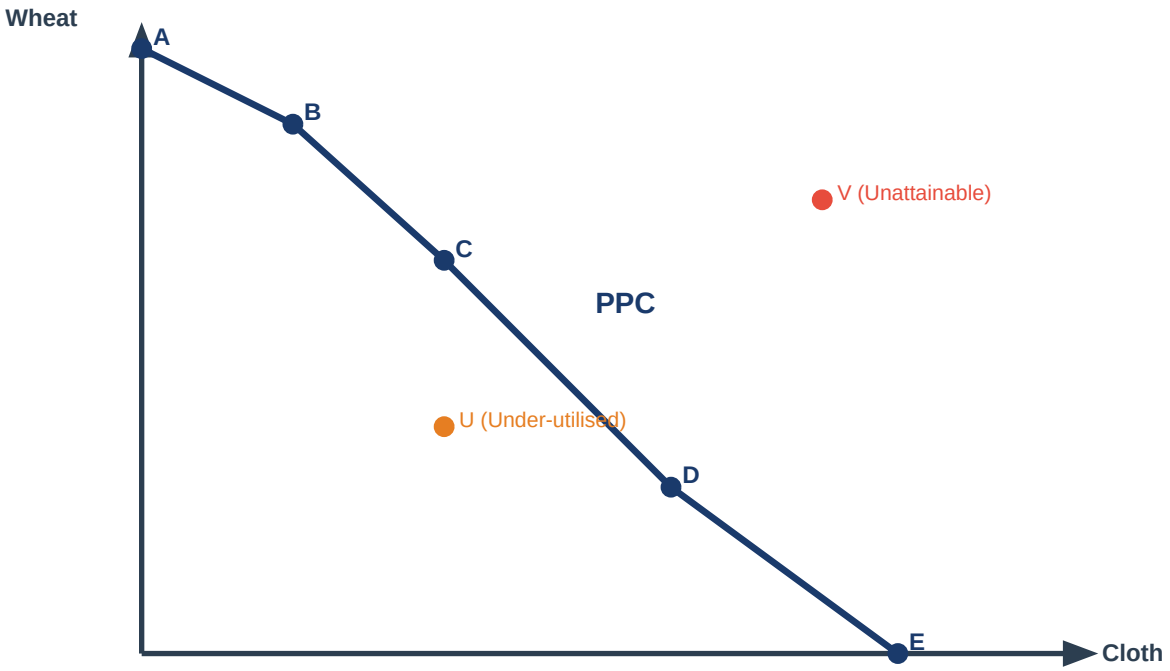
1. Only two goods can be produced (e.g., Guns and Butter).
2. Resources are fixed in quantity (given resources).
3. Technology is fixed (no technological progress during the period).
4. Resources are fully and efficiently utilised.
5. Resources can be transferred from one good to another.

PPC Schedule (Numerical Table):

Suppose an economy can produce two goods: WHEAT (food) and CLOTH (textile). If it produces only wheat = 1000 units. If it produces only cloth = 500 units. Below is the PPC schedule:

Combination	Wheat (Units)	Cloth (Units)	MOC (units of wheat given up for 1 more cloth)
A	1000	0	—
B	900	100	1
C	700	200	2
D	400	300	3
E	0	400	4

PPC Diagram — How to Draw and Explain:



How to Explain the PPC Diagram in Exam:

X-axis: Cloth (Good B) | Y-axis: Wheat (Good A)

The curve PPC slopes DOWNWARD from left to right — because to produce more cloth, we must give up some wheat (trade-off).

The curve is CONCAVE to the origin (bowed outward) — because of increasing Marginal Opportunity Cost.

Points ON the PPC (A, B, C, D, E): Full utilisation of resources (efficient).

Point U (INSIDE PPC): Under-utilisation of resources (wasteful / inefficient).

Point V (OUTSIDE PPC): Unattainable with current resources — NOT possible.

Properties (Features) of PPC:

Property	Explanation	Reason
Slopes Downward (Negative Slope)	As production of one good increases, production of other good must decrease	Resources are scarce — more of one = less of other
Concave to Origin	Curve bows outward (away from origin)	Marginal Opportunity Cost increases as we produce more of one good
Shows Maximum Output	Every point on PPC shows full use of all resources	All resources fully and efficiently utilised
Only two goods	PPC is drawn for only two goods at a time	Simplification assumption

COMMON MISTAKE

Common Mistake: Students say PPC is "curved" but cannot explain WHY. Always write: "PPC is concave to origin BECAUSE Marginal Opportunity Cost increases as we shift resources from one good to another." This explanation is ESSENTIAL in 4-6 mark answers.

3. SHIFTS IN THE PPC

When Does PPC Shift OUTWARD (Rightward)?

PPC shifts OUTWARD (to the right) when the PRODUCTION CAPACITY of the economy INCREASES. This happens when:

(a) **Resources increase** — discovery of new resources, population growth, more capital

(b) **Technology improves** — better methods of production, new machinery

(c) **Efficiency increases** — better skill and education of workers

When Does PPC Shift INWARD (Leftward)?

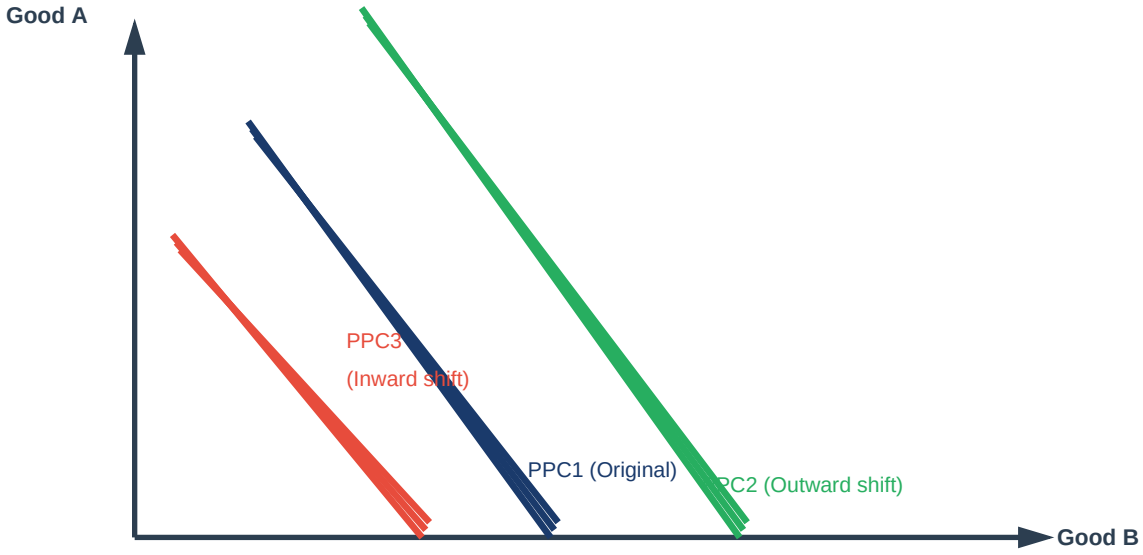
PPC shifts INWARD (to the left) when the PRODUCTION CAPACITY DECREASES. This happens when:

(a) **Resources decrease** — war destroys resources, natural calamity

(b) **Technology degrades** — loss of knowledge or technology

(c) **Inefficiency increases** — widespread unemployment, underutilisation

PPC Shift Diagram:


Good A
PPC3
(Inward shift)
PPC1 (Original)
PPC2 (Outward shift)
Good B

4. OPPORTUNITY COST

DEFINITION: Opportunity Cost

Opportunity Cost is the cost of the next best alternative forgone (given up). When you choose one thing, you give up the next best option. The value of that given-up option is the Opportunity Cost.

EXAMPLE: Example 1 — Student Decision

You have one free hour. You can either STUDY for exam OR WATCH a movie. You choose to study. The opportunity cost of studying = value of the movie you gave up. If the movie ticket costs Rs. 200, then Opportunity Cost = Rs. 200.

EXAMPLE: Example 2 — Government Decision

The government has Rs. 1,000 crore. It can build a HOSPITAL or a HIGHWAY. It chooses the hospital. Opportunity Cost = the highway that was not built (next best alternative forgone).

Marginal Opportunity Cost (MOC):

DEFINITION: Marginal Opportunity Cost (MOC)

Marginal Opportunity Cost is the amount of one good that must be sacrificed (given up) to gain one additional unit of another good. MOC = Units of Good A given up / Units of Good B gained.

MOC = Units of Good A sacrificed / Additional units of Good B produced

Note: MOC increases as we produce more of Good B — this is why PPC is concave to origin.

Why Does MOC Increase?

MOC increases because resources are NOT equally efficient in producing both goods.

Initially, we shift resources that are LEAST SUITED for Good A and MOST SUITED for Good B — so the sacrifice is small.

As we continue shifting resources, we have to transfer resources that are BETTER SUITED for Good A — so the sacrifice becomes larger.

This increasing sacrifice = Increasing MOC = Concave PPC.

Numerical on MOC:

Combination	Guns (units)	Butter (units)	MOC (Guns given up per extra Butter)
A	15	0	—

B	14	1	1 gun given up for 1 butter
C	12	2	2 guns given up for 1 more butter
D	9	3	3 guns given up for 1 more butter
E	5	4	4 guns given up for 1 more butter
F	0	5	5 guns given up for 1 more butter

Conclusion: MOC is increasing (1, 2, 3, 4, 5) → This confirms the PPC is CONCAVE to origin.

EXAM-ORIENTED QUESTIONS

1-Mark Questions

Q1. What are the three central problems of an economy?

Ans. What to produce, How to produce, and For Whom to produce.

Q2. What does PPC stand for?

Ans. Production Possibility Curve (also called Production Possibility Frontier or Transformation Curve).

Q3. Why is PPC concave to origin?

Ans. Because Marginal Opportunity Cost (MOC) increases as we produce more of one good.

Q4. What does a point INSIDE the PPC indicate?

Ans. Under-utilisation of resources — resources are not being used fully or efficiently.

Q5. What does a point OUTSIDE the PPC indicate?

Ans. Unattainable combination — cannot be produced with given resources and technology.

Q6. What causes an outward shift in PPC?

Ans. Increase in resources OR improvement in technology.

Q7. Define opportunity cost.

Ans. Opportunity cost is the value of the next best alternative forgone when a choice is made.

Q8. What is Marginal Opportunity Cost?

Ans. MOC = units of one good sacrificed to produce one additional unit of another good.

3-Mark Questions

Q1. What is a Production Possibility Curve? State its assumptions. (3 marks)

Definition: PPC is a curve showing all maximum combinations of two goods an economy can produce with given resources and technology when all resources are fully utilised.

Assumption 1: Only two goods are produced.

Assumption 2: Resources are fixed in supply.

Assumption 3: Technology remains unchanged.

Assumption 4: Resources can be transferred between production of the two goods.

4-Mark Questions

Q1. Explain with diagram what happens to PPC when (a) technology improves and (b) resources are destroyed by war. (4 marks)

(a) Technology Improves → PPC shifts OUTWARD:

When technology improves, the economy can produce MORE of both goods with the same resources. The PPC shifts to the right (outward). This represents ECONOMIC GROWTH.

(b) Resources Destroyed by War → PPC shifts INWARD:

When resources are destroyed (by war, flood, earthquake), the economy can produce LESS of both goods. The PPC shifts to the left (inward). This represents ECONOMIC DECLINE.

Diagram: Draw original PPC (PPC1), outward shifted PPC (PPC2, to the right in green), and inward shifted PPC (PPC3, to the left in red). Label all three curves.

6-Mark Questions

Q1. Explain the concept of Production Possibility Curve with the help of a schedule and diagram. What are its properties? (6 marks)

Step 1 — Introduction: PPC shows the maximum combinations of two goods an economy can produce with given and fully utilised resources.

Step 2 — Schedule: Create a table showing combinations (A, B, C, D, E) with decreasing Good A and increasing Good B.

Step 3 — Diagram: Draw axes (Good A on Y, Good B on X). Plot all combinations. Join them with a smooth concave curve. Label the curve PPC.

Step 4 — Properties:

(a) Slopes downward — more of one good means less of another.

(b) Concave to origin — MOC increases as we produce more of one good.

(c) Points on curve = full resource utilisation. Points inside = under-utilisation. Points outside = unattainable.

Step 5 — Conclusion: PPC demonstrates the economic problem of scarcity and choice. It shows the maximum production capacity of an economy.

CHAPTER SUMMARY

KEY POINTS TO REMEMBER:

1. **Three Central Problems:** WHAT, HOW, FOR WHOM to produce — faced by every economy.
2. **PPC:** Shows maximum combinations of two goods producible with given resources and technology.
3. **PPC slopes downward** because of trade-off — more of one good = less of other.
4. **PPC is concave** because Marginal Opportunity Cost (MOC) increases.
5. **Points:** On PPC = efficient, Inside PPC = under-utilisation, Outside PPC = unattainable.
6. **PPC shifts right** — more resources or better technology (economic growth).
7. **PPC shifts left** — fewer resources or worse technology (economic decline).
8. **Opportunity Cost** = value of next best alternative given up.
9. **MOC =** Units of Good A sacrificed / Units of Good B gained. MOC is increasing.

LAST-MINUTE REVISION BOX:

Central Problems = WHAT + HOW + FOR WHOM

PPC = Downward slope + Concave to origin = Full resource utilisation

Inside PPC = Unemployed resources | Outside PPC = Impossible (currently)

PPC shifts RIGHT = Growth | PPC shifts LEFT = Decline

Opportunity Cost = Best alternative given up | MOC = Increasing (causes concavity)

PPC also called: PPF (Production Possibility Frontier) or Transformation Curve