

Exercise walk-through

1.2

Opportunity Cost and the Production Possibilities Curve (PPC)

AP Macroeconomics

Opportunity cost

The **opportunity cost** of a choice is the value of the **single best alternative** you give up.

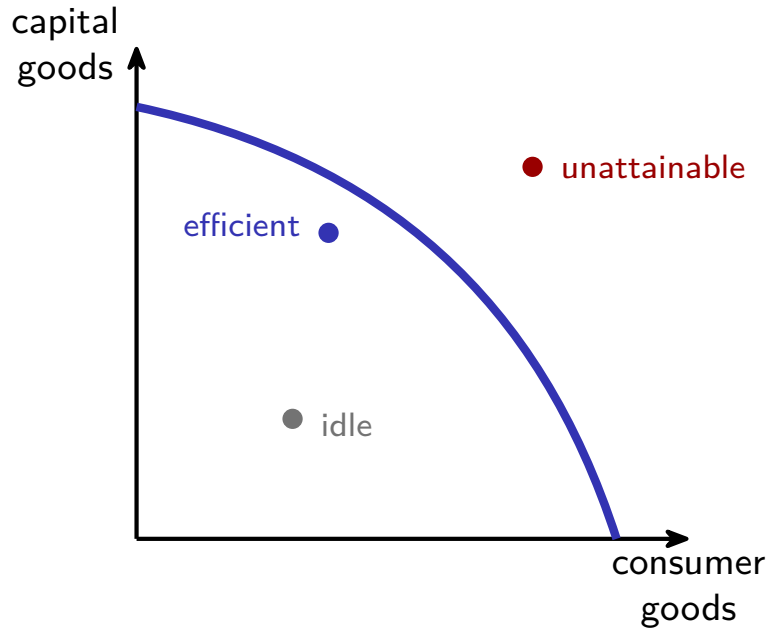
- measured in what you *sacrifice*, not only in money
- every choice has one – because resources are scarce

A new road's real cost is the schools or hospitals the **same resources** could have built.



Every choice gives up the next-best option

The production possibilities curve



The **PPC** shows every efficient mix of two goods:

- **on** the curve – **efficient**, all resources used
- **inside** – resources lie idle (a recession)
- **outside** – unattainable today

Its outward *bow* = **increasing opportunity cost**

The PPC, and what it is made of

The curve

The **production possibilities curve (PPC)**

shows the most of two goods an economy can make with its resources fully employed.

Labor

Labor is one of the four factors – with land, capital and entrepreneurship – and more or better of any of them shifts the curve out.

Trade-offs

Points on the curve are **trade-offs** : more of one good is less of the other, and the slope is the opportunity cost.

Bowed outward

Resources are not equally good at both jobs, so the opportunity cost rises as you specialise – which is what bows the curve.

Inside the curve is not a choice, it is waste. On it is efficient; beyond it is unattainable today.

Worked example – reading a trade-off

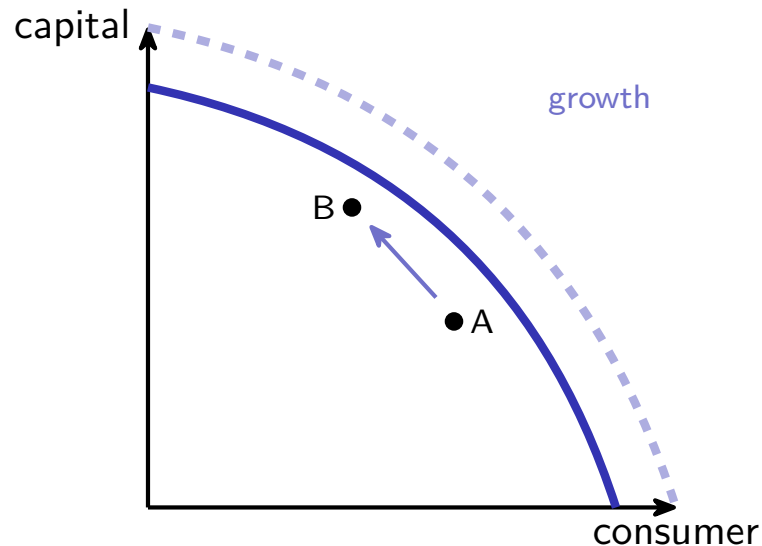
A → B along the curve

A: 60 consumer, 10 capital. B: 50 consumer, 25 capital.

give up 10 consumer $\Rightarrow$ gain 15 capital

cost of 1 capital = $\frac{10}{15} \approx 0.67$ consumer

Building **capital** today shifts the whole curve outward later – **economic growth**



Exercises 2.1-2.3

2.1 Define opportunity cost.

[1]

2.2 State what a point **inside** the PPC represents.

[1]

2.3 A country moves from producing 10 cars and 40 phones to 15 cars and 25 phones.
Find the opportunity cost of the 5 extra cars.

[2]

Exercises 2.1-2.3

2.1 Define opportunity cost.

[1]

2.1

- the value of the next-best alternative given up when a choice is made

2.2 State what a point **inside** the PPC represents.

[1]

2.2

- an inefficient use of resources (some are idle or wasted)

2.3 A country moves from producing 10 cars and 40 phones to 15 cars and 25 phones. Find the opportunity cost of the 5 extra cars.

[2]

2.3

- phones fall from 40 to 25, a loss of 15 phones; so the 5 cars cost 15 phones

Exercises 3.1-3.2

3.1 A bowed-out (concave) PPC shows

[1]

☐

- A constant opportunity cost
- B increasing opportunity cost
- C zero opportunity cost
- D falling total output

3.2 A point outside the PPC is currently

[1]

☐

- A efficient
- B inefficient
- C unattainable
- D optimal

Exercises 3.1-3.2

3.1 A bowed-out (concave) PPC shows

[1]

☐

- A constant opportunity cost
- B increasing opportunity cost
- C zero opportunity cost
- D falling total output

3.1 B

- increasing opportunity cost.

3.2 A point outside the PPC is currently

[1]

☐

- A efficient
- B inefficient
- C unattainable
- D optimal

3.2 C

- unattainable.

Exercise 3.3 (a)

3.3 An economy produces guns and butter.

(a) State what a point **on** the PPC represents.

[1]

Exercise 3.3 (a)

3.3 An economy produces guns and butter.

(a) State what a point **on** the PPC represents.

[1]

(a)

- an efficient, fully-employed use of all resources

Exercise 3.3 (b)

3.3 An economy produces guns and butter.

(b) State one cause of an **outward** shift of the PPC.

[1]

Exercise 3.3 (b)

3.3 An economy produces guns and butter.

(b) State one cause of an **outward** shift of the PPC.

[1]

(b)

- more/better resources or improved technology

Exercise 3.3 (c)

3.3 An economy produces guns and butter.

(c) It moves from 20 guns and 30 butter to 25 guns and 22 butter. Find the opportunity cost of the extra guns. [1]

Exercise 3.3 (c)

3.3 An economy produces guns and butter.

(c) It moves from 20 guns and 30 butter to 25 guns and 22 butter. Find the opportunity cost of the extra guns. [1]

(c)

- butter falls by 8, so the extra 5 guns cost 8 butter