- We look at a simple model, The PPF.

The possible combinations of two goods that can be produced in a certain period of time under the conditions of a given state of technology and fully employed resources.

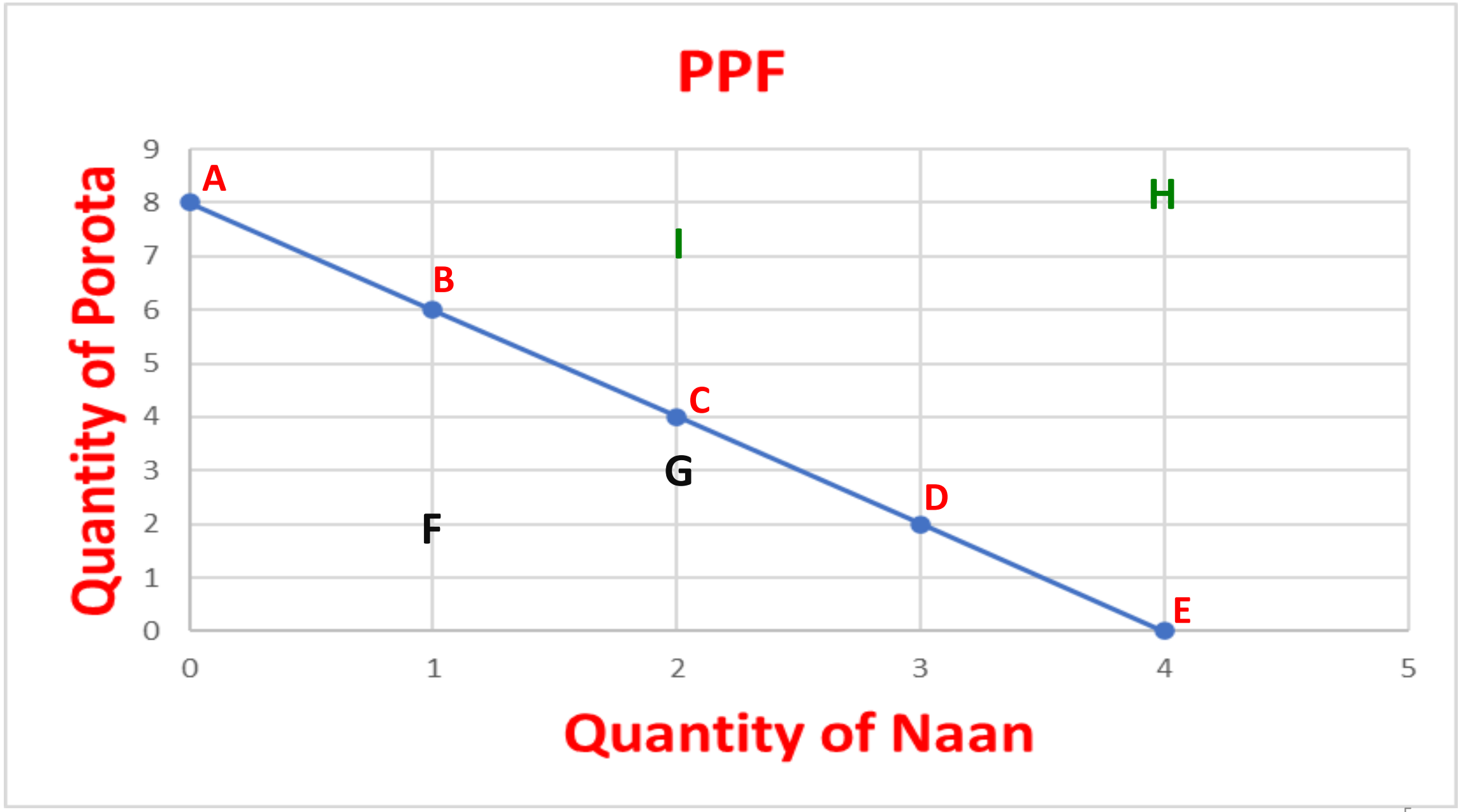
- Assumptions:
  - Fixed resources
  - Closed economy

- Every economy (or firm or individual) has an outer limit.
- The PPF is that outer limit.
- It is the boundary between the combinations of goods that can be produced and that cannot be produced.
- Focusing on only two goods at a time and holding the quantities of all other goods constant.

The Straight Line PPF

- Suppose, we have a tiny hypothetical economy that only produces porota (P) and naan (N).

Combination	Quantity of Porota	Quantity of Naan
A	8	0
B	6	1
C	4	2
D	2	3
E	0	4


PPF
Quantity of Porota
Quantity of Naan
A
B
C
D
E
F
G
H
I
0
1
2
3
4
5
6
7
8
9

- Inside the PPF = inefficient *(underuse/wastage of resources)*
- On the PPF = productive efficient *(full employment of resources)*
- Any combination on or inside the PPF is feasible.
- Outside the PPF = impossible/unattainable *(given the current resources)*

- Each point = the maximum amount one good that can be produced in a certain time period given a specific quantity of the other good being produced.
- *How many naans can be produced this year if "x" amount of porotas are being produced currently.*
- Any production combination of the two goods on the curve is using all of the economy's available resources.
- No wastage = no missed opportunities.

- On the PPF = being productive efficient = lowest possible cost = best use of resources.
- Moving away = sacrifice something.
- ***So when increase the production (Q) of one good we have to sacrifice some of the other as resources are fixed in quality and quantity, therefore resources have to be diverted from the production of one good to the other.***
- Inside the PPF the economy can produce more of one or both goods without producing less of the other.

- CONSTANT OPPORTUNITY COSTS (OC).
- Every time the economy *increases* the Q of one good by a certain fixed amount, the Q of the other good *falls* by a constant amount.
- For e.g. if the economy decides to increase Q of naans from 0 to 1 naan it has to sacrifice TWO porotas (i.e. from 8 to 6) = moving from point A to B.
- Every time it increases the Q of naans by 1, the production of porotas fall by 2.

- The OC for a straight line PPF is the curve's slope.
- The slope of a straight line is always the same.
  - *Slope* = by how much does the variable on the y axis change when the variable on the x axis changes by a certain amount.
- Slope = $\frac{\text{change in y}}{\text{change in x}} = \frac{y' - y}{x' - x}$
- For e.g. the slope between C and D = $\frac{2-4}{3-2}$ = -2

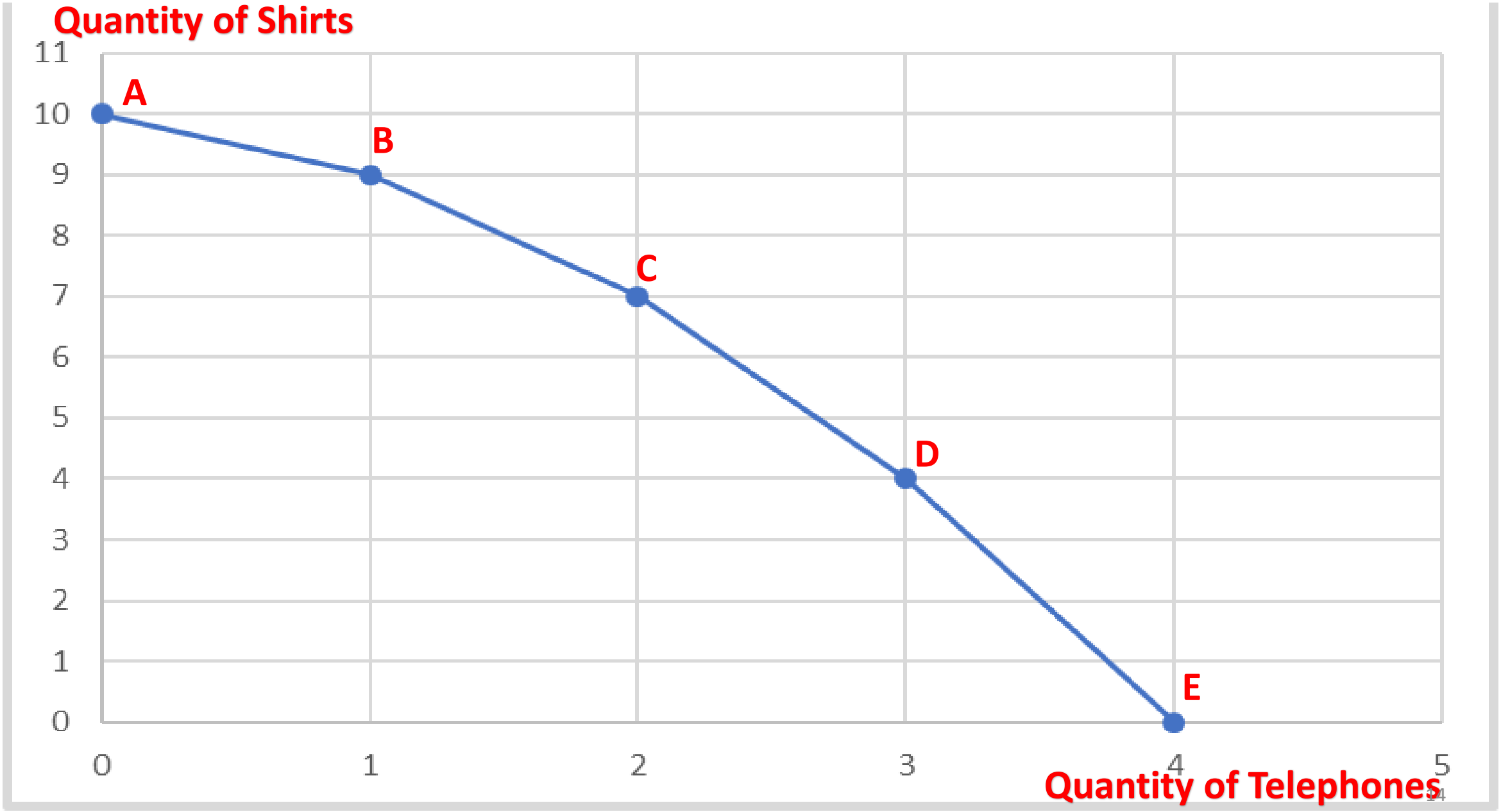
- What happens when the economy moves from point C to B?
- From B to C OC is 2P for 1N, hence from C to B OC is $\frac{1}{2}$N for 1P.
- OC is a ratio, the reciprocal (inverse).
- However, in the real world OC are rarely constant.

The Bowed – Outward PPF

- AKA concave-downward.
- *Still the same assumptions as before and on the PPF (productive efficient), inside (inefficient) and outside (impossible)*
- Why? → Increasing OC.
- Economy is raising the Q of one good by a fixed amount every time but sacrificing more and more of the other each time.

Combination	Quantity of Shirts (S)	Quantity of Telephones (T)
A	10	0
B	9	1
C	7	2
D	4	3
E	0	4

PPF


Quantity of Shirts
11
10
9
8
7
6
5
4
3
2
1
0
A
B
C
D
E
0
1
2
3
4
5
Quantity of Telephones

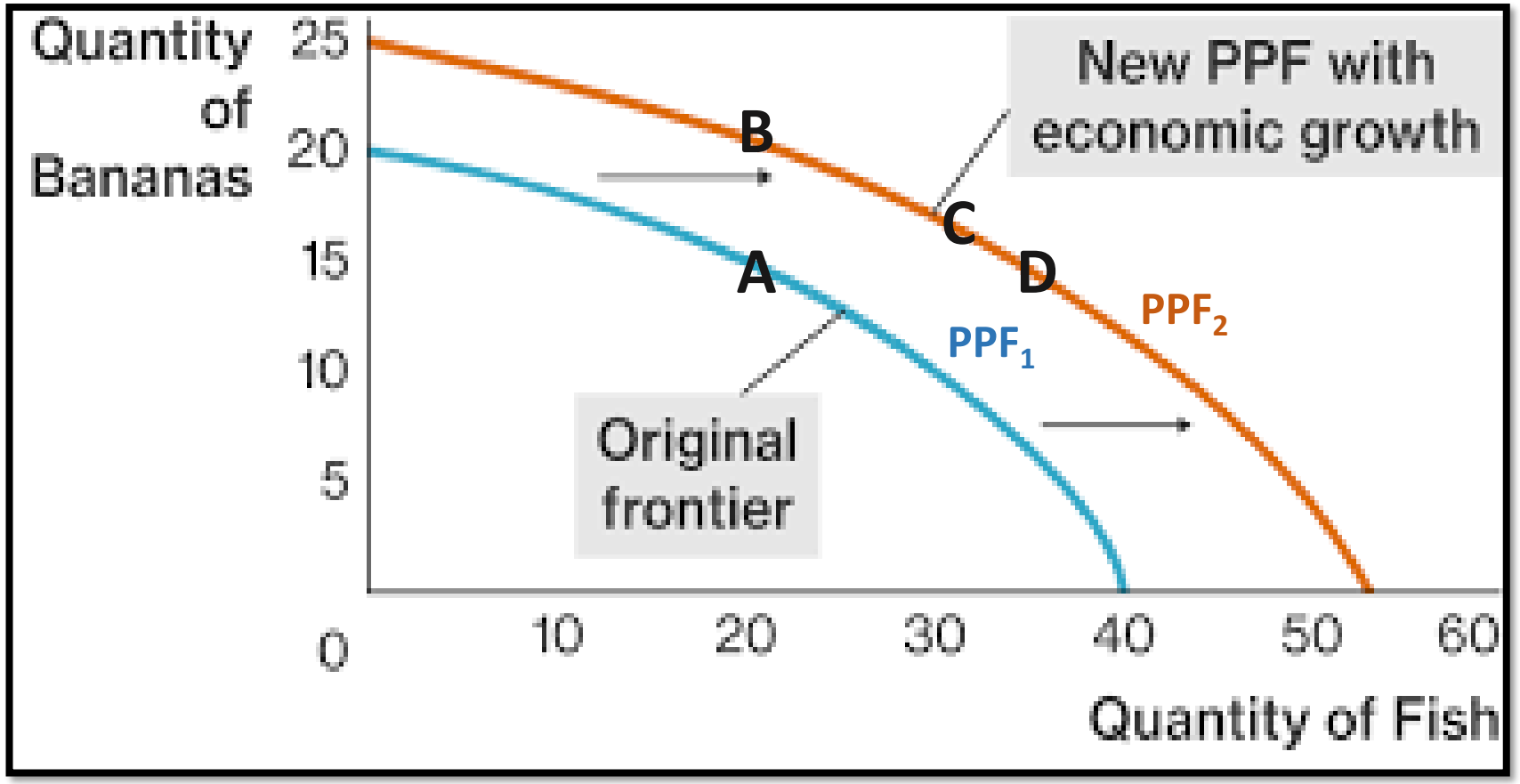
- What happens when the economy decides to increase its production of leather jackets from 0 to 1?
- The OC is 1 shirt (10–9).
- From 1 to 2 T? The OC is 2 S (9–7)
- From 2 to 3 T? The OC is 3 S (7–4)
- The economy is raising the Q of one good by a fixed amount every time but sacrificing more and more of the other each time.

- But why is the OC not constant?
- Answer: *THE LAW OF INCREASING OPPORTUNITY COSTS → As more of one good is produced the OC of producing that good rise.*
- Reason: Differing abilities.
- Resources are not always as easily substitutable as in the production of naan and porotas.

Economic Growth

The growing ability of the economy to produce goods and services, i.e. increased productive capabilities.

- Relaxing the initial assumptions



- Economic growth → PPF shifts rightwards/outwards
- Not necessarily economy will only grow.
- It can contract as well → PPF shifts inwards/leftwards.
- Reasons could be wars, natural disasters, etc.

Sources of Shifts of the PPF

1. Change in the quantity of resources

- *For example:*
- more workers in the economy due to immigration
- fewer workers in the economy due to death from widespread disease
- availability more machineries, etc.

2. Change in technology (quality of resources)

Technology – The body of skills and knowledge concerning the use of resources in production. It is the technical means for the production.

- Advancement in technology → increases productivity → the same resources can produce more than before/need fewer resources to produce the same as before.
- Productivity = output per unit of input.
- *For example:*
- Training workers
- Using more powerful tools (such as replacing a typewriter with a computer), etc.

One Sided Shifts of the PPF

- Change in the quantity of resources or technology in the production of one of the goods/services.
- Causes PPF to pivot, i.e. shift from one side.