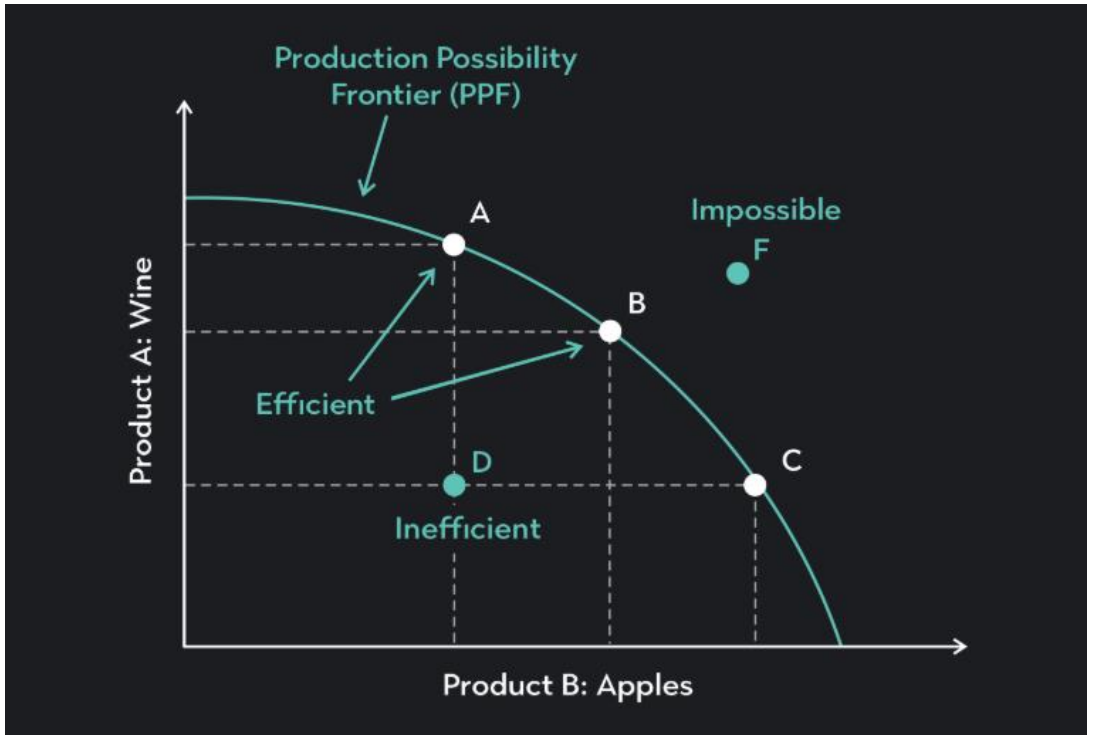
International Trade

Lecture 2

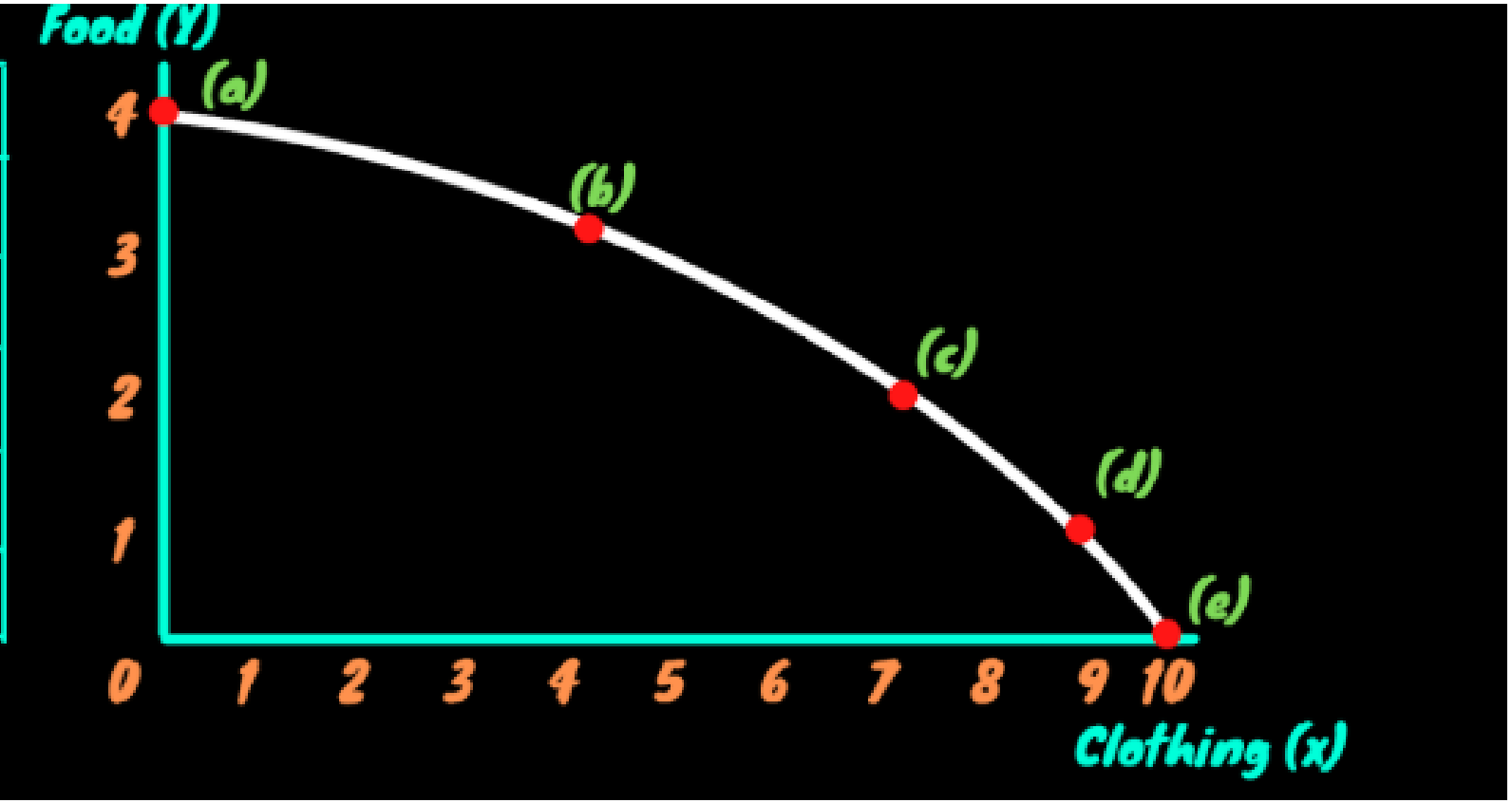
Production Possibility Frontier

- The production possibility frontier (PPF) illustrates the possible quantities that can be produced of two products if both depend upon the same **finite resource** for their manufacture.
- The PPF is also referred to as the production possibility curve.
- PPF/PPC represents the optimal/efficient levels of production
- Inside PPF= Inefficient production level
- Outside PPF= Unattainable production level
- Technological advancement can make PPF shift rightwards and reach unattainable levels of production



Production Possibility Frontier /Curve (PPF/PPC)

Food	Clothing
4	0
3	4
2	7
1	9
0	10



Opportunity cost

PPF illustrate that with limited/finite resources, in order to increase production of one good, there is trade-off which you have to reduce the production of the other good

Opportunity cost= Unit of goods that needs to give up in order to gain one more unit of the other good

OC= Unit giving up/ Unit gained

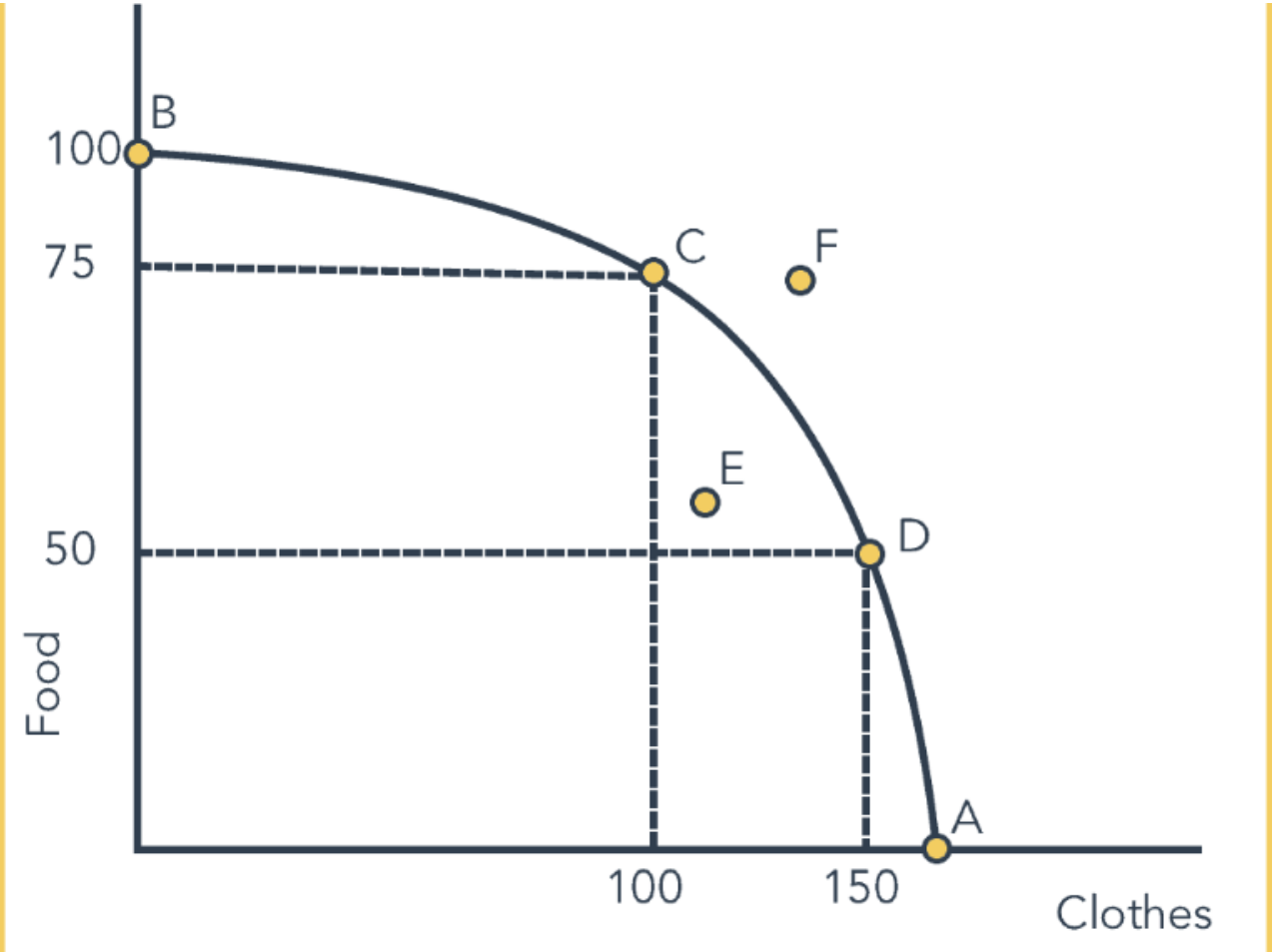
OC of X= unit of Y that is foregone to produce 1 more unit of X

i.e.(OC of X= in terms of Y unit)

OC of Y= Unit of X that is forgone to produce 1 more unit of Y

i.e. (OC of Y= in terms of X unit)

Opportunity cost



At B Food=100 units and Clothes=0 units

To increase clothes production we need to trade-off food production

At C, Food=75 and Clothes=100

At C, OC(Clothes)= 25/100

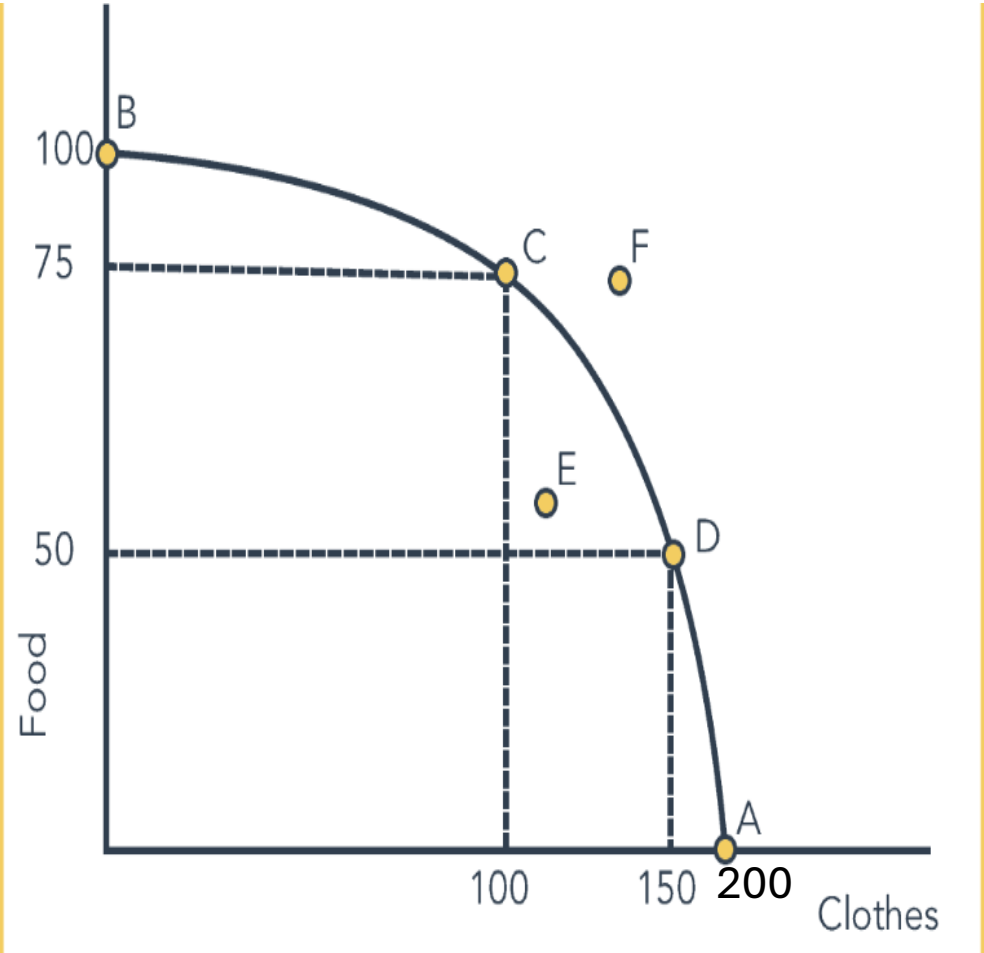
=1/4 unit of Food

= to increase 1 unit of cloth production from B level you need to give up ¼ unit of Food

At D, OC(clothes)= 25/50

=1/2 unit of Food

Opportunity cost



From B to C, OC(Clothes)= 25/100 =1/4 unit of Food

From C to D, OC(clothes)= 25/50 =1/2 unit of Food

From D to A, OC(clothes) = 50/50= 1 unit of Food

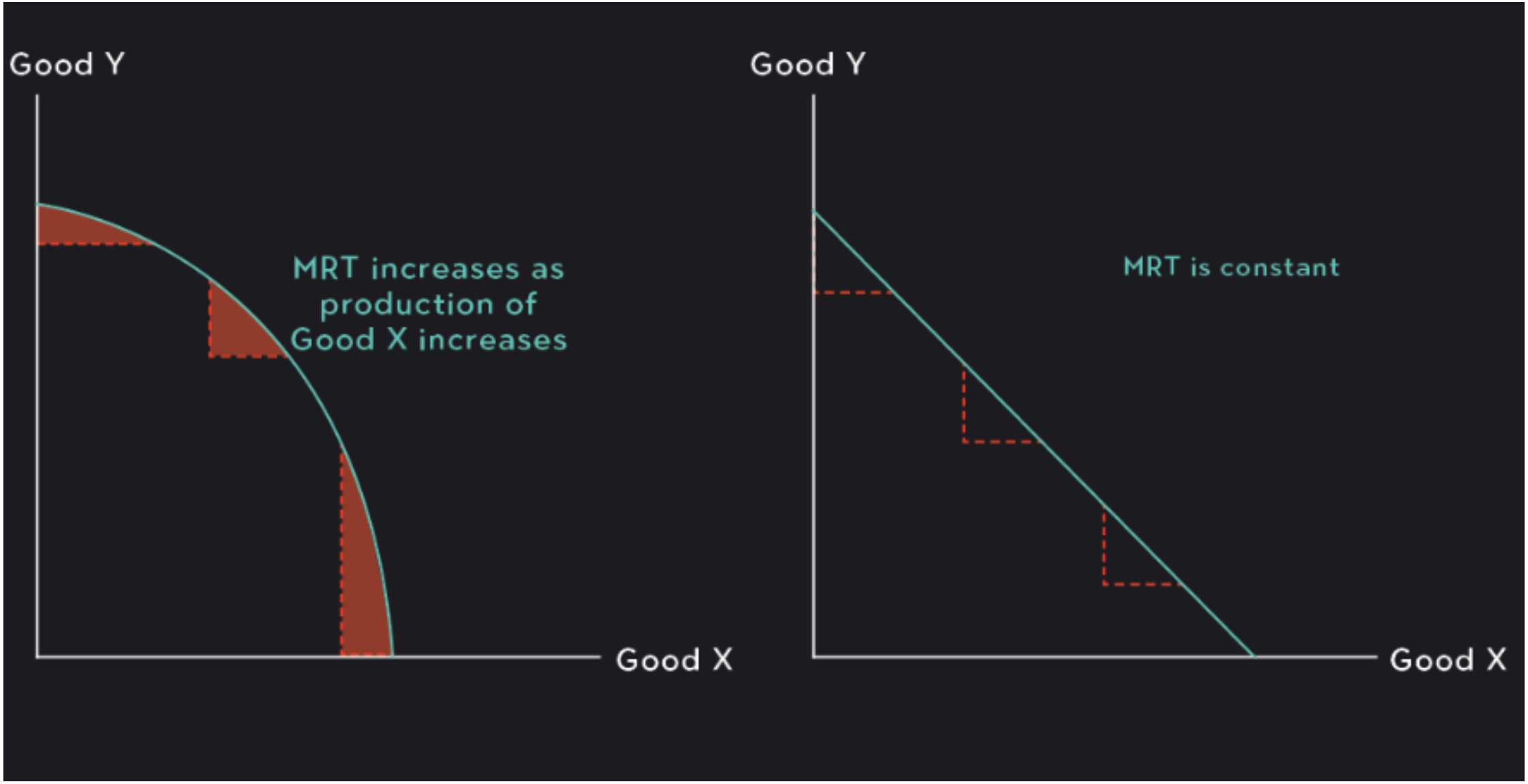
OC (clothes) is increasing from C to A.

As you increase the clothes production you need to give up more and more unit of food production to increase one more unit of clothes production = increasing Marginal rate of Transformation (MRT)

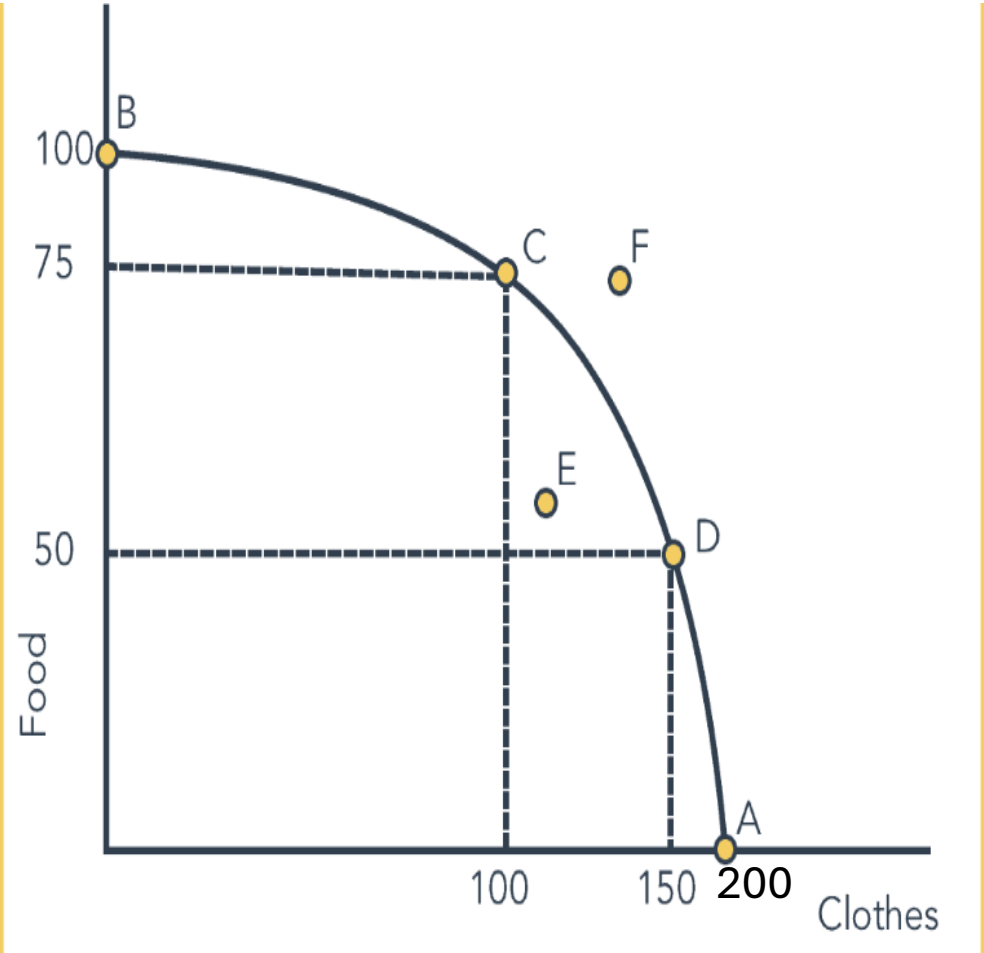
Reason we have to withdraw more and more resources that are less suitable for clothes production

The increasing MRT gives PPF the concave shape

PPF can also have constant OC/Slope (i.e. Constant MRT) with linear relationship


Good Y
MRT increases as production of Good X increases
Good X
Good Y
MRT is constant
Good X

Opportunity cost

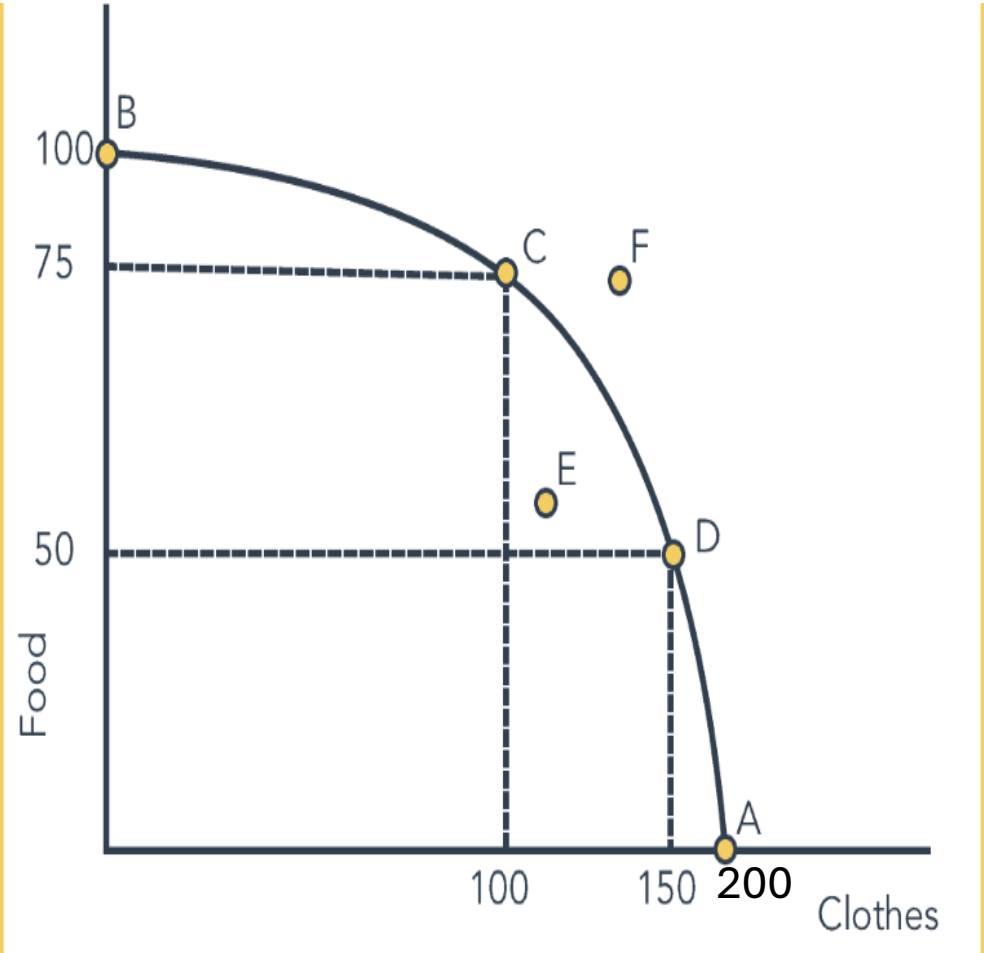


From A to D, OC(Food)= (200-150)/50=1 unit of Cloth

From D to C, OC(Food)= (150-100)/(75-50)=50/25 =2 unit of clothes

From C to B, OC(Food) = 100/25= 4 units of Clothes

Opportunity cost



From B to C, OC(Clothes)= 25/100 =1/4 unit of Food

From C to D, OC(clothes)= 25/50 =1/2 unit of Food

From D to A, OC(clothes) = 50/50= 1 unit of Food

From A to D, OC(Food)= 50/50=1 unit of Cloth

From D to C, OC(Food)=50/25 =2 unit of clothes

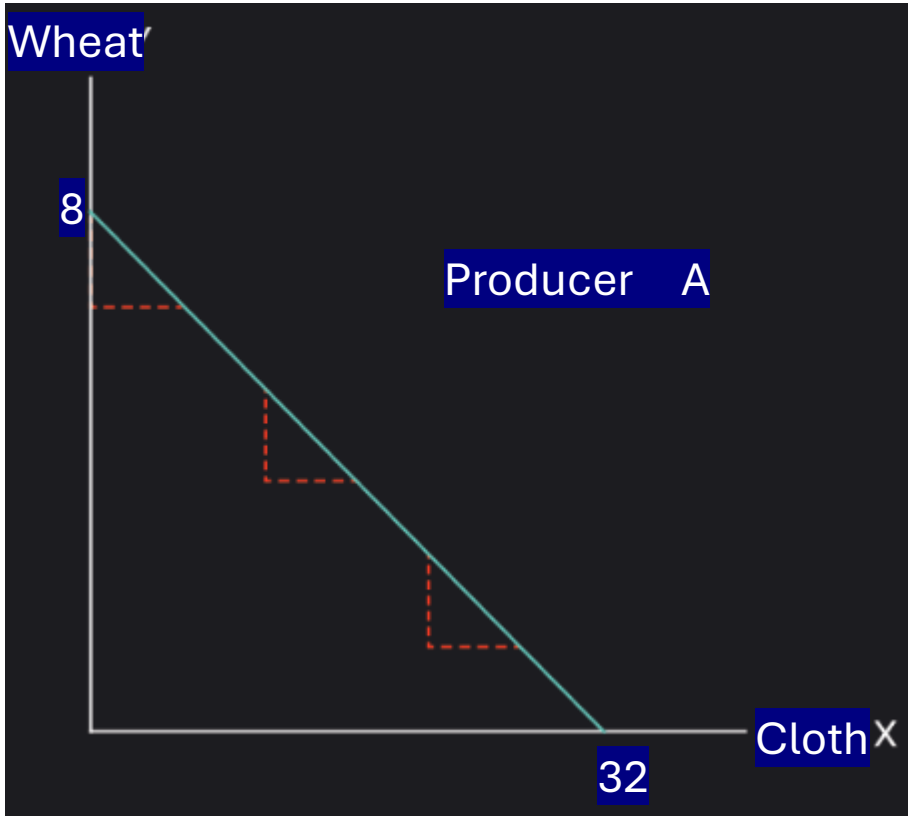
From C to B, OC(Food) = 100/25= 4 units of Clothes

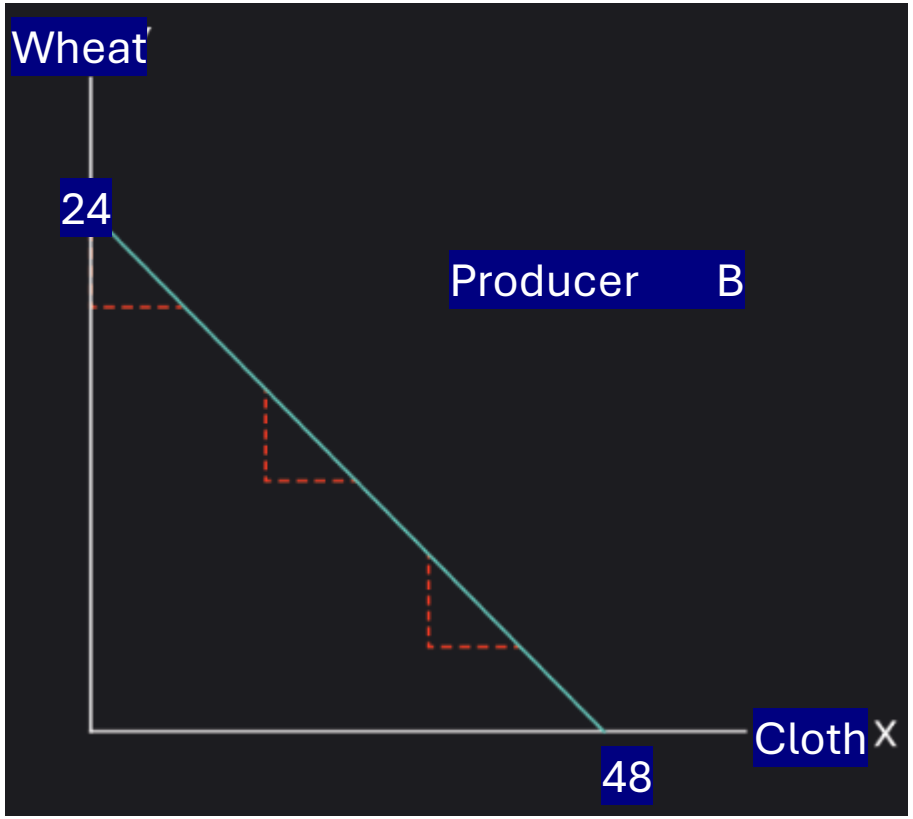
Example

Producers	Wheat	Cloth	Opportunity cost (Wheat)	Opportunity cost (Cloth)
A	8	32		
B	24	48		

Example

Producers	Wheat (Y)	Cloth (X)
A	8	32
B	24	48





Example

Producers	Wheat	Cloth	Opportunity cost (Cloth)	Opportunity cost (Wheat)
A	8	32	1/4 unit of wheet (8/32)	4 unit of cloth (32/8)
B	24	48	1/2 unit of wheet (24/48)	2 cloth (48/24)
Lower OC ?				

Example

Producers	Wheat	Cloth	Opportunity cost (Cloth)	Opportunity cost (Wheat)
A	8	32	1/4 unit of wheet (8/32)	4 unit of cloth (32/8)
B	24	48	1/2 unit of wheet (24/48)	2 cloth (48/24)
Lower OC			A	B

Trade Theories

1. Mercantilism

Mercantilism

- During 17th and 18th centuries– from essays on international trade advocated the economic philosophy known as Mercantilism .
- The mercantilists maintained that the way for a nation to **become rich and powerful was to export more than it imported**.
- The **resulting export surplus** would then **be settled by an inflow** of bullion, or precious metals, primarily **gold and silver**. The more gold and silver a nation had, **the richer and more powerful** it was. Thus, the government had to do all in its power to stimulate the nation's exports and discourage/restrict imports (particularly the import of luxury consumption goods).
- However, since all nations could not simultaneously have an export surplus and the amount of gold and silver was fixed at any particular point in time, **one nation could gain only at the expense of other nations**.

Mercantilism

- Wealth of nation determines standard of living
- Mercantilist view: Wealth of nation= stock of precious metals a country possessed.
- New trade theories: Wealth of nation= stock of all resources (natural, human, man-made available for producing goods and services)
- Mercantilists were advocating primarily for rulers (thereby justifying capturing of colonies)

Absolute advantage

- Adam Smith - For two nations to trade with each other *voluntarily*, both nations must gain. If one nation gained nothing or lost, it would simply refuse to trade
- According to Adam Smith, trade between two nations is based on absolute advantage.
- When one nation is more efficient than (or has an absolute advantage over) another in the production of one commodity but is less efficient than (or has an absolute disadvantage with respect to) the other nation in producing a second commodity, then both nations can gain by each *specializing* in the production of the commodity of its absolute advantage and exchanging part of its output with the other nation for the commodity of its absolute disadvantage.
- By this process, resources are utilized in the most efficient way and the output of *both* commodities will rise. This increase in the output of both commodities measures the gains from specialization in production available to be divided between the two nations through trade.

Absolute advantage

- Canada – efficient in growing wheat but inefficient in producing bananas because of climatic condition than South Africa
- South Africa-efficient in growing bananas and absolute disadvantage in growing wheat
- Both nations would benefit if each specialized in the production of the commodity of its absolute advantage and then traded with the other nation.
- As a result, both more wheat and more bananas would be grown and consumed, and both Canada and South Africa would gain

Absolute advantage

- While the mercantilists believed that one nation could gain only at the expense of another nation and advocated strict government control of all economic activity and trade.
- Adam Smith (and the other classical economists who followed him) believed that all nations would gain from free trade and strongly advocated a policy of laissez-faire (i.e**., as little government interference with the economic system as possible**).
- **Free trade** would cause world **resources to be utilized most efficiently and would maximize world welfare**.
- There were to be only a few exceptions to this policy of laissez-faire and free trade. One of these was the protection of industries important for national defense.
- Paradoxical that today most nation impose many restrictions on free flow of international trade

Absolute advantage

TABLE 2.1. Absolute Advantage

	U.S.	U.K.
Wheat (bushels/hour)	6	1
Cloth (yards/hour)	4	5

Absolute advantage

- US has Absolute Advantage (AA) in producing wheat and UK has AA in producing cloth

Absolute advantage

- If the United States exchanges six bushels of wheat (6W) for six yards of British cloth (6C), the United States gains 2C or saves 1/2 hour or 30 minutes of labor time (since the United States can only exchange 6W for 4C domestically).
- Similarly, the 6W that the United Kingdom receives from the United States is equivalent to or would require six hours of labor time to produce in the United Kingdom. These same six hours can produce 30C in the United Kingdom (6 hours times 5 yards of cloth per hour).
- By being able to exchange 6C (requiring a little over one hour to produce in the United Kingdom) for 6W with the United States, the United Kingdom gains 24C, or saves almost five labor - hours.
- The fact that the United Kingdom gains much more than the United States is not important at this time. What is important is that *both* nations can **gain from specialization in production and trade.**

	U.S.	U.K.
Wheat (bushels/hour)	6	1
Cloth (yards/hour)	4	2

Absolute advantage for whom?

	U.S.	U.K.
Wheat (bushels/hour)	6	1
Cloth (yards/hour)	4	2

US has absolute advantage in producing both goods
So does that mean there is no scope for trade?

Example

Producers	Wheat	Cloth	Opportunity cost (Cloth)	Opportunity cost (Wheat)
US	6	4	3/2 unit of wheat	2/3 unit of cloth
UK	1	2	1/2 unit of wheat	2 cloth
Lower OC ?				

Trade Theories

1. Mercantilism
2. Trade base on absolute advantage: Adam Smith
3. Comparative advantage : David Ricardo

Example

Producers	Wheat	Cloth	Opportunity cost (Cloth)	Opportunity cost (Wheat)
US	6	4	3/2 unit of wheat	2/3 unit of cloth
UK	1	2	1/2 unit of wheat	2 cloth
Lower OC ?			UK has lower OC in producing cloth in terms of wheat	US has lower OC in producing wheat in terms of cloth

Theory of comparative advantage

- UK has low OC in producing cloth in terms of wheat
- Similarly, US has low OC in producing wheat (in terms of cloth) relative to UK.
- Lower OC implies comparative advantage in producing that product
- The comparative advantage theory states that countries (with or without absolute advantage) should specialize in those products in which they have comparative advantage and then both countries could gain from trade.
- CA: mutually beneficial trade can take place even if one nation is less efficient than the other in the production of both commodities.