

INTRODUCTION TO ECONOMICS

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The basic economic problem - Scarcity

- All human beings have various **needs** (e.g. hunger, thirst, education, etc)
- All their needs can be met/satisfied by particular **resources**.
- The problem is that *our needs are unlimited...*
- *... and the resources that satisfy them are limited.*
- The problem is the same for individuals and the society as a whole
- This is known as the problem of **scarcity**.

Scarcity explored

- There are many constraints we need to take into considerations in our daily lives.
- We cannot buy and consume an infinite amount of goods and services.
- Firms cannot produce an infinite quantity of output.
- The Government cannot provide an unlimited quantity of public goods (e.g. roads, schools, hospitals, etc)
- *We are all constrained by our available resources*

Scarcity in our lives!

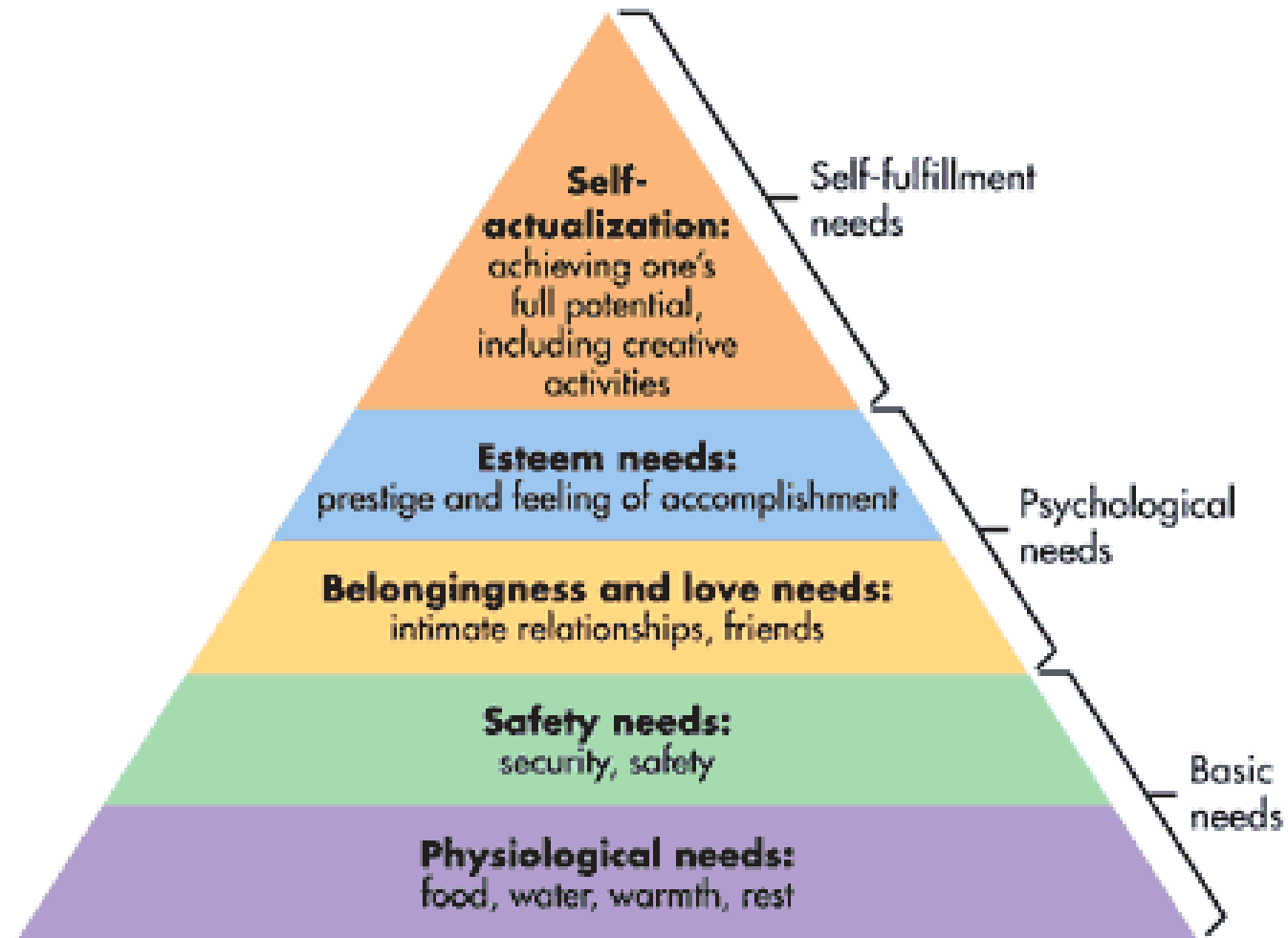
	Needs (unlimited)	Resources (limited)
Individuals	Thirst	Water
	Hunger	Food
	Sleep	Time
Society	Public goods	Tax revenues
	0% illiteracy rate	Schools
	0% unemployment rate	Jobs

Choice is therefore inevitable...

- In the face of scarcity, **choice** is inevitable.
- We want to make **rational** choices in order to make the most out of the relatively limited resources we have.
- A rational choice is one that puts more emphasis on the most pressing needs first and the less important ones later.
- *Economics* studies the choices that individuals, societies and governments, make as they cope with the problem of scarcity.

Scale of preference

- Our needs certainly differ in order of importance.
- Rational choices are made when needs are prioritized.
- A *scale/list of preference* is a list of needs in which the most important needs are placed before the less important ones.
- Abraham Maslow (1908 – 1970) developed a general theory on the hierarchy of needs in which he ranked human needs in a pyramid-like chart.



Scale of preference (2)

- Here is the list of needs of a student
 - Microeconomics textbook (\$125)
 - Laptop (\$350)
 - Food (\$20)
 - Clothes (\$70)
- The scale of preference (needs by order of priority) may be
 - Food (\$20)
 - Clothes (\$70)
 - Laptop (\$350)
 - Microeconomics textbook (\$125)
- Note that price does not determine the order but the relative importance of the items to the student.

Opportunity cost

- A cost is what must be given up in order to acquire something else.
- An **opportunity cost** is the best forgone alternative to the actual choice(s) we make. Let me explain...
- For every choice we make given our current resources, we forgo other choices which could have been made with the same resources.
- Those other choices that we forgo are called our opportunity cost.
- It is a cost because we have to give them up.

Opportunity cost (2)

- In the example of the student's scale of preference, the first 2 items are: food (\$20) and clothes (\$70).
- If the student has \$80, he will buy food and will not have enough money left (\$60) to buy clothes.
- The opportunity cost of "buying food" is "buying clothes" because it is the best alternative he could have afforded with his initial money; however, he had to forgo it.
- Following is a tabular illustration

Opportunity cost (2)

Scale of preference	Price (in \$)	Initial money (in \$)	Can buy?
Food	20	80	Yes
Clothes	70		Yes
Laptop	350		No
Microeconomics textbook	125		No

Food is the most important item on this scale of preference, so this is the first item that will be bought. However, once food is bought, there is not enough money left to purchase the second item (i.e. Clothes). Note that with the initial money, the student could have decided to buy clothes because he could afford it. The choice of buying food automatically means that buying clothes is forgone. *Buying clothes is the opportunity cost of buying food.*

Opportunity cost (3)

- Note that if the student's initial money is not enough to buy clothes (e.g. \$40), then we cannot say that "buying clothes" is the opportunity cost of "buying food".
- Once again, in a nutshell, an opportunity cost is the best alternative(s) that we forgo by making our current choice(s) given our available resources.

Opportunity cost (4): illustration

Scale of preference	Price (in \$)	Initial money (in \$)	Can buy?
Food	20	40	Yes
Clothes	70		No
Laptop	350		No
Microeconomics textbook	125		No

In this case, the initial money is only enough to buy food and nothing else on the scale of preference. Therefore, there is no item that the student forgoes when he buys food. In other words, there is no opportunity cost attached to the choice of buying food.

This is an overly simplistic example because in real life, there is ALWAYS an opportunity cost attached to our choices!

Economics as a social science

- Pure science is generally conducted in 5 main steps:
 - 1- Identification of a problem
 - 2- Hypothesizing about the problem
 - 3- Collecting data on the problem
 - 4- Experimenting with the data in a controlled environment
 - 5- Developing theories to explain these inferences
- However, in economics, it is impossible to experiment (step 4) since we are dealing with humans. Instead, we use 2 approaches: the inductive and the deductive approaches.
- For this reason, economics is called a **social/soft science**.

Positive vs normative economics

- Economists distinguish between statements about “*what is*” and statements about “*what ought to be*”
- Economic statements dealing with facts and the objective description of the state of things have to do with **positive economics**.
- On the other hand, economic statements describing how things should be, what should be done or that include any kind of value judgment have to do with **normative economics**.

Positive vs normative economics (2)

- *Positive economics*
 - Objective
 - Factual
 - Can be tested/verified
- *Normative economics*
 - Subjective
 - Based on value judgment
 - Used mainly for recommendations

Examples

- *Positive statements:*

- The firm is running at a loss.
- Life has become more expensive.
- The economic recession started in 2008.

- *Normative statements:*

- More workers should be hired in the company.
- The plant size should be increased.
- The market agents should not increase their spending.

Microeconomics vs Macroeconomics

- Economics is one of the fields with the most branches, which is obvious because the problem of scarcity exists everywhere.
- Financial economics, mathematical economics, health economics, oil economics, development economics, business economics, agricultural economics...
- However, all these aspects of economics can be grouped into two major subdivisions: **microeconomics** and **macroeconomics**.

Microeconomics

- “Micro” means small
- Microeconomics studies the behavior of individual people, households, firms, markets in an attempt to provide a logical and coherent description of the structure and working of the market economy.
- It deals with economics at a *micro* level:
 - The price of phones in Alabama, the demand for pork, the profit earned by firms in the auto industry...

Macroeconomics

- “Macro” means big
- Macroeconomics is concerned with major economic totals or aggregates. Its focus is not on individual economic agents or individual markets but on the economy as a whole as it analyzes major economic indicators.
- It deals with economics at a *macro* level:
- Gross Domestic Product (GDP), inflation, aggregate demand/supply, unemployment rate...

Economic models

- An **economic model** is a simplified description of the real economic world that includes only features necessary for the study at hand.
- It is a framework that focuses on the aspects of the economy we want to analyze.
- An economic model is made with **assumptions**. Some examples are:
 - Let's assume that the economy is in autarky (no international trade).
 - Suppose a consumer consumes only two goods: bread and meat.
 - Suppose international exchanges do not involve money.

So far...

- Some of the key concepts we have talked about:
 - Scarcity
 - Choice
 - Trade-off
 - Opportunity cost
 - Assumptions
- The following concept will illustrate them all.

Production Possibility Frontiers (PPF)

- Let's create an economic model in order to study the concept of **production possibility frontiers**.
- Assumptions:
 - The economy produces two goods/products only.
 - All the factors of productions are fully used (full employment).
 - The best technology available is used in the production of the two goods/products.

What is a production possibility frontier?

- A PPF indicates the maximum combination of two goods/products that can be produced by an economy using all its available resources as well as the best technology available.
- Let's use an example to have a better understanding of this new concept.
- Let's suppose that an economy produces only 2 goods: tables and chairs.

What is a production possibility frontier? (2)

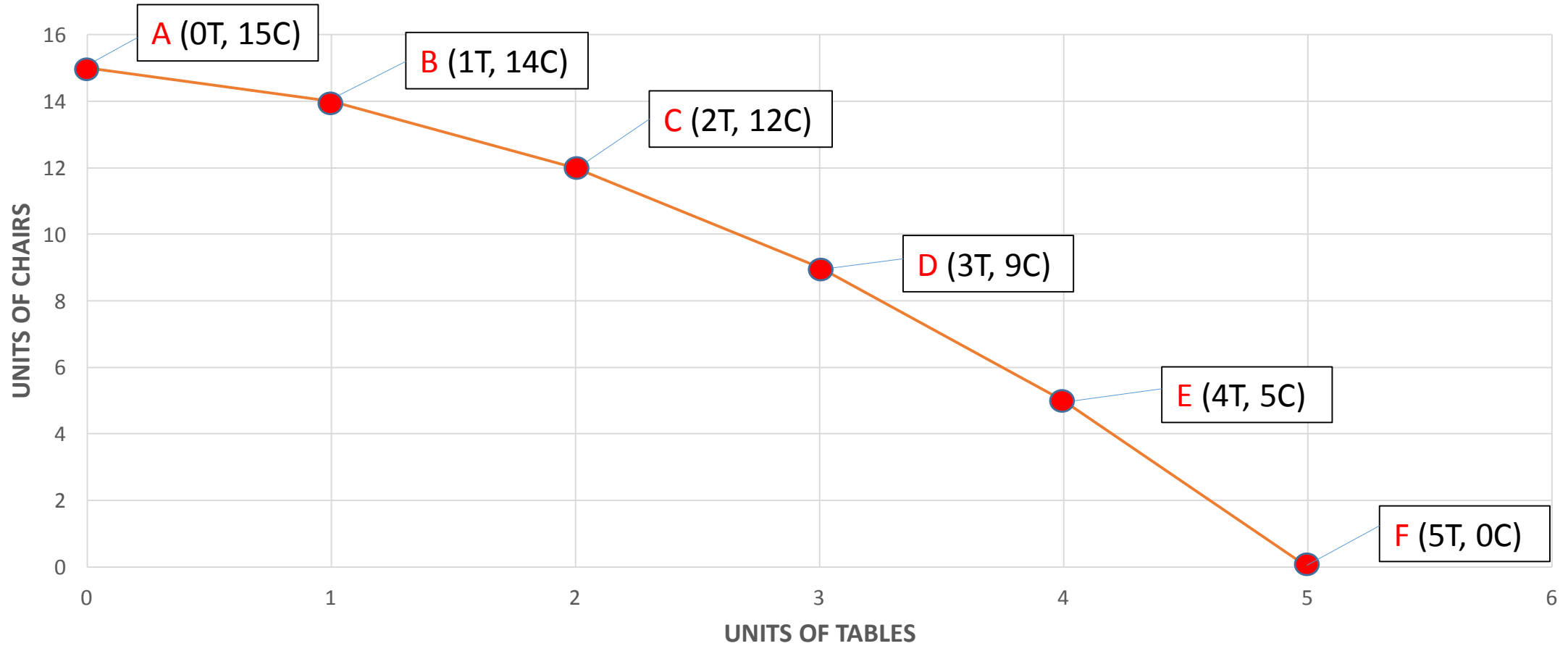
- The only resource the economy has for the production of both goods is wood (in limited quantity) and all of it is used: *scarcity*.
- So the wood is either used for the production of tables or chairs: *choice*.
- Producing *more* tables means that we will have to produce *less* chairs: *opportunity cost*.

A hypothetical production possibility for an economy

Resource endowment: 1000 pounds of wood.

Combinations	Units of chairs	Units of tables
A	15	0
B	14	1
C	12	2
D	9	3
E	5	4
F	0	5

A production possibility frontier



A production possibility frontier (2)

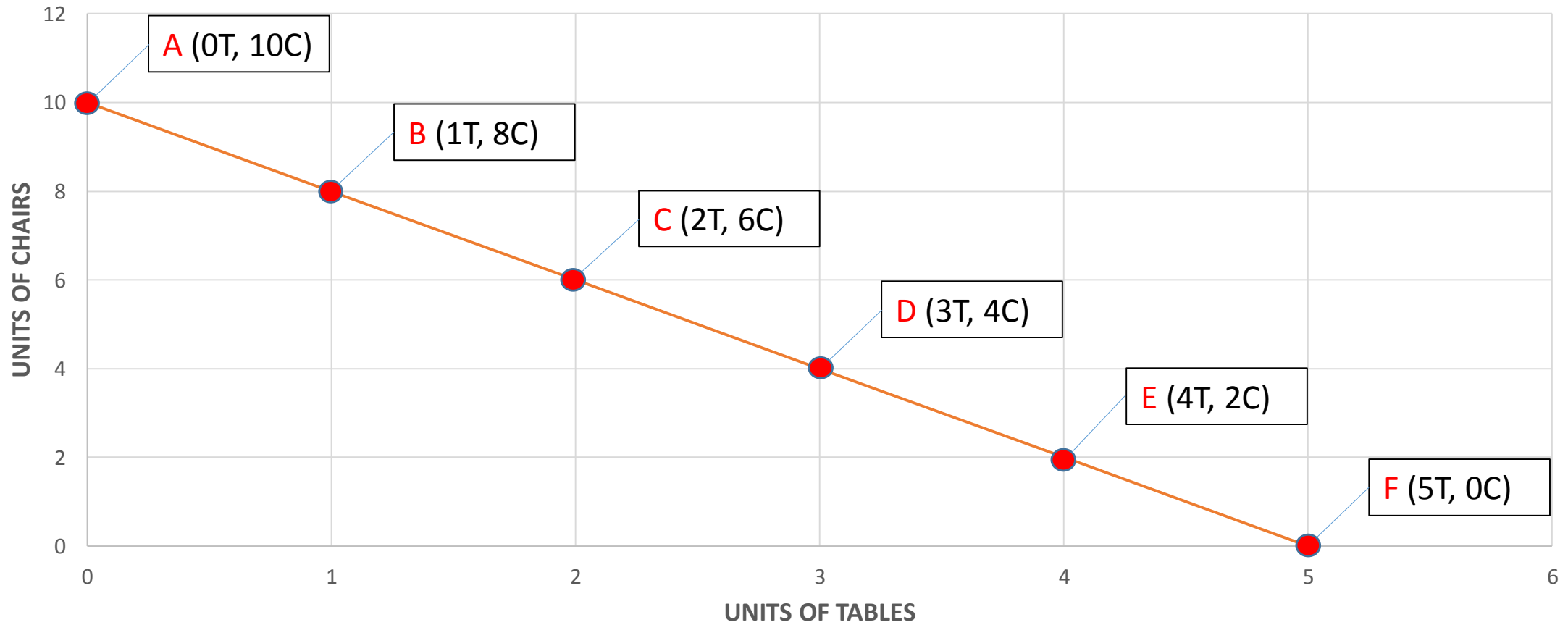
- The economy is able to produce:
 - At point A: 0 table and 15 chairs
 - At point B: 1 table and 14 chairs
 - At point C: 2 tables and 12 chairs
 - At point D: 3 tables and 9 chairs
 - At point E: 4 tables and 5 chairs
 - At point F: 5 tables and 0 chairs

Measuring the opportunity cost

Movement	Opportunity cost
A to B	1 table = 1 chair
B to C	1 table = 2 chairs
C to D	1 table = 3 chairs
D to E	1 table = 4 chairs
E to F	1 table = 5 chairs

As we move along the production possibility curve from point A to point F, we can see that the *opportunity cost increases*.

Another production possibility frontier



Another production possibility frontier (2)

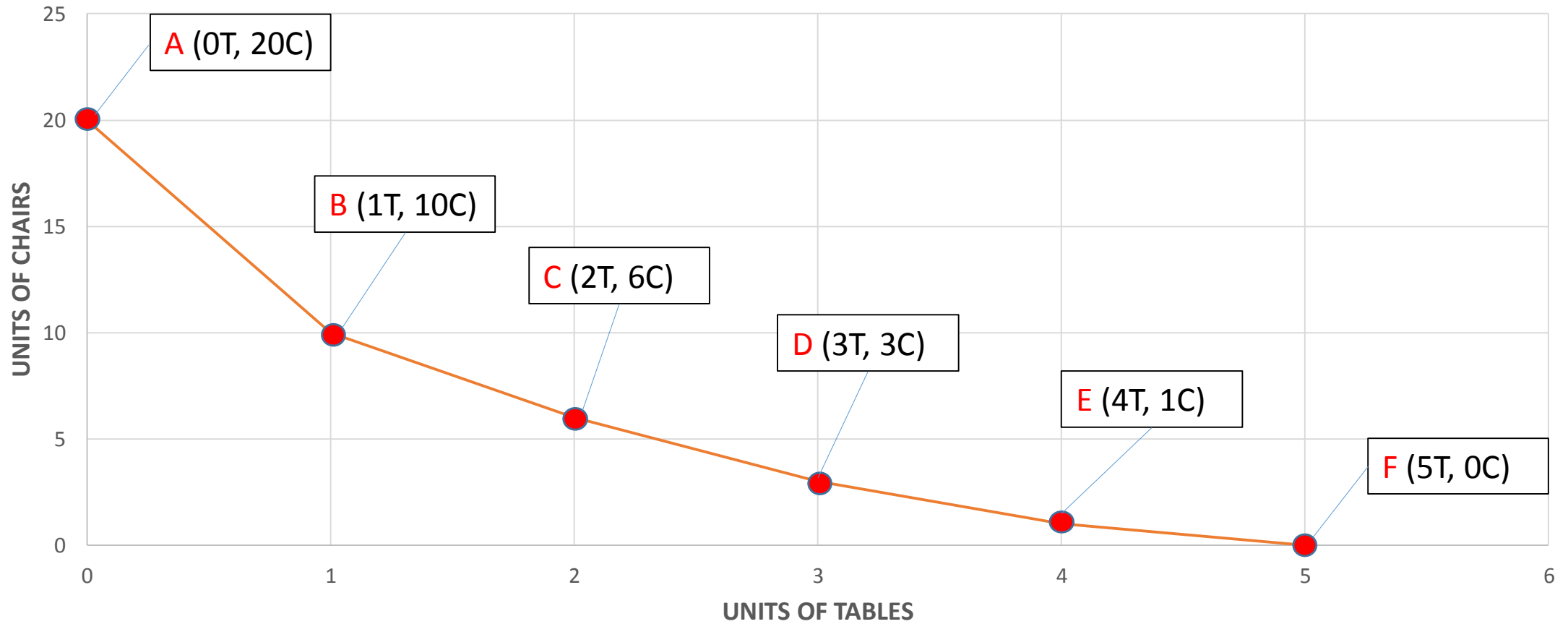
- The economy is able to produce:
 - At point A: 0 table and 10 chairs
 - At point B: 1 table and 8 chairs
 - At point C: 2 tables and 6 chairs
 - At point D: 3 tables and 4 chairs
 - At point E: 4 tables and 2 chairs
 - At point F: 5 tables and 0 chairs

Measuring the opportunity cost

Movement	Opportunity cost
A to B	1 table = 2 chairs
B to C	1 table = 2 chairs
C to D	1 table = 2 chairs
D to E	1 table = 2 chairs
E to F	1 table = 2 chairs

As we move along the production possibility curve from point A to point F, we can see that the *opportunity cost remains constant*.

Yet another production possibility frontier



Yet another production possibility frontier (2)

- The economy is able to produce:
 - At point A: 0 table and 20 chairs
 - At point B: 1 table and 10 chairs
 - At point C: 2 tables and 6 chairs
 - At point D: 3 tables and 3 chairs
 - At point E: 4 tables and 1 chairs
 - At point F: 5 tables and 0 chairs

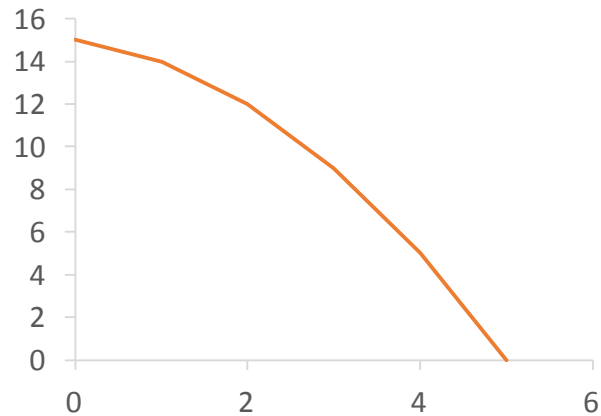
Measuring the opportunity cost

Movement	Opportunity cost
A to B	1 table = 10 chairs
B to C	1 table = 4 chairs
C to D	1 table = 3 chairs
D to E	1 table = 2 chairs
E to F	1 table = 1 chair

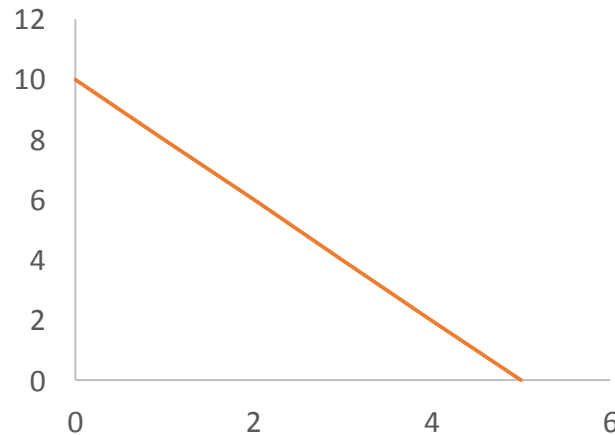
As we move along the production possibility curve from point A to point F, we can see that the *opportunity cost decreases*.

We can observe that...

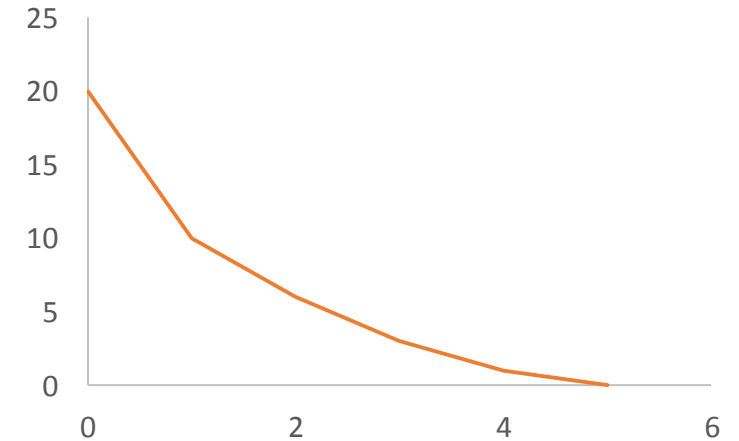
- The shape of the production possibility frontier determines how the opportunity cost changes.



A bowed out (concave) PPF illustrates an **increasing opportunity cost**.



A straight PPF illustrates a **constant opportunity cost**.

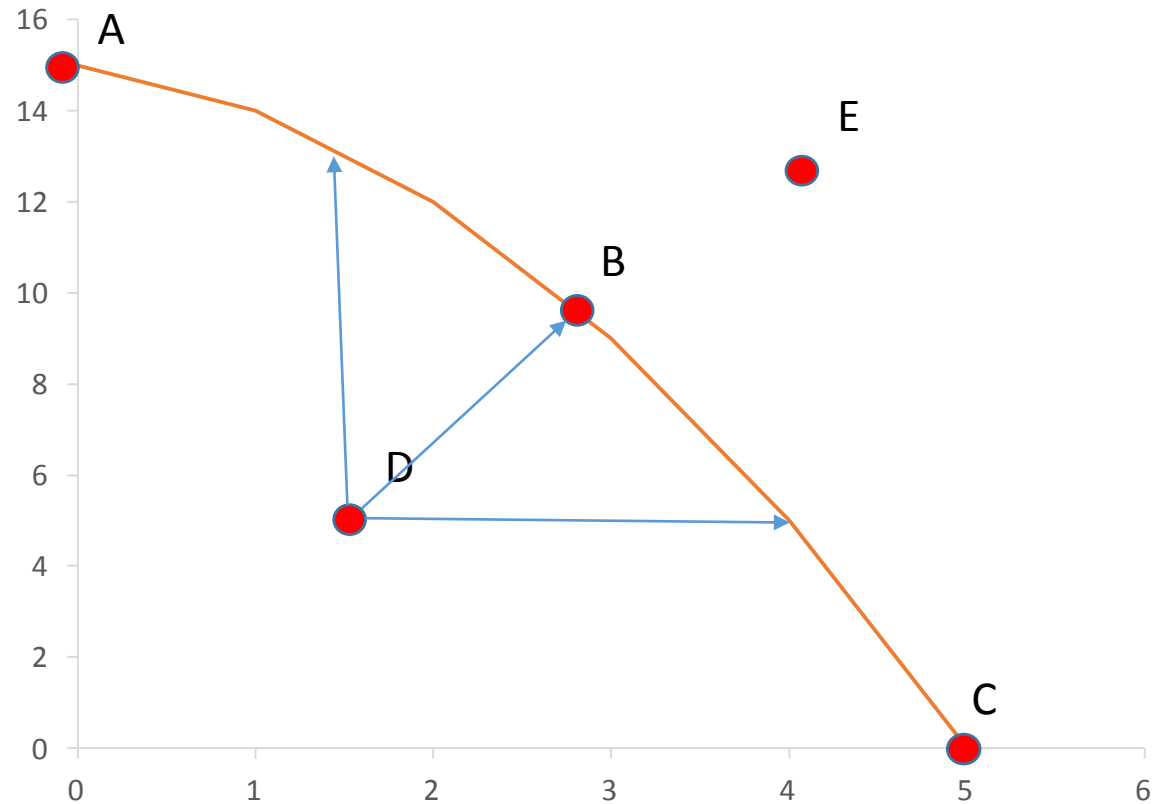


A bowed inward (convex) PPF illustrates a **decreasing opportunity cost**.

Productive efficiency

- *Productive efficiency* is attained when the maximum amount of goods possible is produced given all the available resources.
- It is achieved when it is not possible to produce one more unit of a good without decreasing the level of production of another (the other) good.

Productive efficiency

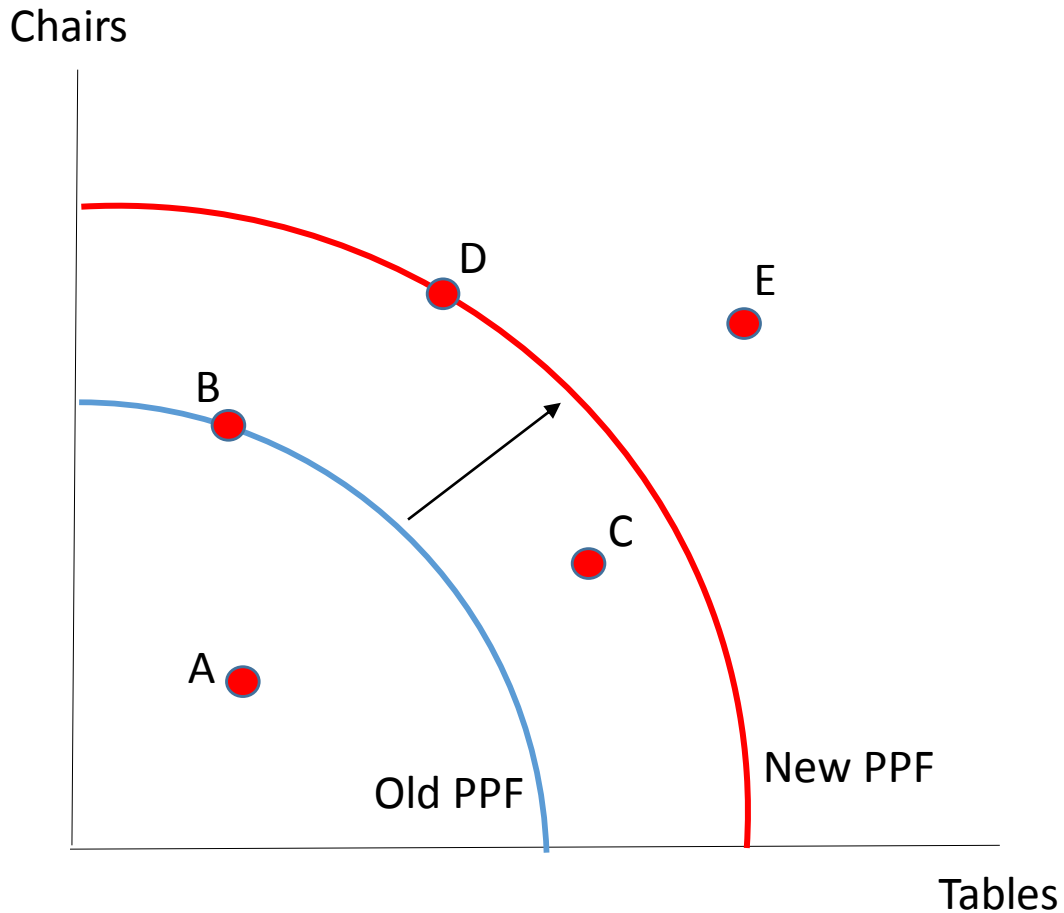


- At points A, B and C, it is impossible to produce more of a good without decreasing the production of the other good. *Productive efficiency* is attained at these points.
- At point D, it is possible to produce more of either chairs or tables or both goods.
- It is not possible to produce at point E.

Shifts in the production possibility frontier

- If there is an improvement in the production technology used in the economy or an increase in the economy's resource base, then it is possible to produce more of both goods (i.e. chairs and tables).
- It is graphically illustrated by an **outward (rightward) shift in the production possibility frontier.**

Shifts in the production possibility frontier (2)

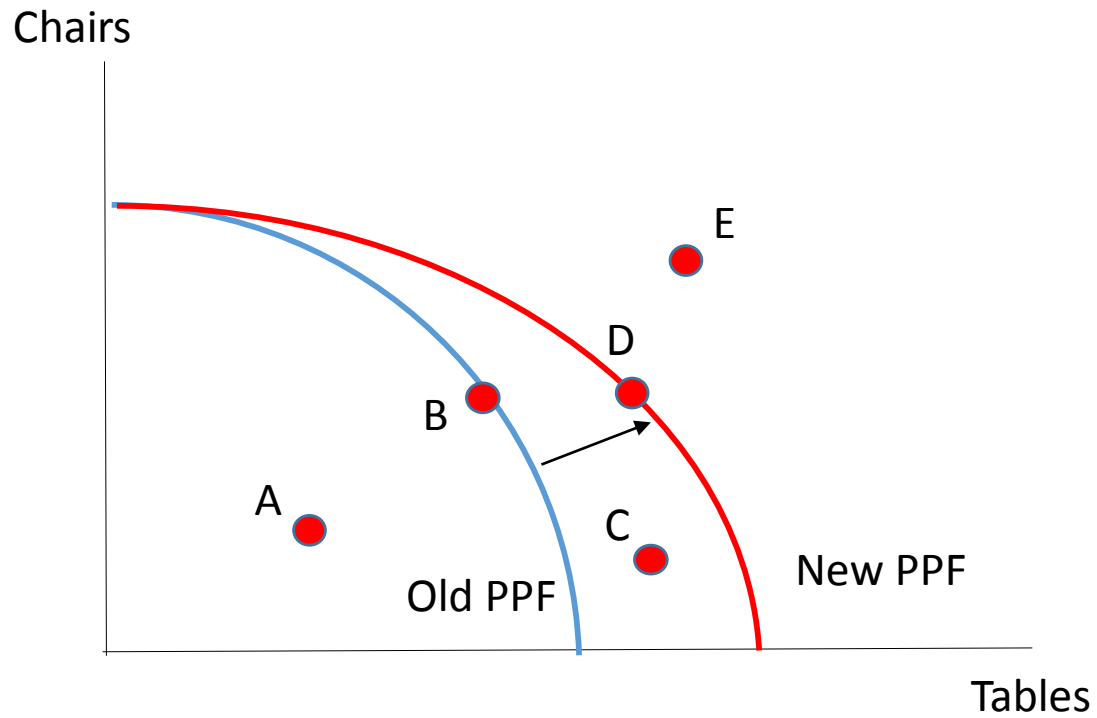


- The PPF shifts outward, which means that the economy can now produce more output.
- For example, before the shift, points C and D were unattainable. But after the shift, they are now attainable.
- However, point E is still unattainable.

Shifts in the production possibility frontier (continued)

- Let's now suppose that the improvement in technology or the increase in the resource base only benefits the production of one of the two goods and not both.
- Then, only more of one good can be produced

Shifts in the production possibility frontier (2)



- The PPF shifts outward, but only so as to depict a bigger production possibility for tables.
- After the shift, even if all the resources are used for the production of chairs only, the same level of production would be attained just as before the shift.
- Nevertheless, the economy is better off because previously unattainable points can now be attained.

Now you should be able to...

- Identify the basic economic problem and explain it.
- State why we are forced to choose and explain what a rational choice is.
- Understand the concept of a scale of preference.
- Understand and explain the very important concept of opportunity cost.
- Explain why economics is called a social science and not a pure science.
- Know the differences between positive and normative economics
- Know the differences between microeconomics and macroeconomics and the kind of questions they deal with.

Now you should be able to... (2)

- Understand what an economic model is.
- Understand the concept of a production possibility frontier (PPF).
- Explain how a PPF is relevant in understanding the concepts of scarcity, choice and opportunity cost
- Know the change in opportunity cost depending on the shape of a PPF.
- Understand the concept of productive efficiency.
- Understand the shifts in the PPF.