Topic 2: The Classical Theory of Trade.

Outline:

1. **Main ideas.**
    - **Labour theory of value.**
    - **Absolute advantage.**
    - **Opportunity cost**
    - **Comparative advantage.**
2. **Production and consumption possibilities.**
3. **The gains from trade.**
4. **Empirical evidence.**

READ: Ch. 2, (you may skim sections 2.2 and 2.3).

Labour theory of value: Labour is the ultimate input in the production of all goods.

Further, each unit of extra labour used to produce a good yields a *fixed* number of extra units of that good.

Consider the following table of unit labour requirements:

	France	Russia
Watches	**1/2**	**1**
Shoes	**1/8**	**1/6**

Unit labour requirement: the amount of labour needed to produce one unit of the good.

Labour is measured in *person-hours*.

Now consider the *inverse* table:

	France	Russia
Watches	**2**	**1**
Shoes	**8**	**6**

Each element gives the units of each good that can be produced by one person-hour of labour.

The concept of absolute advantage (AA) compares labour productivity in the same good between two countries.

A country has AA in the production of good X if it can produce *more* of good X with a given amount of labour ...

... or, if it can produce a given amount of good X with *less* labour.

But AA cannot cover all situations in which countries trade. This is because it might be the case that a country has no AA in any good!

We need to introduce opportunity cost.

The opportunity cost (OC) of one good (X) is defined in units of some other good (Y).

The OC of X is the number of units of Y that have to be 'sacrificed' (*i.e., not* produced) when scarce resources (in the classical case, this is only labour) are used to produce an *extra* unit of X ...

The OC of Y is the number of units of X that have to be sacrificed when an *extra* unit of Y is produced.

<u>Watches</u>: How many pairs of shoes have to be sacrificed (*not* produced) in order to produce an extra watch?

	France	Russia
OC of Watches	**4 pairs**	**6 pairs**

<u>Shoes</u>:

	France	Russia
OC of Shoes	**1/4 watch**	**1/6 watch**

The concept of comparative advantage compares the OCs of different goods across two countries.

A country has a comparative advantage (CA) in the production of good X if the OC of good X is less than in the other country.

With two goods, X and Y, if one country has lower OC of X than the other *must* have lower OC of Y.

In general, even the most unproductive and inefficient countries will have CA in *some* goods.

Exception: If one country's absolute *dis*-advantage is identical in both goods, then neither will have a CA in either good.

Gains: (Return to labour-output table)

	France	Russia
Watches	2	1
Shoes	8	6

Suppose France has 6 workers, Russia has 10.

Also suppose that in each country, half of the workers are (initially) employed in watches; the other half in shoes.

Production and consumption of each good:

	France	Russia
Watches	6	5
Shoes	24	30

Initial global watch output = 11.

Initial global shoes = 54.

Now, suppose specialisation: France in watches, Russia in shoes.

New watches = 12.

New shoes = 60.

World output of *both* goods has gone up!

Suppose that France exports 6 watches to Russia at a relative price of 4.5 shoes per watch. The new consumption levels will be

	France	Russia
Watches	6	6
Shoes	27	33

***Both* countries are better off!**

Production and consumption possibilities:

The production possibilities frontier (PPF) maps the combinations of two goods that a country can produce with given resources.

Given the assumptions of the classical theory of trade, this is a straight line relationship.

The slope of each PPF equals the opportunity cost of the X-axis good.

Under autarky, a country's consumption possibilities frontier (CPF) is the same as its PPF.

Under free trade, a country is free to buy or sell as much as it wants of each good, so long as the value of its purchases do not exceed that of its sales. This restriction is called an international budget constraint (IBC)

Thus, under free trade a country's CPF coincides with its IBC. But the IBC has to also be compatible with production possibilities (see below).

A small country does not affect the world prices of the goods it buys or sells. Hence it faces a *straight line* IBC, the slope of which equals the (world) relative price of the X-axis good.

A country's GDP can be graphically portrayed as the point at which it produces along its PPF. The value of its GDP is the value of its production of each good measured at world prices. This is the country's income.

Thus, the IBC must intersect the PPF *at* the point of production.

A country will produce both goods if and only if the relative price of each good *equals* its opportunity cost of production.

Otherwise, it will specialise in the production of that good whose relative price exceeds its opportunity cost of production.

Intuition:

The relative price of a good equals the cost (in units of another good) of 'buying' the good on the *world* market.

The OC of a good equals the cost (also in units of other good) of producing domestically.

It makes sense to produce a good if and only if it costs less to produce it yourself than to buy it on world markets.

Gains from trade:

The concept of gains from trade is very precise. It compares a country's welfare in a situation involving free trade with that under autarky.

Autarky: a situation in which a country's consumption of various goods is met entirely by its own production.

A country faces two kinds of constraints.

- **A resource constraint or PPF.**
- **An IBC.**

In general, trade makes each country's budget constraint *dominate* **its resource constraint.**

This is because the country (in general) gets the opportunity to import the good in which it has a comparative *dis***-advantage at a cheaper cost than if it tried to produce the good itself. Thus, it specialises in the good in which it has a comparative advantage.**

With two countries, each of which has CA in one of the two goods, the PPF of each country will have a different slope.

Under autarky, each country's CPF will coincide with its own PPF. Thus, the relative price of each good in one country will equal the OC of producing it in that country.

On opening up to trade, the relative prices have to equalise between the two countries. This is because with trade, price arbitrage will take place.

In equilibrium the two countries' IBCs will no longer coincide with their PPFs. The two IBCs will have

- **equal slopes (reflecting the equalisation of relative prices between the countries)**
- **but not necessarily the same 'level'.**

Note that with trade the relative price of each good will lie between its OC in each country. In most cases, it will lie *strictly* in between. Thus, each country will specialise in one of the two goods.

Given its specialisation, each country's IBC will dominate its PPF. Thus, gains accrue to both.

Note, however, the gains will not necessarily be *equally* shared between the countries. A lot will depend on exactly what the equilibrium relative price turns out to be.

How is the exact equilibrium price determined? To answer this, we would need to introduce the *preferences* of consumers in each country. This will be done in the context of the next chapter's topic.

Empirical relevance:

Not every aspect of the model should be taken literally.

In reality, countries do not specialise in a narrow range of goods.

But this may be explained by expanding on the classical model itself:

- **many goods;**
- **transport costs;**
- **non-traded goods.**

Empirical evaluation has therefore focused on main prediction, *i.e.* **a country exports goods in which it's labour productivity is** *comparatively* **higher.**

Read section 2.7 yourself for the details.