Outline: Trade Theory

- Free trade has positive welfare effects.
- Neoclassical trade theory: Countries trade because they are different (north-south-trade).
- In autarky: relative prices are different.
- New trade theory: Trade can take place between similar countries (north-north-trade).
- Although overall welfare is increasing, there are winners and losers of globalization.

Development of Trade Theory

1. Mercantilism
2. Ricardo: Absolute & Comparative Advantage
3. Heckscher/Ohlin: Factor Endowment Approach
4. Krugman Video
5. Krugman model: Economies of Scale

Learning outcome: Free trade is beneficial, but some won't like it.

1. Mercantilism

> The ordinary means therefore to increase our wealth and treasure is by foreign trade, wherein we must ever observe this rule; to sell more to strangers yearly than we consume of theirs in value.
>
> Thomas Mun, 1664

- Even today mercantilist ideas play a role
- although their shortcomings were clearly ascertained.

1. Mercantilism

- Collection of economic ideas and lines of thought (1500 – 1750).
- Has a strong influence on economic thinking and economic policy.
- The prosperity of a country is reflected in the value of gold and silver that "the king" has accumulated.
- Economic activity is a zero-sum game.

Mercantilism: Economic activity should be regulated

Exclusive trading rights

- For certain routes
- Trade monopolies ➔ profits

Capital controls

- Government controlled the use and exchange of precious metals (bullionism)

Economic activity should be regulated

Export subsidized

- Exports were subsidizes to increase exports

Imports restricted

- Quotas and high tariffs should reduce imports of consumption goods

Critical assessment of the mercantilists’ thoughts

- Adam Smith (1776): The Wealth of Nations

•Smith: A nation’s wealth was reflected in its production & consumption possibilities and not in its holdings of precious metals.

•Growth in production was fostered best in an environment where people were free to pursue their own interests.

- Mercantilism: Rich Nations = Poor Workers

•Implementation of low wage policy. WHY?

•Labor was seen as the critical factor in production, low wages would lead to low production costs ➔ higher competitiveness
•Lower class must be kept in poor

PARADOX
•Rich nations in the Mercantilists sense would comprise large numbers of very poor people.
•Gold/silver was accumulated at the expense of current consumption.

Adam Smith (1776): The Wealth of Nations

Consumption possibilities of the population

- "No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable.“
- "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.“
- Adam Smith is a "Free Trader" - but consider contexts!

https://www.motivatoren.de/Adam-Smith.htm
https://www.quotez.net/german/adam_smith.htm

1. Mercantilism

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KONJUNKTUR

Deutschland bleibt Exportweltmeister

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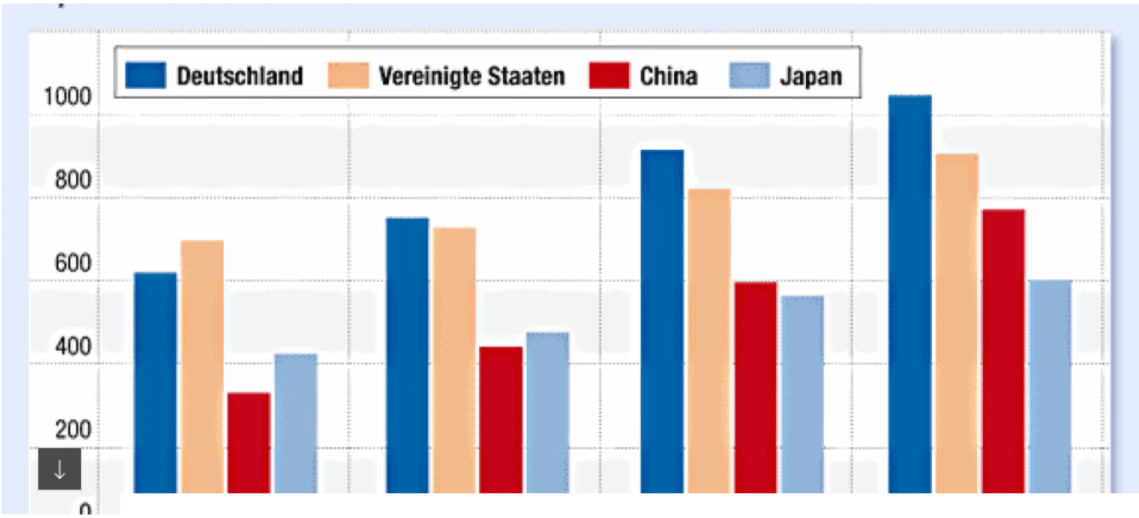

Die deutschen Unternehmen haben ihren Titel als "Exportweltmeister" verteidigt. Doch China könnte der Bundesrepublik den Titel schon bald streitig machen. Das bevölkerungsreichste Land der Erde hat Japan schon von Platz drei verdrängt.

Outline: III. Trade Theory & Trade Policy

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2. Ricardo: Absolute & Comparative Advantages

David Ricardo, The Principles of Political Economy and Taxation (1817)

David Ricardo (1772-1823)

Absolute & comparative advantage

- Two countries (England & Portugal), two goods (cloth & wine), ONE factor of production (L=labor).
- Input-Output-Relationship ➔ $L = a * q$.
- Labor requirements (a): Units of labor (L) to produce one unit of output (q).
- Technology and thus production function are internationally different.
- (Relative) prices are different in autarky.

	Cloth	Wine	Opportunity costs of producing wine	Opportunity costs of producing cloth
England	3 yd	6 bbl	2 C/W	0.5 W/C
Portugal	2 yd	1 bbl	0.5 C/W	2 W/C

- Portugal has an absolute advantage in cloth industry.
- Portugal has an absolute advantage in the wine industry.

- Portugal has a comparative advantage in the wine industry.
- England has a comparative advantage in the cloth industry.

Specialization increases production

	Cloth	Wine
England	3	6
Portugal	2	1

Assumptions:

Each country has 600 units of labor.

Autarky: Split 50:50 among both sectors.

Production & consumption possibilities in autarky	Cloth	Wine
England	100 yd	50 bbl
Portugal	150 yd	300 bbl
World	**250 yd**	**350 bbl**

Assumptions:

England produces 1 unit less of wine.

Portugal produces 1 unit less of cloth.

Production after specialization	Cloth	Wine
England	102 yd	49 bbl
Portugal	149 yd	302 bbl
World	**251 yd**	**351 bbl**

International trade distributes production growth

Assumptions:

Terms of Trade:
1 yd / 1 bbl

England exports
1.5 yds of cloth

Portugal exports
1.5 bbls of wine

Production after specialization	Cloth	Wine
England	102 yd	49 bbl
Portugal	149 yd	302 bbl
World	**251 yd**	**351 bbl**

Consumption possibilities according to specialization and trade	Cloth	Wine
England	100.5 yd	50.5 bbl
Portugal	150.5 yd	300.5 bbl
World	**251 yd**	**351 bbl**

Comparison of autarky & scenario with specialization and free trade: Both countries win

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Dear Portuguese,

even though you're ahead in all areas of the economy,

you can win by international trade with the backward Englishmen.

Please, please, trade with us!

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3. Heckscher & Ohlin: Factor endowment approach

Eli Heckscher
(1879-1952)

Bertil Ohlin
(1899-1979)

Heckscher/Ohlin Model: Assumptions

- Two countries (Germany & China), two goods (steel & cloth), TWO factors of production (labor & capital)
- Steel sector: Capital intensive sector
- Cloth sector: Labor intensive sector
- Production functions are identical, technology is identical
- What is the difference between the countries?

- Relative factor endowments are different!
- Domestic country (Germany): Capital abundant country.
- Foreign country (China): Labor abundant country.
- $(K/L)_{Germany} > (K/L)_{China}$

Autarky

- Germany is the capital abundant country ➔ Price of the capital intensive good (steel) will be relatively low.
- China is the labor abundant country ➔ Price of labor intensive good (cloth) will be relatively low.
- Germany will specialize in steel and will export steel.
- China will specialize in cloth and will export cloth.

Heckscher-Ohlin Theorem

A country will export the commodity that uses relatively intensively its relatively abundant factor of production, and it will import the good that uses relatively intensively its relatively scarce factor of production.

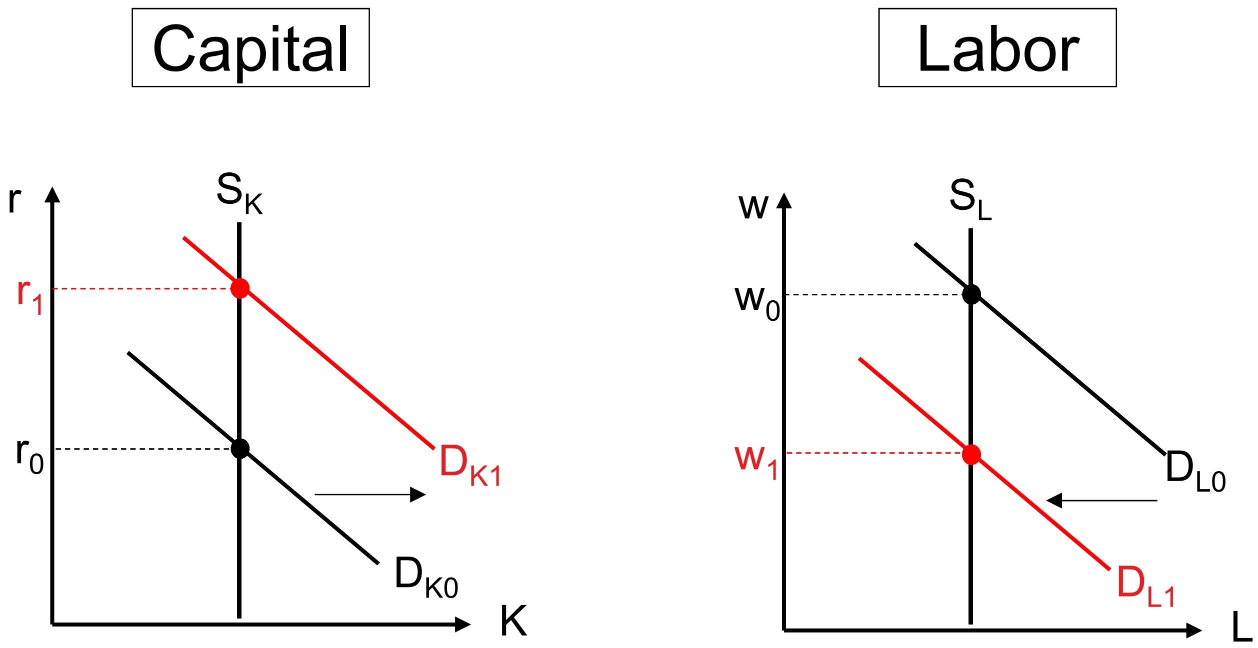
From autarky to free trade: Demand for factors changes

Germany

- The steel sector expands & the cloth sector shrinks.
- Resources are shifted from the cloth sector to the steel sector.
- Bundle of resources released from cloth production is different from the bundle desired in the steel sector because factor intensities in the two sectors differ.
- Since the cloth sector is relatively labor intensive it releases a bundle of factors that contains relatively many labor units.
- Since the steel sector is relatively capital intensive it desires a bundle of factors that contains relatively many capital units.

➔ Demand for capital increases / demand for labor decreases.

The influence of international trade on factor prices in Germany



Stolper-Samuelson Theorem

The increase in the factor price of the relatively abundant factor ($r\uparrow$) and the fall in the factor price of the relatively scarce factor ($w\downarrow$) imply that

- the owners of the abundant factor will find their real incomes rising and
- the owners of the scarce factor will find their real incomes falling.

- Owners of the relatively abundant factor are in favour of free trade (globalization).
- Owners of the relative scarce factor are against free trade.

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4. Krugman Video

4 . Paul Krugman: North-North Trade & the Role of Economies of Scale

- Ricardo & Heckscher/Ohlin ➔ North-South-Trade
- *„Countries are trading because they are different!“*

- New Trade Theory (Krugman) ➔ North-North-Trade
- The countries are completely identical in autarky.
- There are NO price differences between two countries.
- A change in production conditions only occurs as a result of the specialization accompanied by internationalization.
- Reduction of production costs leads to welfare gains for both countries.

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Positive Economies of Scale

- Labor is the only factor of production

$$(1) \qquad L = b + aq$$

- L amount of labor needed by the firm
- b constant
- a Work efficiency: specifies the relation between the output level q and the amount of labor needed L
- Because $b > 0$ ➔ Doubling of output does NOT require doubling of input
  ➔ Labor input must only increase disproportionately
  ➔ Economies of scale
- Equation is different compared to the "World of Ricardo"
  ➔ Ricardo = constant economies of scale

$$(1') \qquad L = aq$$

Input-Output-Table

(1) $L = b + a\,q \quad b = 5 \;\&\; a = 1$

Output	Input (Labor)	Average Input / Output
q	L	q / L
5	10	2.00
10	15	1.50
15	20	1.33
20	25	1.25
25	30	1.20
30	35	1.17

Autarky

- USA and UK each have L = 30 labor units available.
- Allocation: 50:50 between both sectors.
- Two sectors: Automotive (car) and education (university).
- Production function in both sectors: L = 5 + 1 * q.

Production and consumption in autarky	Cars	Lectures
USA	10	10
UK	10	10
World	**20**	**20**

Specialization, economies of scale, profits from international trade

- USA specialize completely in the automotive industry.
- UK fully specializes in the education sector.
- What is the output if L = 30 is used in the respective industry?

Production	Cars	Lectures
USA	25	0
UK	0	25
World	**25**	**25**

Specialization, economies of scale, profits from international trade

Production	Cars	Lectures
USA	25	0
UK	0	25
World	**25**	**25**

- Terms of Trade: USA and UK exchange at a ratio of 1:1
- USA exports 12.5 cars
- UK exports 12.5 lectures

Consumption	Cars	Lectures
USA	12.5	12.5
UK	12.5	12.5
World	**25**	**25**

Specialization, economies of scale, profits from international trade

Consumption in autarky	Cars	Lectures
USA	10	10
UK	10	10
World	**20**	**20**

Consumption with specialization and international trade	Cars	Lectures
USA	12.5	12.5
UK	12.5	12.5
World	**25**	**25**