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Lecture 14. International trade and the principle of comparative advantage

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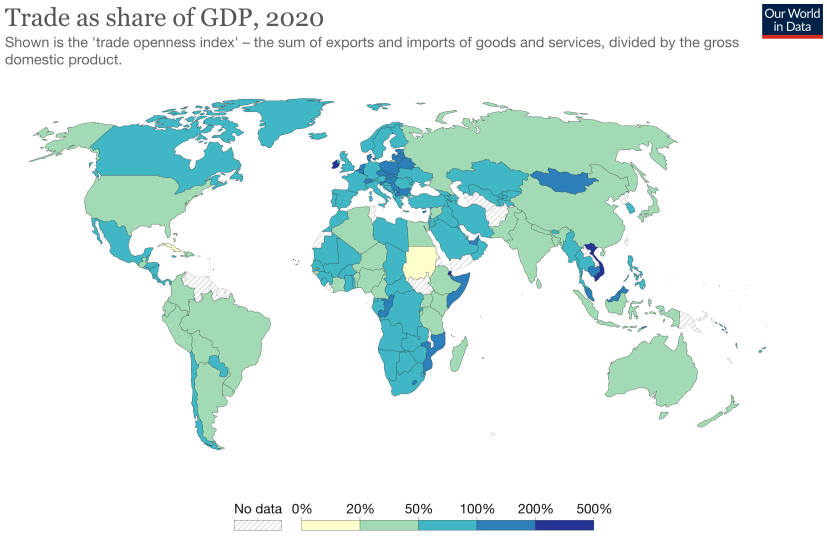
International trade and the principle of comparative advantage

We now add international trade to our study of general equilibrium

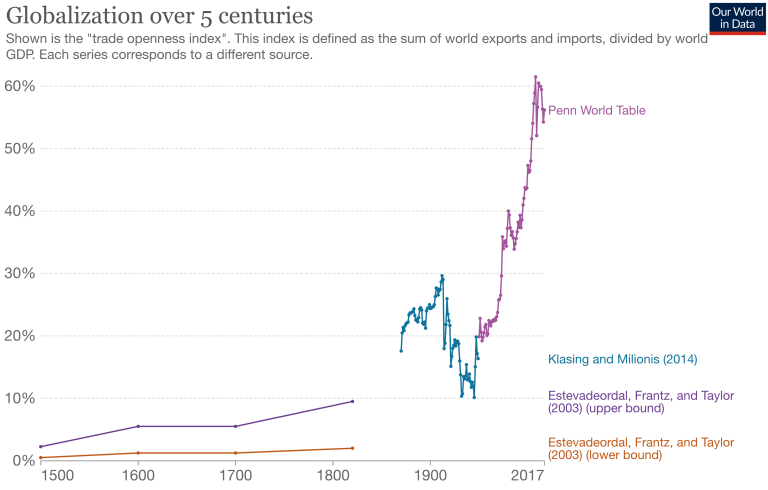
- International trade is a big deal! A huge chunk of economic activity is traded across borders, and this share has been rising for decades
- International trade affects well-being in poor and rich countries—*perhaps even more so in low-income countries*
- International trade is extremely controversial—*perhaps even more so in high-income countries*

Many countries trade a large fraction of GDP, sometimes exceeding 100%

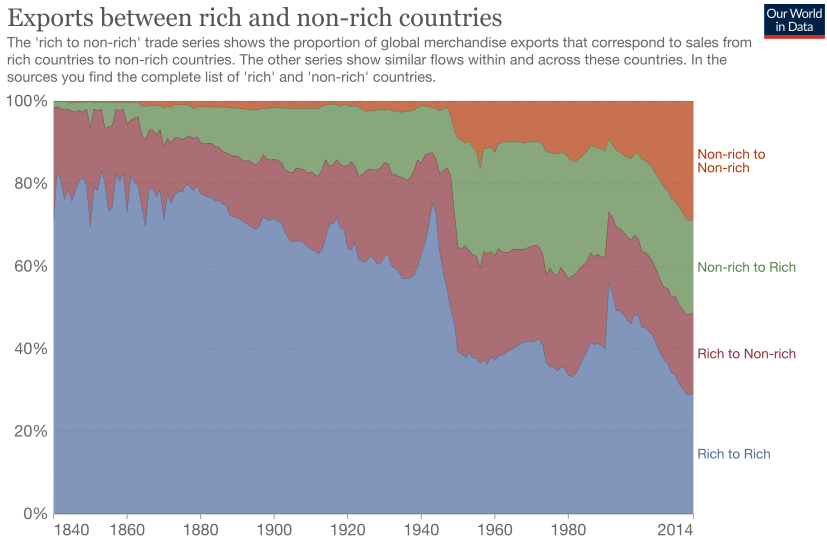


World trade/GDP has been rising for 200 years

Took a huge fall during WWI — ground not fully regained until mid 1970s!



Historically, most trade rich ↔ rich, rich ↔ non-rich. But changing fast



International trade and the principle of comparative advantage

International trade and the principle of comparative advantage

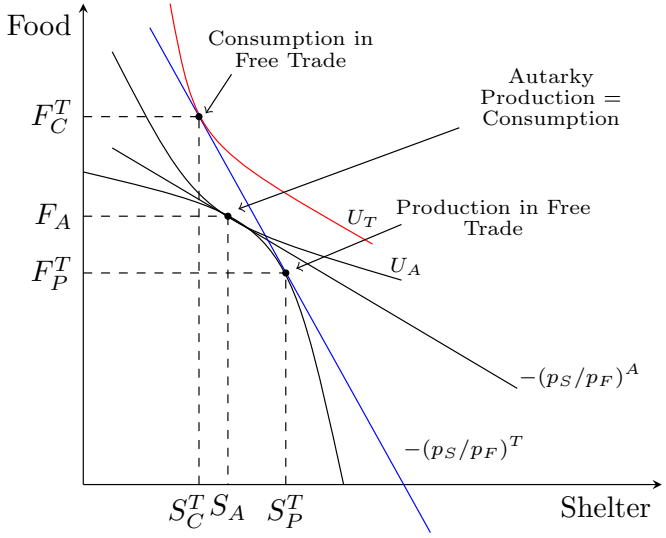
Adding international trade to our study of general equilibrium

– *International trade means trade between countries rather than between consumers—opposite of **autarky**, meaning trade only among citizens within a country*

Questions we want to answer

1. What are factors that give rise to gains from **trade between nations**?
2. Are the gains from trade (international trade, that is) necessarily positive in aggregate—or does it depend on which country we are trading with?
3. Why is it only differences in **relative prices** across countries that matter for trade, rather than **price levels**?
4. Does trade raise national incomes (this Wednesday)?
5. Why is free trade so controversial (next Monday)?

Autarky and free trade



Trade balance

- For each good, the quantity produced differs from the quantity consumed:

$$\begin{aligned} \text{Exports} &= S_P - S_C, \\ \text{Imports} &= F_C - F_P. \end{aligned}$$

- But both points (S_C, F_C) and (S_P, F_P) lie on the same budget line, so they must cost the same:

$$\begin{aligned} S_P P_S^w + F_P P_F^w &= S_C P_S^w + F_C P_F^w, \\ P_S^w(S_C - S_P) + P_F^w(F_C - F_P) &= 0. \end{aligned}$$

- There is no trade imbalance
- Important because many policy discussions confuse trade imbalance with trade itself
- You can have trade without trade imbalance (though not vice versa)

The sources of comparative advantage

Comparative advantage

- **Not an accident which good Home is importing and which good it is exporting**

$$\left(\frac{P_S}{P_F}\right)_W > \left(\frac{P_S}{P_F}\right)_A,$$

- Home holds a *comparative advantage* in producing shelter: can produce S relative to F at *comparatively* low cost relative to the rest of the world
- The *comparison* is not Home's cost relative to the World's cost. The comparison is Home's *opportunity cost* of how much F it must give up to produce more S
- **After trade opening**
  1. Home's total consumption of F has risen and its total production of F has fallen
  2. Home's total consumption of S has fallen and its total production of S has risen

Why do relative prices differ among countries?

Three underlying factors affect relative prices across countries

1. Tastes — AKA preferences
2. Technology — Skill, proficiency, expertise at producing something
3. Endowments — Resources or initial conditions that facilitate producing some things over others

How do we know there are gains from trade?

Gains from trade

The gains from trade

- Home still produces on the original PPF
- But Home consumes above its original PPF
- **Home is better off**: The gap between the autarkic indifference curve and international trade indifference curve reflects the gains from trade
- World is at least better off than before (otherwise it wouldn't trade with Home)

Analytically, why are we certain that trade raises welfare in both/all countries?

Gains from trade

The gains from trade So, what constraint on general equilibrium problem does international trade relax?

A. Marginal rate of substitution equated among consumers (gains from trade exhausted)

B. No trading party (here a country) made worse off relative to the initial endowment

C. **Consumption is bounded by the Edgeworth box or PPF (economy's endowment) $\longleftrightarrow$ Final consumption is exactly equal to total endowment**

Why do relative (not absolute) prices matter for gains from trade?

Where do gains from trade come from?

- If $\left(\frac{P_F}{P_S}\right)_A = \left(\frac{P_F}{P_S}\right)_W$, there are no gains from trade.
- Gains from trade come entirely from **differences** between countries
- If there were truly "a level playing field" among trading partners—as politicians like to say—then there would be no point in trading
- Gains from trade arise because *relative* prices differ between Home and World
- This raises two further questions
  1. Why do relative prices differ among countries?
  2. Why is it *relative not absolute* prices that matter?

Why do only relative prices matter?

- In our diagram, it's only the *relative* price of F versus S in Home versus World that determines what the gains are from trade.
- Why doesn't the *absolute* level of prices matter?
  - Easy to see why U.S. would benefit from trade with China: everyday low prices! China has an "absolute advantage" in many goods that it trades with U.S.
  - Does this imply that China *won't* benefit from trade with the U.S. since U.S. has everyday high prices?
- Is free trade with China good for the U.S. but bad for the Chinese?
- This is a profoundly important question to which the answer is **no**
  - As long as relative prices differ between China and the U.S., both countries experience gains from trade

Insights and puzzles

Key insight

The **principle of comparative advantage** is a fundamental economic insight — analogous to the general welfare theorems

- Welfare theorems demonstrate that allowing individuals to trade freely is Pareto-improving (and leads to Pareto efficient allocations)
- The principle of comparative advantage says that allowing countries to trade always raises welfare in both countries

If free trade is so awesome, why is it so controversial?

- Free trade among consenting nations raises GDP in all of them
- So why isn't it free trade universally beloved?
  1. Economics is hard — people don't get it
  2. There's another tradeoff lurking here
- We'll return to this question two lectures from now