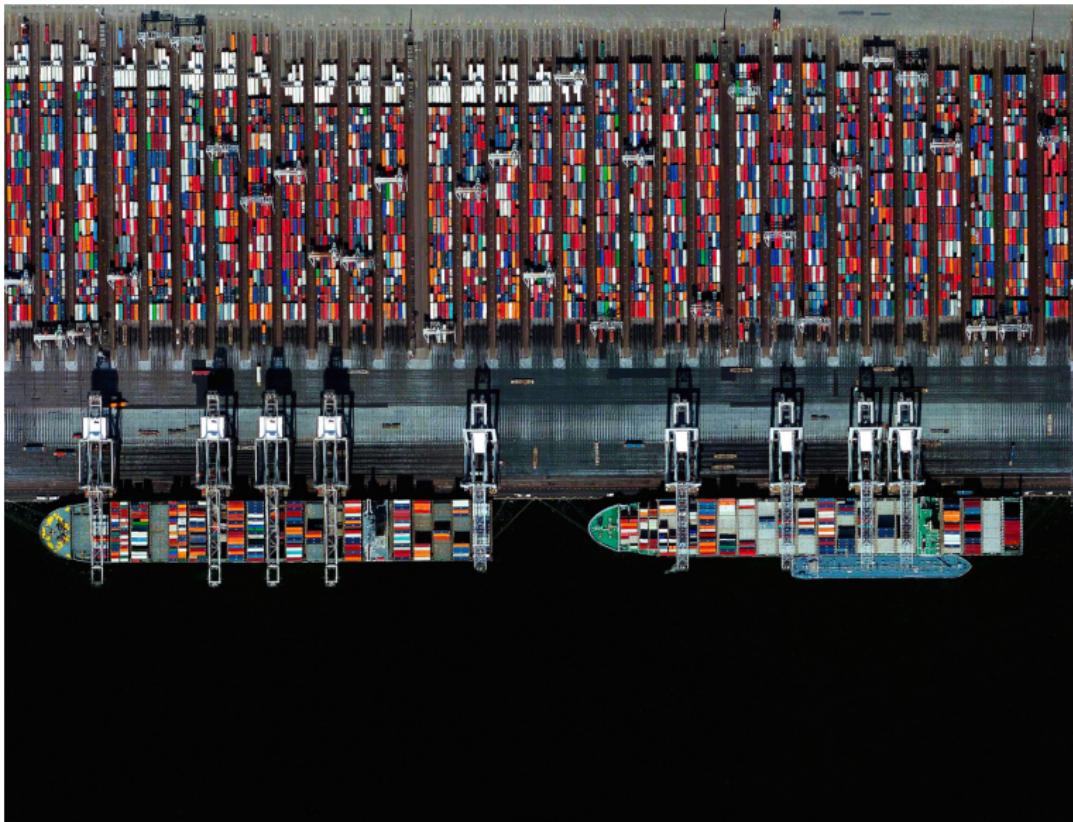


# International trade patterns

School of Economics, University College Dublin

Autumn 2017

# Port of Rotterdam (source: Daily Overview)



Studying international trade we consider:

1. Movement of goods and services from one country to another
  - ▶ Merchandise goods: everything but services
  - ▶ Services: transportation, insurance, etc.
2. Movement of factors of production across countries
  - ▶ Migration: flow of people/labour across borders
  - ▶ Foreign Direct Investment: flow of capital across borders

Countries trade goods and services with each other as it generates mutual benefits

- ▶ Norway imports oranges which they would have hard time producing
- ▶ Foreign produced goods could be cheaper or better in quality

Countries use finite resources to produce what they are most productive at and trade products for goods/services they want to consume

- ▶ Countries can specialise and still consume variety of goods/services through trade

The main insight from most theories on international trade is that countries can gain through specialisation

- ▶ Export goods made with abundant resources, import goods made with relatively scarce resources

Specialisation leads to efficiency through large-scale production (economies of scale)

- ▶ Countries could benefit from international lending and migration as well

Although in most theoretical models trade is predicted to benefit the whole country, particular groups might be harmed

- ▶ Owners of resources in industries that compete with imports
- ▶ Trade affects income distribution

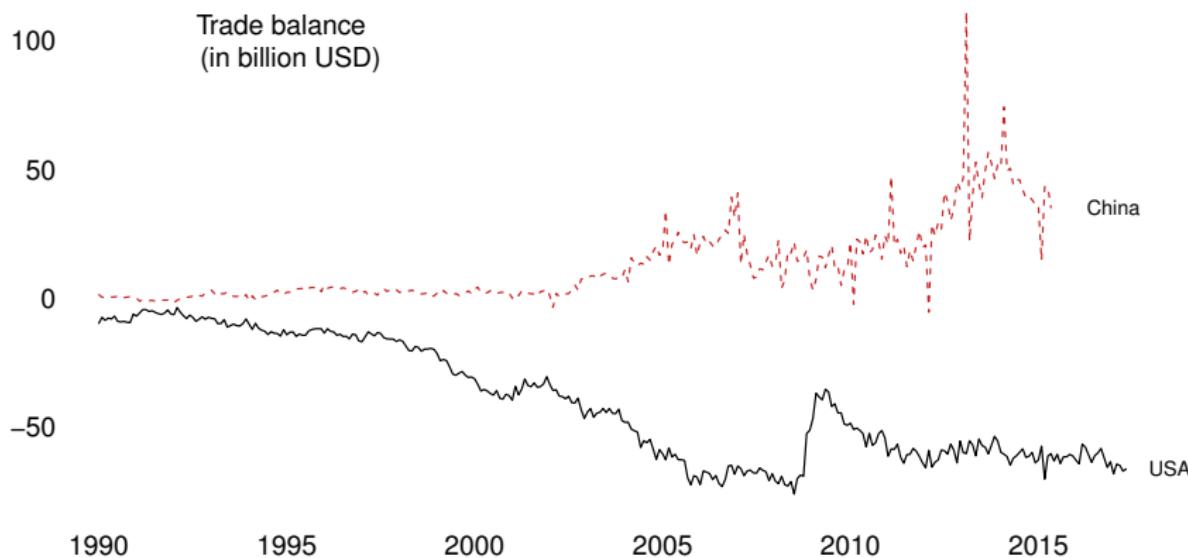
Additionally, there are some who argue that trade might have a negative effect on the local environment.

We can track a country's imports  $M$  and exports  $X$  using the trade balance

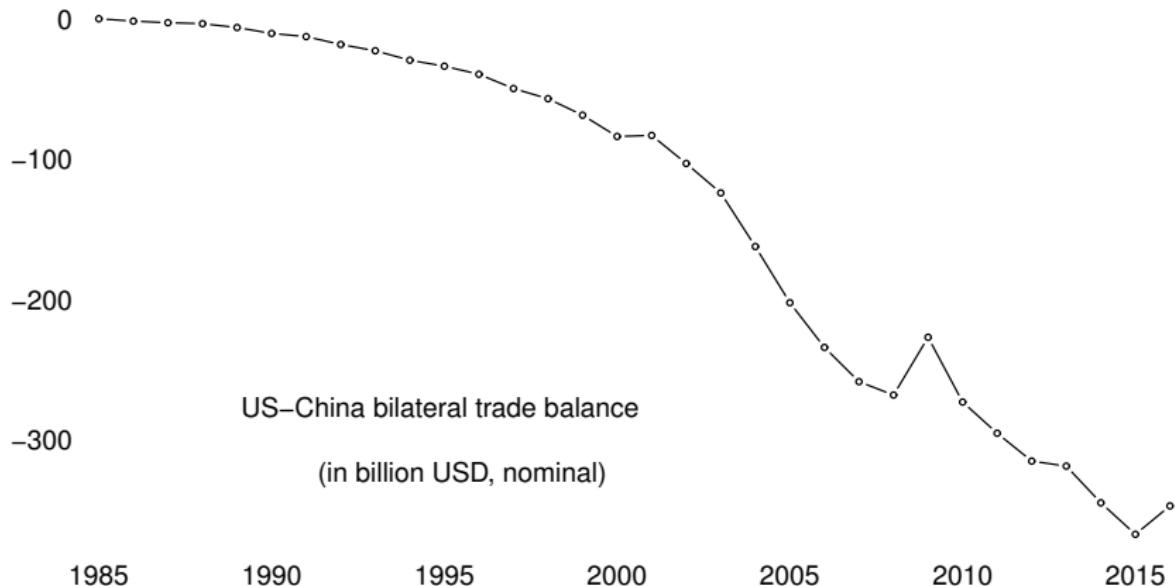
$$NX = X - M$$

- ▶ Trade surplus:  $X > M$
- ▶ Trade deficit:  $X < M$

# Trade balance USA and China



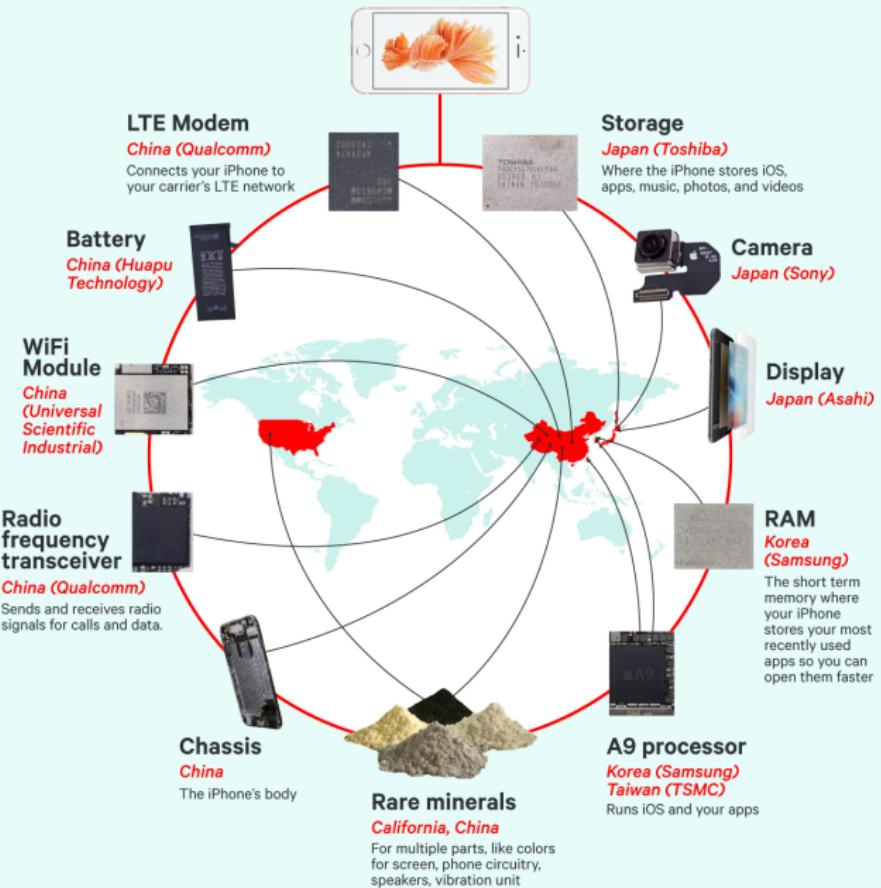
# Bilateral trade balance USA and China





- ▶ Valued at €2 when imported to Ireland from Denmark
- ▶ Produced in Denmark but
  - ▶ Plastic from Taiwan
  - ▶ Paint produced in Czechia
  - ▶ Packaging from Sweden
- ▶ Value added in Denmark is  $2 - X$ , with  $X$  is total value of imported parts

# Where the parts of an iPhone 6s come from



The trade balance has a shortcoming in measuring things such as bilateral trade because of the assumption that a country produces goods that are

1. Consumed domestically
2. Exported

Ignores the fact that some products are not so much made but assembled in a particular country.

A somewhat misleading trade statistics such as a bilateral trade balance can lead to controversy since it is based on the assumptions that

- ▶ A country needs imports when domestic production is insufficient or too costly
- ▶ The idea that a country is a closed system in harmony with other countries

Hence a skewed trade balance could signal weakness.

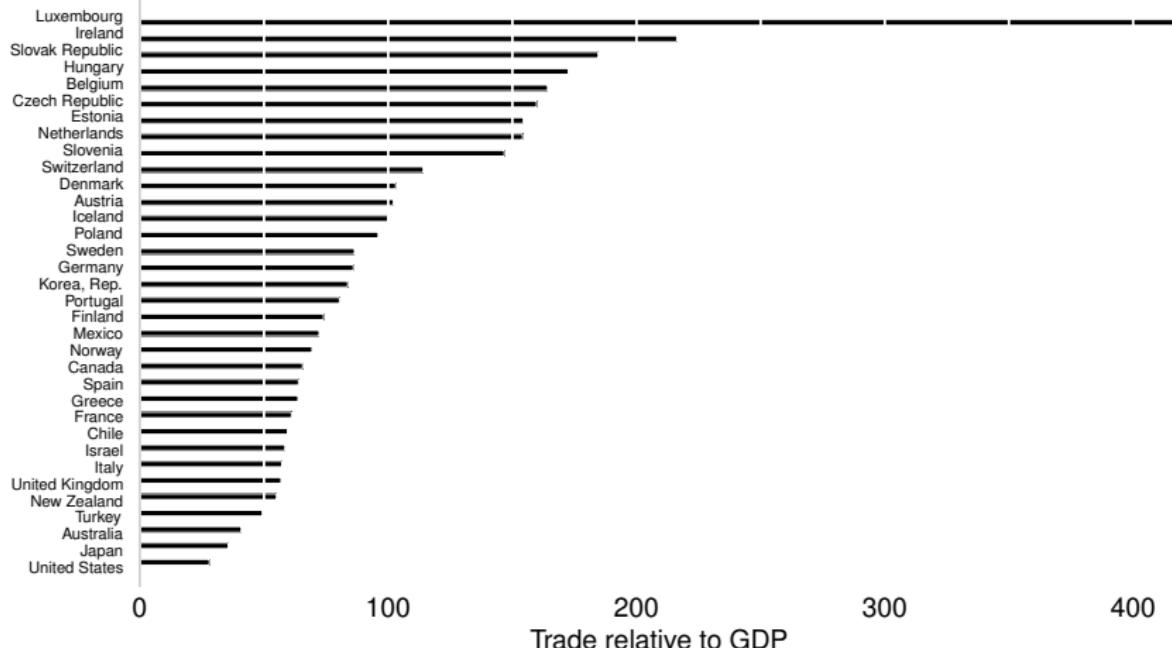
Another popular measure is the trade to GDP ratio, which measures trade intensity or openness of a country. Most countries have high trade to GDP ratios, and at the top end of the distribution we find countries that serve as shipping and processing centres

- ▶ Belgium, the Netherlands, Malaysia

Countries with low ratios tend to be

- ▶ Large economies: USA, Germany
- ▶ Just started trading: most of South America

# Trade to GDP in OECD countries



Terms of trade (ToT) captures the relative price of exported versus imported goods

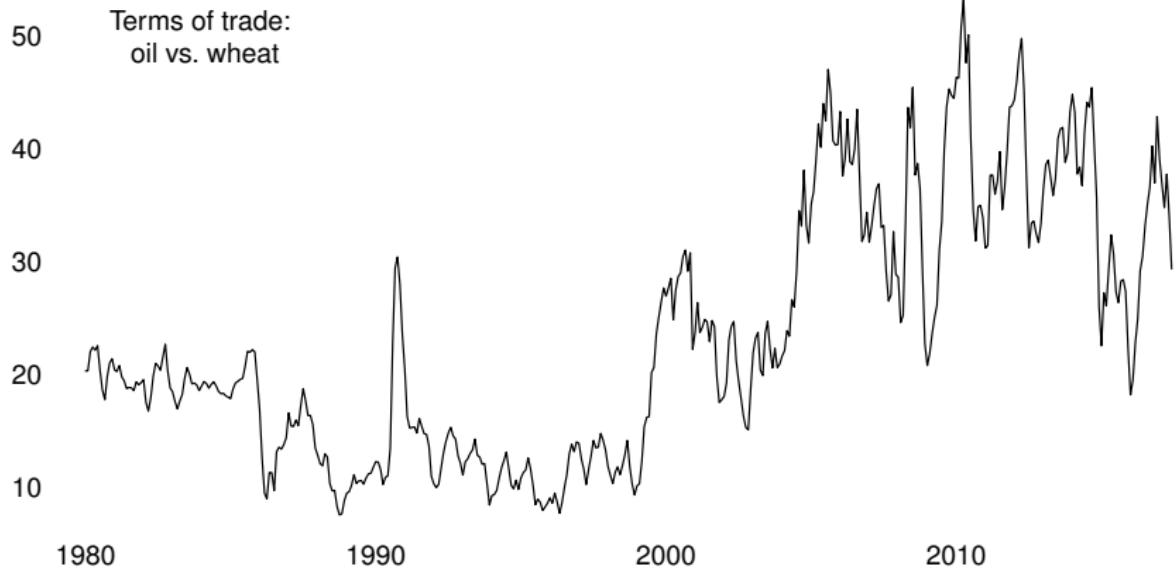
$$\frac{P_X}{P_M} * 100$$

The terms of trade increase when

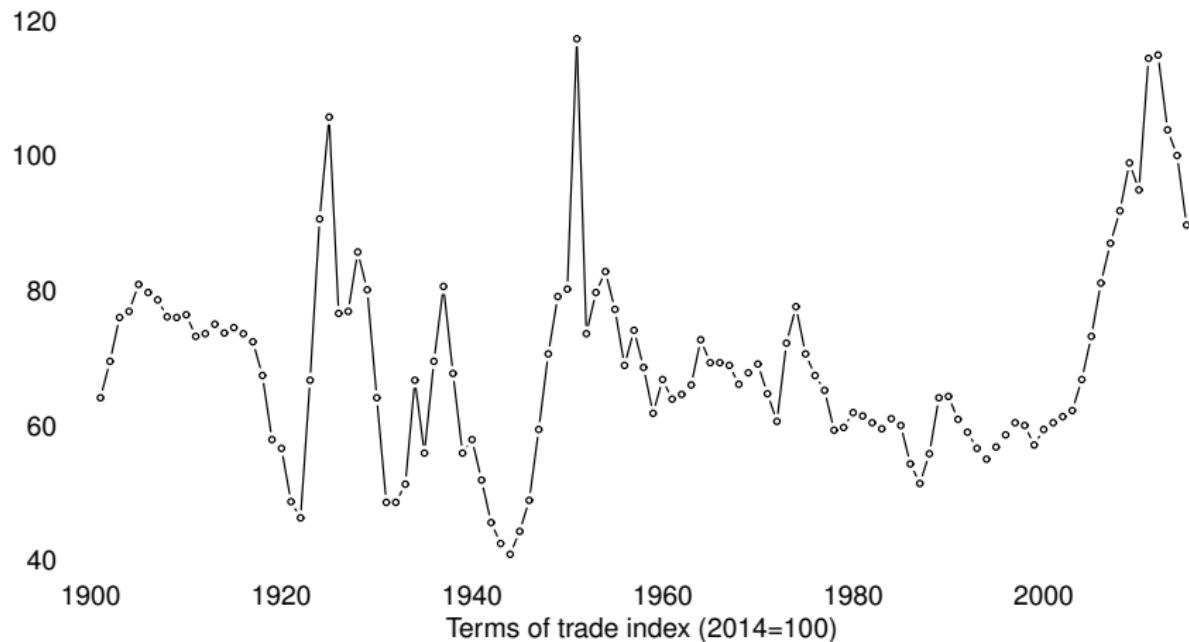
1. Export prices,  $P_X$  increase
2. Import prices,  $P_M$  decrease

An increase in the ToT increases general welfare

- ▶ For every unit of export sold it can buy more units of imported goods



# Terms of trade Australia



# Australia's budget deficit to widen by A\$10bn

15 December 2014 | Business

f t m Share

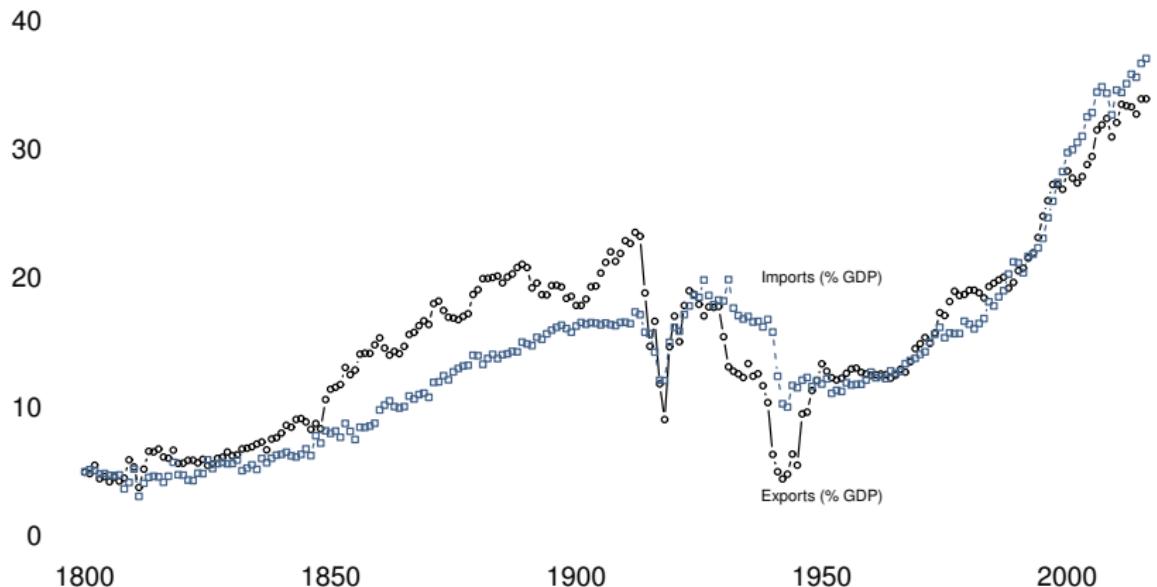


The government said delays in passing legislation and negotiations with the Senate had cost the budget more than \$A10.6bn

**Australia's government has said it expects the nation's deficit to grow to \$40.4bn Australian dollars (\$33.2bn; £21.2bn) in the 12 months to June.**

Earlier in the year, the deficit for the period had been forecast to come in at A\$29.8bn.

# UK imports and exports over time as ratio of GDP



## World trade shares per region for 2012

Region	Exports	Imports
Africa	3.5	3.3
Asia	33.2	33.4
Commonwealth of Independent States	4.3	3.1
Europe	34.7	35.1
EU internal trade	19.8	19.5
Middle East	7.3	3.9
North America	12.9	17.2
South and Central America	4.1	4.1

European trade flows are large

- ▶ Many countries, zero tariffs

Asian trade rivals that of Europe

- ▶ Cheap labour in China, Bangladesh, Vietnam, Cambodia
- ▶ Efficient production of high quality goods in Japan, South Korea

Former USSR and Middle East account for 10% of world trade

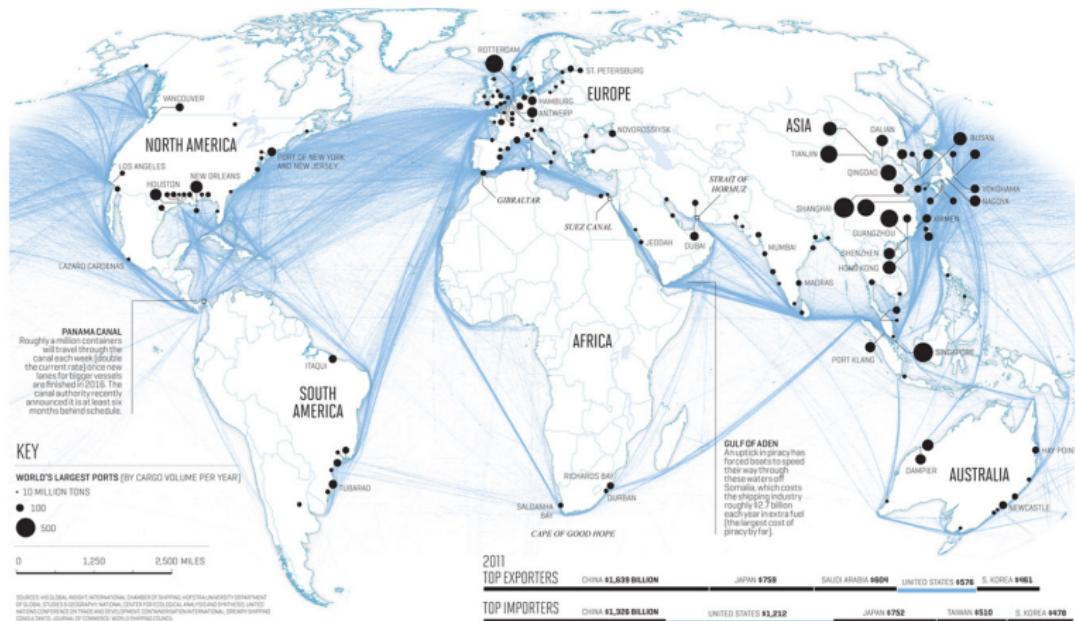
- ▶ Exports of oil and natural gas

Low trade levels in South and Central America, but growing while Africa accounts for just 3.5% of world trade

- ▶ Very marginal given population size
- ▶ Largely dependent on primary commodities

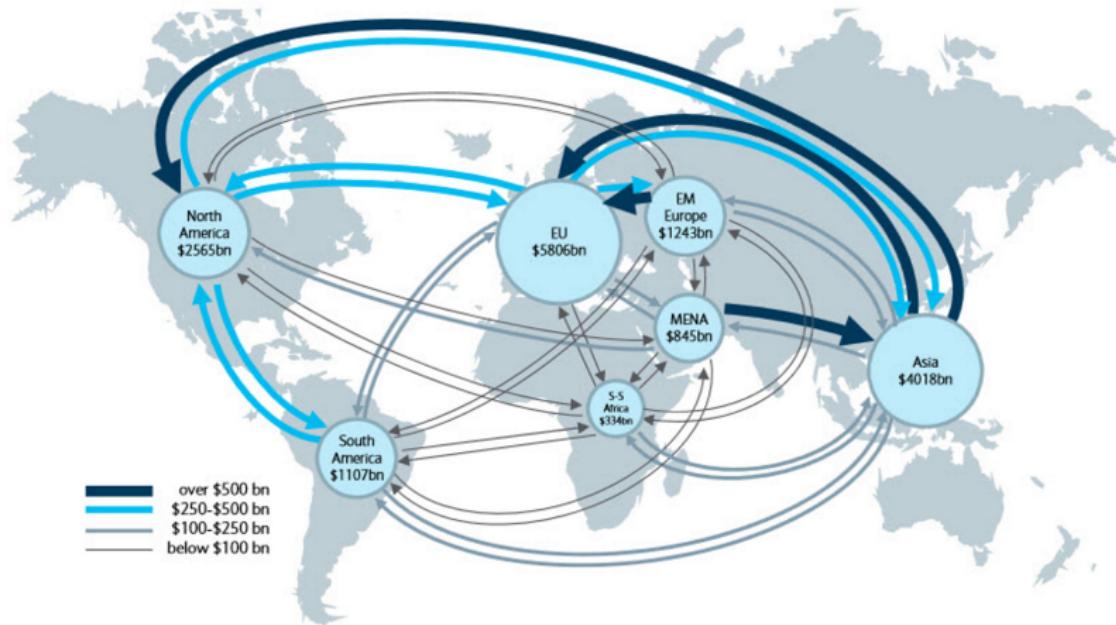
# Major shipping routes

source: Nicolas Rapp



# World merchandise trade flows Nov-Dec 2012

source: Barclays research



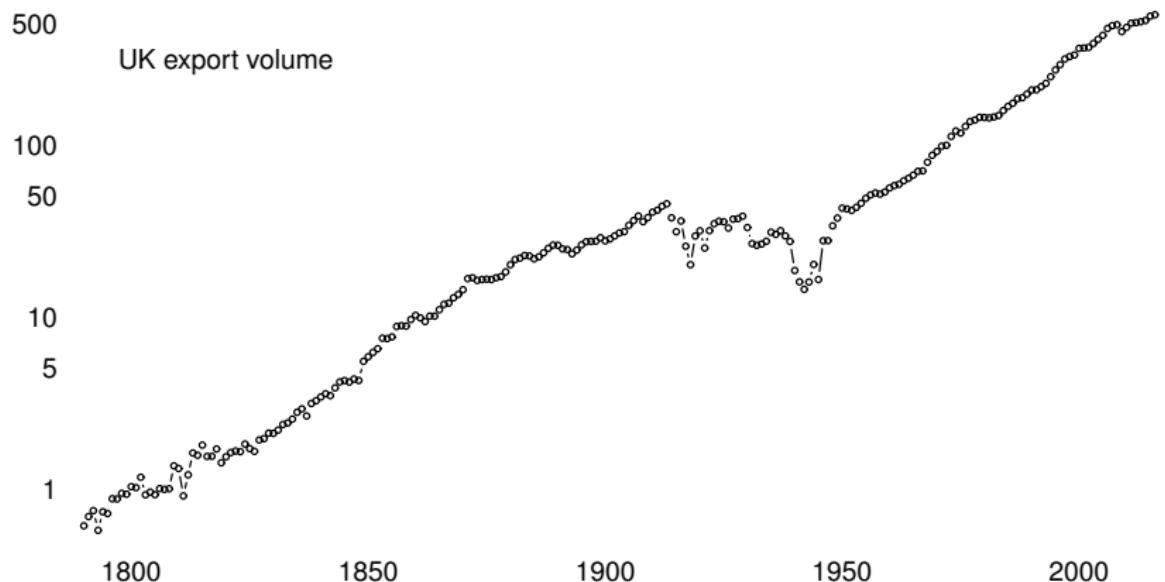
There are large differences in trade across regions which are due to

1. Import tariffs
2. Transportation costs
3. Other factors such as conflict

Trade barriers refer to all factor that influence the amount of goods/services shipped across international borders

- ▶ Trade barriers change over time as a result of changes in policies, technology, etc.

# UK export volumes



First golden age of trade between 1890-1913

- ▶ Significant technological improvements, e.g. steamships, railroads, telephones, refrigeration

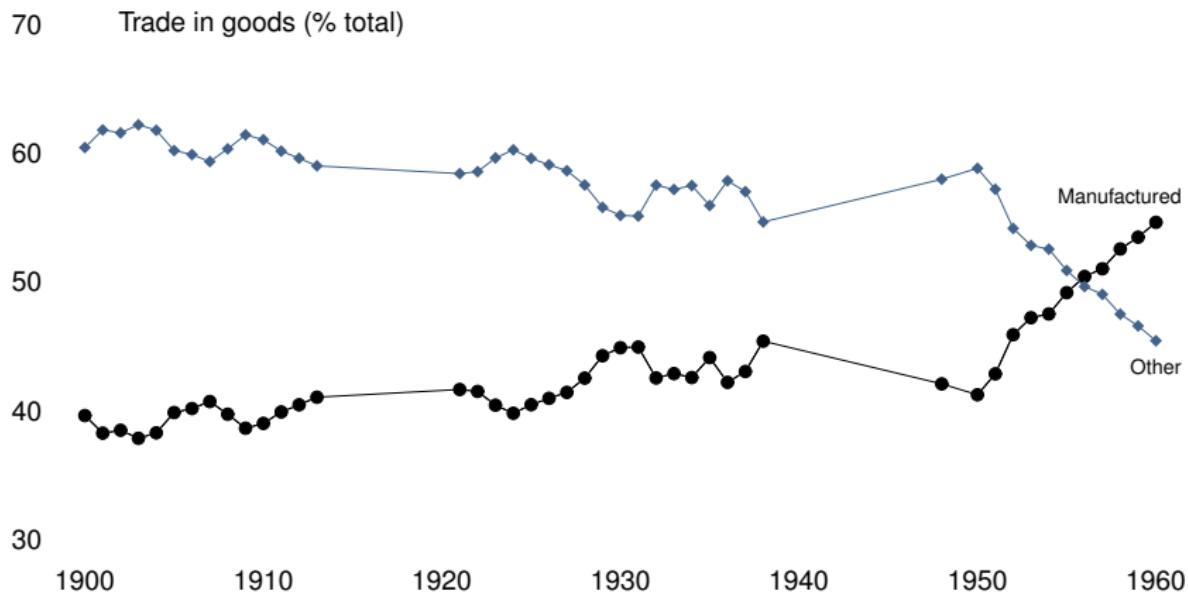
This ended with the First World War which led to a large decrease in trade during the interbellum (1918-1939)

- ▶ Trade decline due to Great Depression
- ▶ Increase in world-wide tariff rate of 25%, trade decline of about 33%

Second golden age of trade since 1950s

- ▶ Low tariffs through GATT, later WTO
- ▶ Improved transportation, e.g. shipping container (1956)
- ▶ Trade surpassed pre-WWI levels

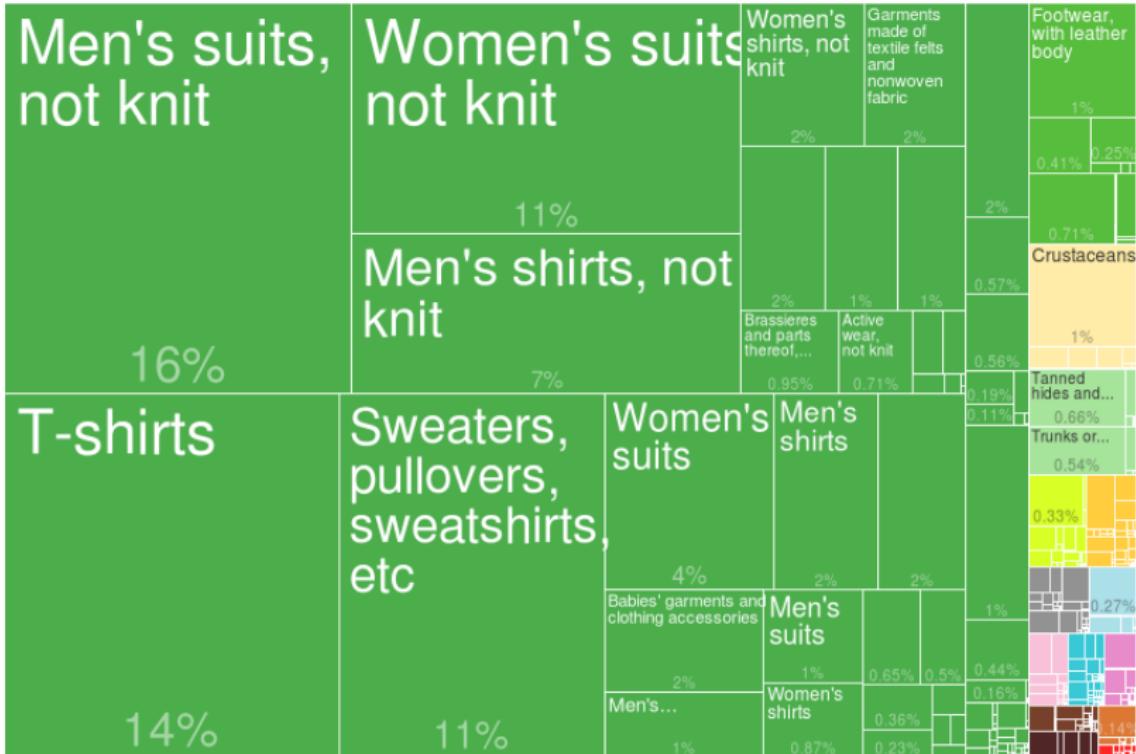
## Trade composition between 1900-1960



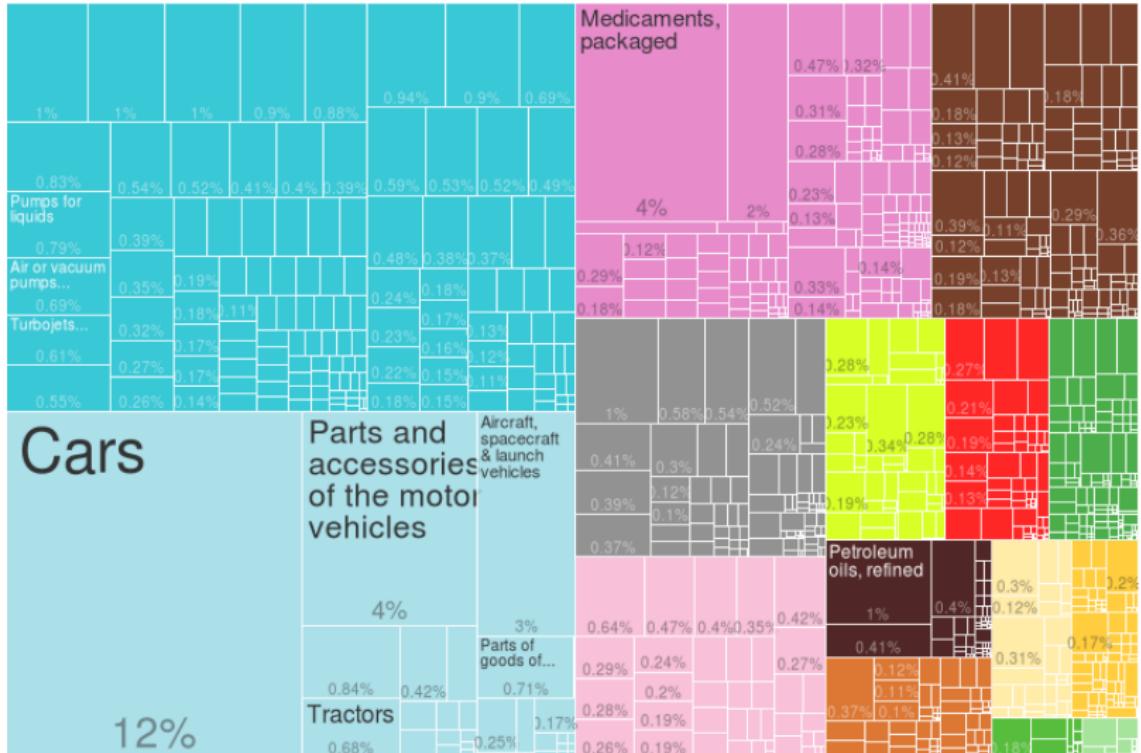
Current trade composition is roughly

- ▶ 50% manufactured goods
  - ▶ clothing from low-wage countries, capital-intensive goods from industrialised countries
- ▶ 20% services (e.g. transport, tourism, insurance)
- ▶ 20% mining products
  - ▶ Fossil fuels from America, Australia, and the Middle East
  - ▶ Natural resources such as copper from Chile and those conflict minerals from Congo for your telephone
- ▶ 10% agricultural products
  - ▶ e.g. food from the EU and Latin America, cotton from India, timber from West Africa

\$29.2B USD



\$1.22T USD



\$5.27B USD

Refined copper and copper alloys

Cobalt ores

44%

Cobalt

13%

12%

Gold content

7%

Petroleum oils, crude

6%

Cobalt oxides and hydroxides

0.95% 0.7%

5%

Diamonds

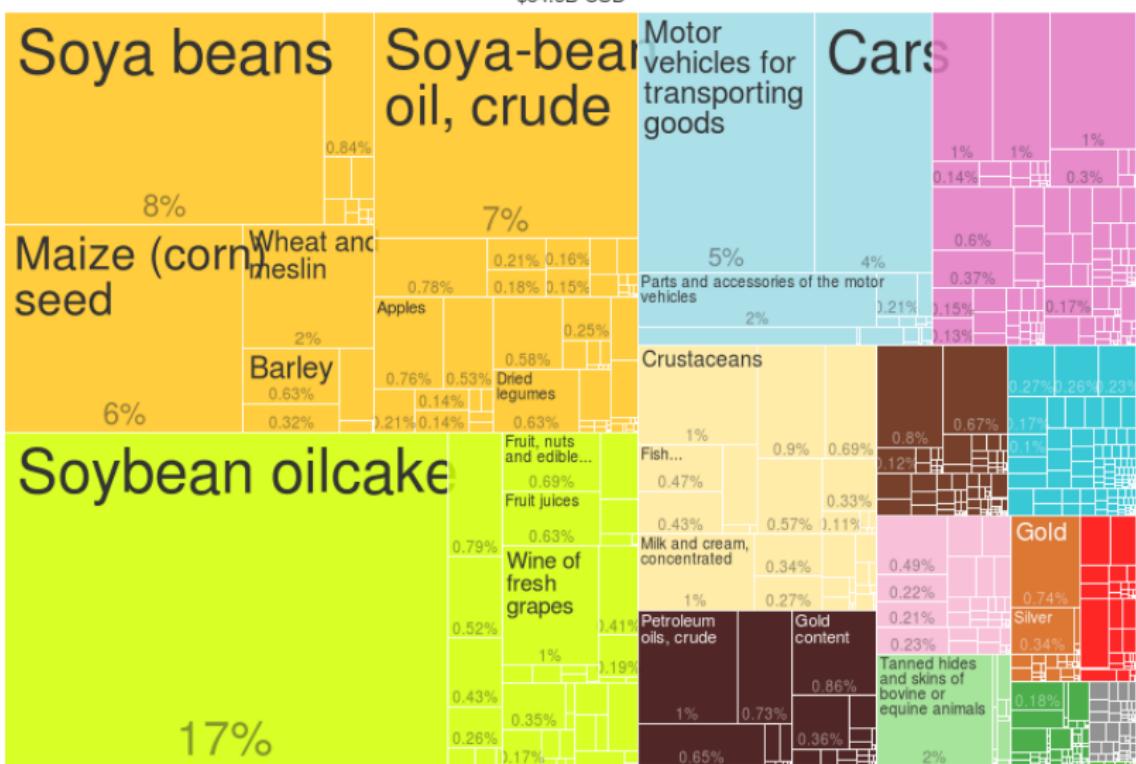
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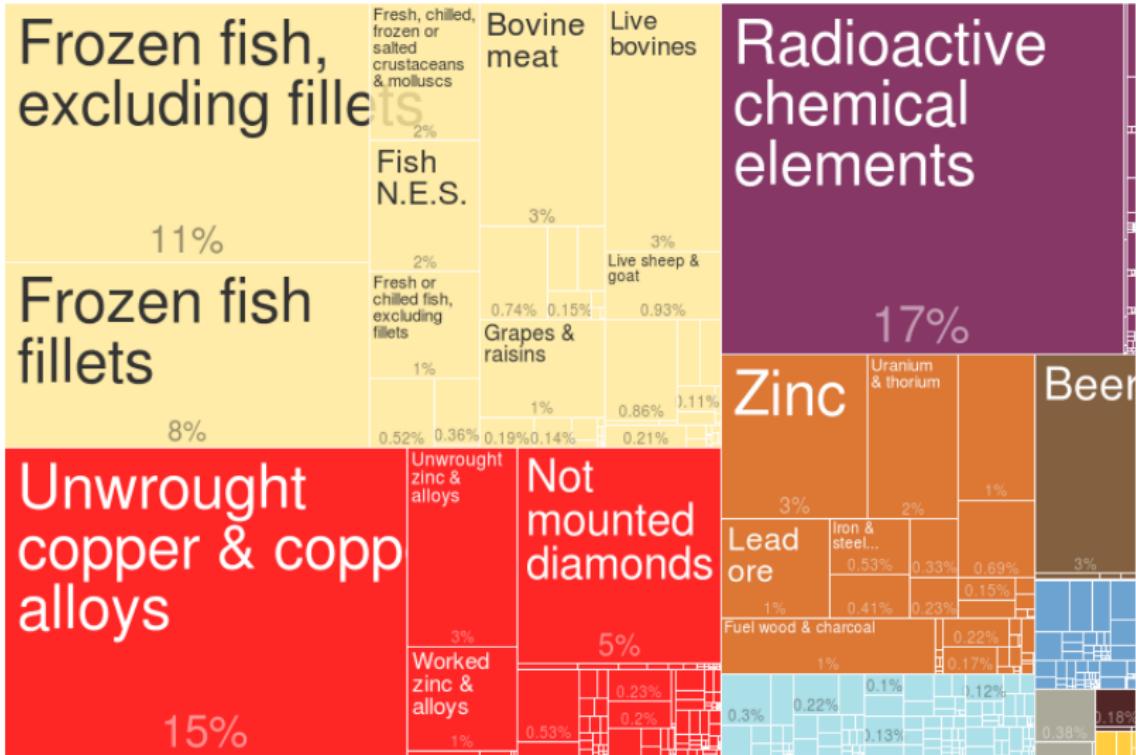
0.12%

0.1%

5%  
0.21%

4%





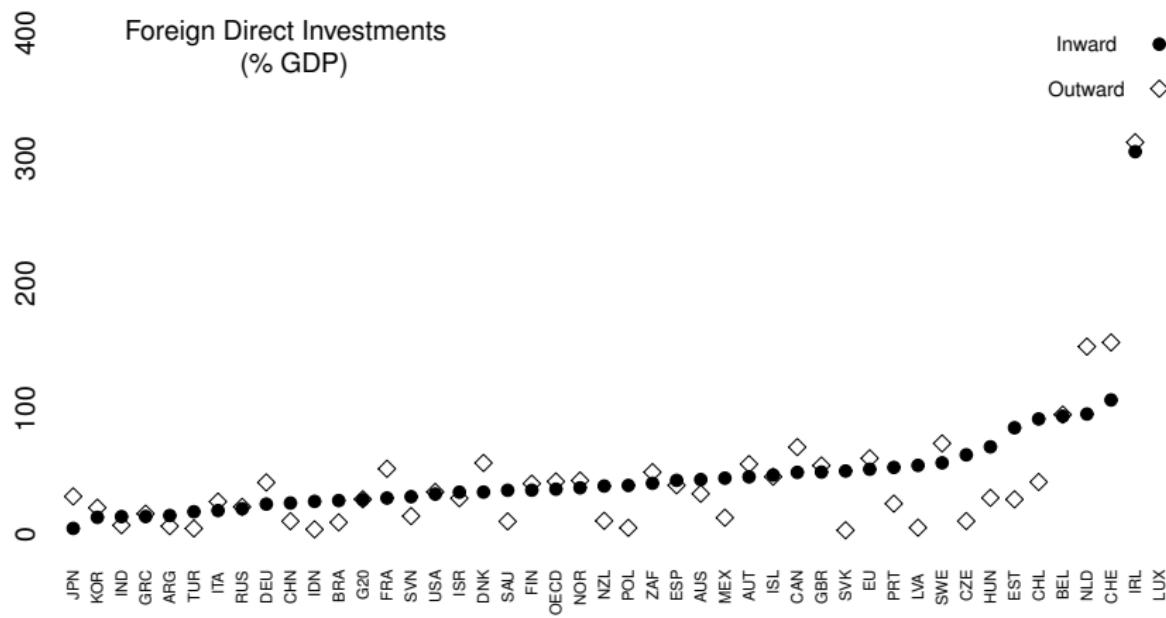
Differences in geographic factors such as climate and natural resources explains why Congo DR exports metals and Argentina soybeans.

The fact that Bangladesh exports clothing and Germany cars stems from difference in

- ▶ Labour productivity
- ▶ Relative supply of production factors such as capital and labour, and their used in production of different goods

**Food for thought:** Mexico is the world's largest exporter of fresh tomatoes; which country is the second largest?

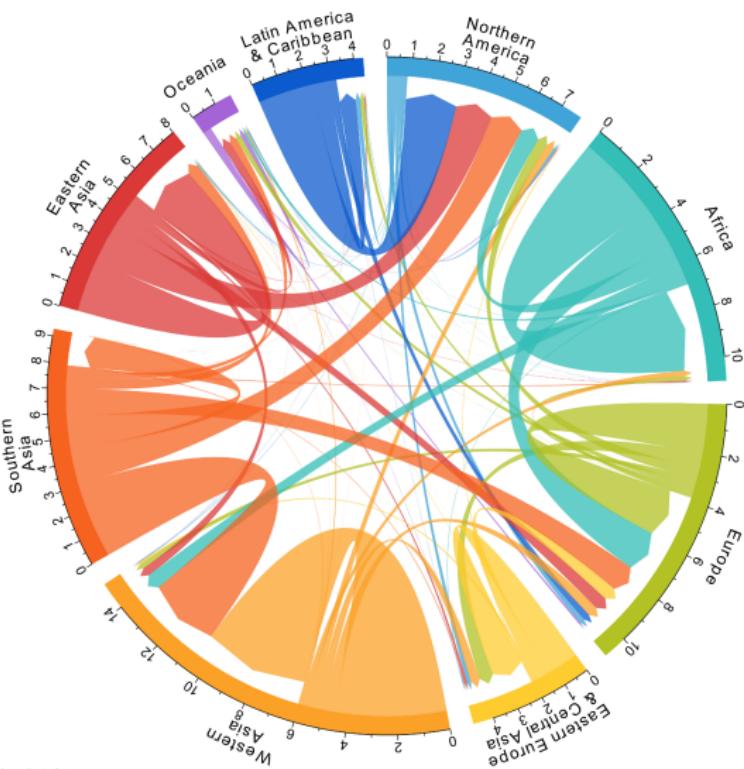
## Foreign direct investments flows in 2015



There are two types of FDI:

1. Horizontal: Firm from country  $i$  owns company in country  $j$  that has same production activity as domestic
  - ▶ Allows firms to circumvent tariffs or quotas
  - ▶ Better access to local market
  - ▶ Sharing of technical expertise
2. Vertical: Firm from country  $i$  owns company in country  $j$  that operates a different stage of the production process
  - ▶ Predominantly firms from industrialised countries owning factories in low-wage countries
  - ▶ Reduces production costs

# Migration flows between 2005-2010



Based on estimates from:

Abel G.J. (2016) Estimates of Global Bilateral Migration Flows by Gender  
between 1960 and 2015. Vienna Institute of Demography Working Papers, 2/2016

In contrast with FDI flows, most migration occurs in the developing world where migrants move to seek employment or other reasons such as conflict or famine.

- ▶ Migration is often stricter regulated than the flow of goods or capital

From an economic perspective international trade can theoretically help reduce migrant flows

1. Trade can increase living standards in same way moving to a higher-wage country can
2. More trade entails more workers needed in export industries