



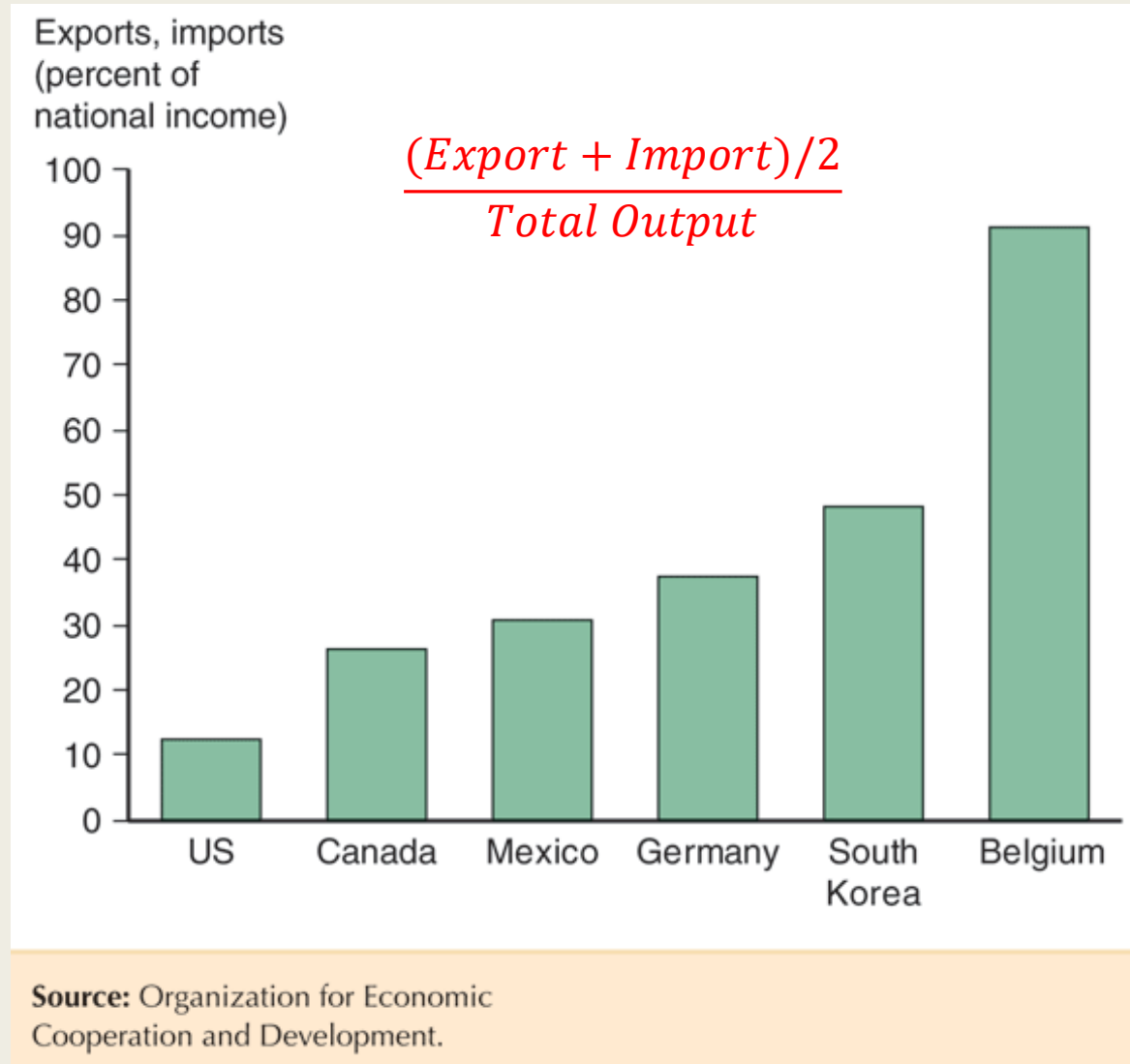
# LECTURE 1: OVERVIEW OF GLOBALIZATION

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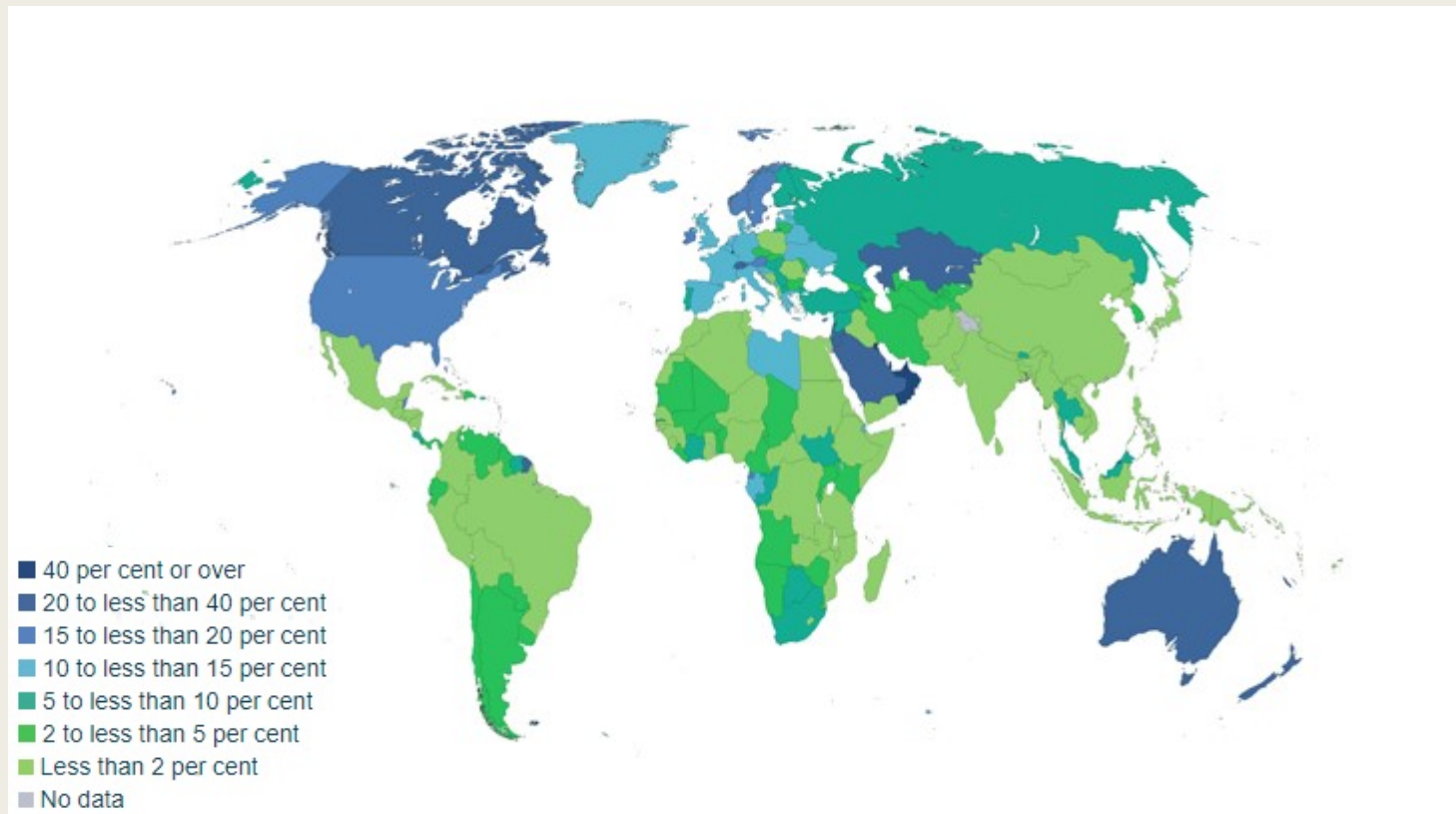
# Why study globalization?

- Nations are more economically integrated than ever
  - *Growth in international trade in the past 60 years thanks to decline in shipping costs, new trade agreements, and better information technologies*
  - *Even larger growth in international movement of capital (currencies, bonds, stocks)*
  - *International migration of workers*
- Even domestic policies in one country can have large impact on workers and companies in foreign countries
  - *E.g., the Global Financial Crisis in 2007-2008*

## Average of Exports and Imports as Percentages of National Income in 2011 (Source: KOM, Figure 1-2)



International migrants as a percentage of total population  
in 2017 (Source: [United Nations](#))



Hong Kong: 6.5% if excluding mainland China, Macau, Taiwan  
40.2% if including the above regions

# Why study globalization?

- Watch Donald Trump and Hillary Clinton's first presidential debate (Sep 26, 2016) on [trade policies](#)
- A few key words
  - *Trade policies*
  - *North American Free Trade Agreement (NAFTA)*
  - *Left-behind regions in the US, manufacturing decline*
  - *Trans-Pacific Partnership (TPP)*
- How much does trade affect the US economy?
- What are these two trade agreements about?

# Why study globalization?

- Some articles in the Wall Street Journal
  - *Business Lobby Gaining a Voice Amid Pressure for U.S.-China Trade Peace (2019-1-9)*
  - *China Reports Biggest-Ever Annual Trade Surplus With U.S. (2018-1-12)*
  - *Beijing Develops Plan to Counter Trump Tax Overhaul (WSJ 2017-12-11)*
  
- After this course, you will better understand such discussions
- It helps you as well as your company to live in such a globalized world

# Topics in this course

- International Trade of Goods and Services
  - *Lecture 2: Why do countries trade?*
  - *Lecture 3: Political Economy of Trade Policies*
  - *Lecture 4: World Trade System (WTO)*
  - *Lecture 5: Industrial Policies*
- International Finance/Macroeconomics
  - *Lecture 6: International Capital Movement*
  - *Lecture 7: Understanding Exchange Rates*
  - *Lecture 8: Exchange Rate Regimes*
  - *Lecture 9: Currency Unions*
  - *Lecture 10: Financial Globalization and Crises*
  - *Lecture 12: Multinational Corporation Financial Management (tax avoidance and exchange rate risks)*
- International Labor Migration (Lecture 11)

# Topics in this course

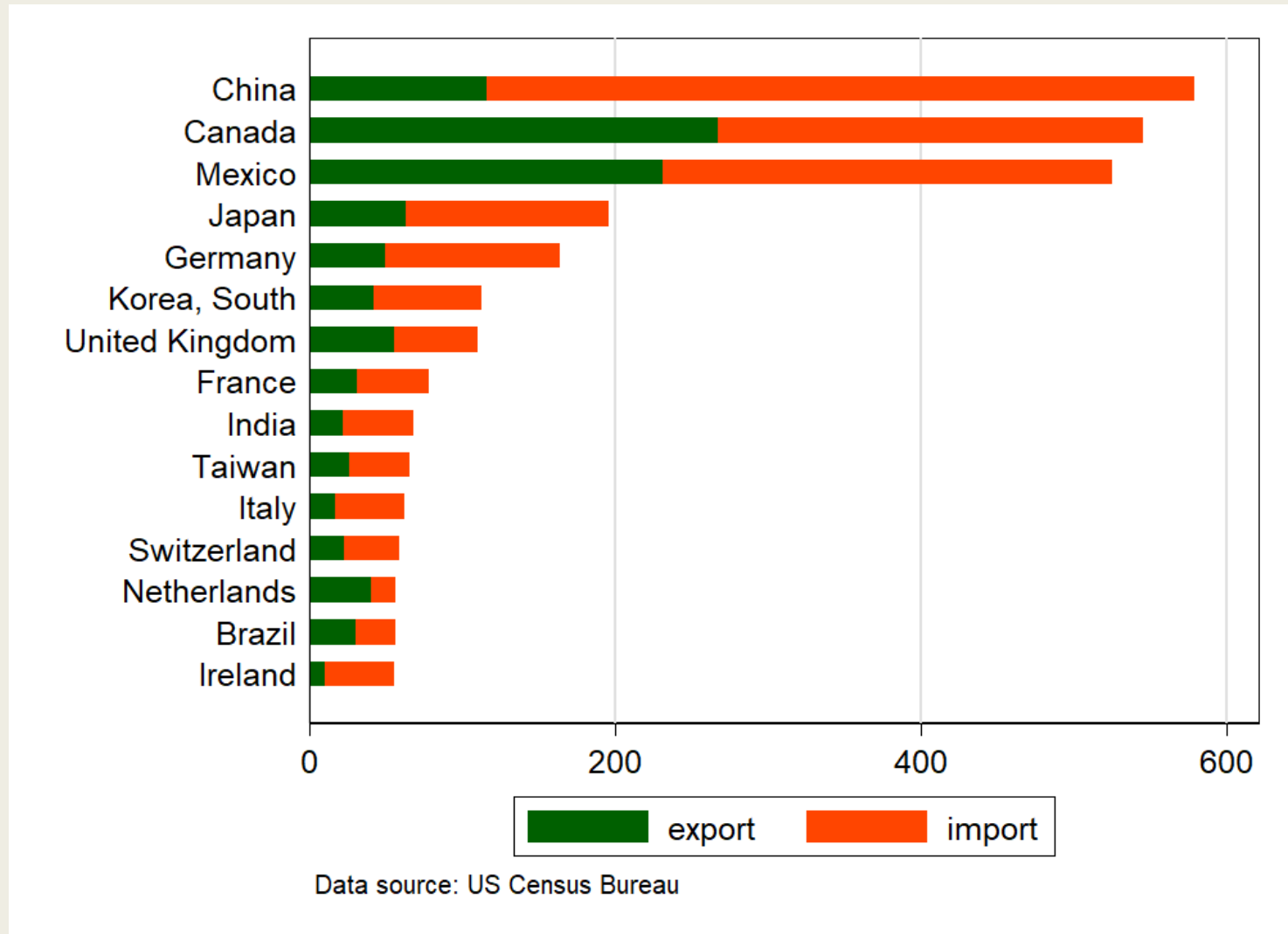
- International Trade of Goods and Services
  - *Lecture 2: Why do countries trade?*
  - *Lecture 3: Political Economy of Trade Policies*
  - *Lecture 4: World Trade System (WTO)*
  - *Lecture 5: Industrial Policies*
- International Movement of Capital
  - *Lecture 6: International Capital Movement*
  - *Lecture 7: Understanding Exchange Rates*
  - *Lecture 8: Exchange Rate Regimes*
  - *Lecture 9: Currency Unions*
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  - *Lecture 12: Multinational Corporation Financial Management (tax avoidance and exchange rate risks)*
- International Labor Migration (*Lecture 11*)



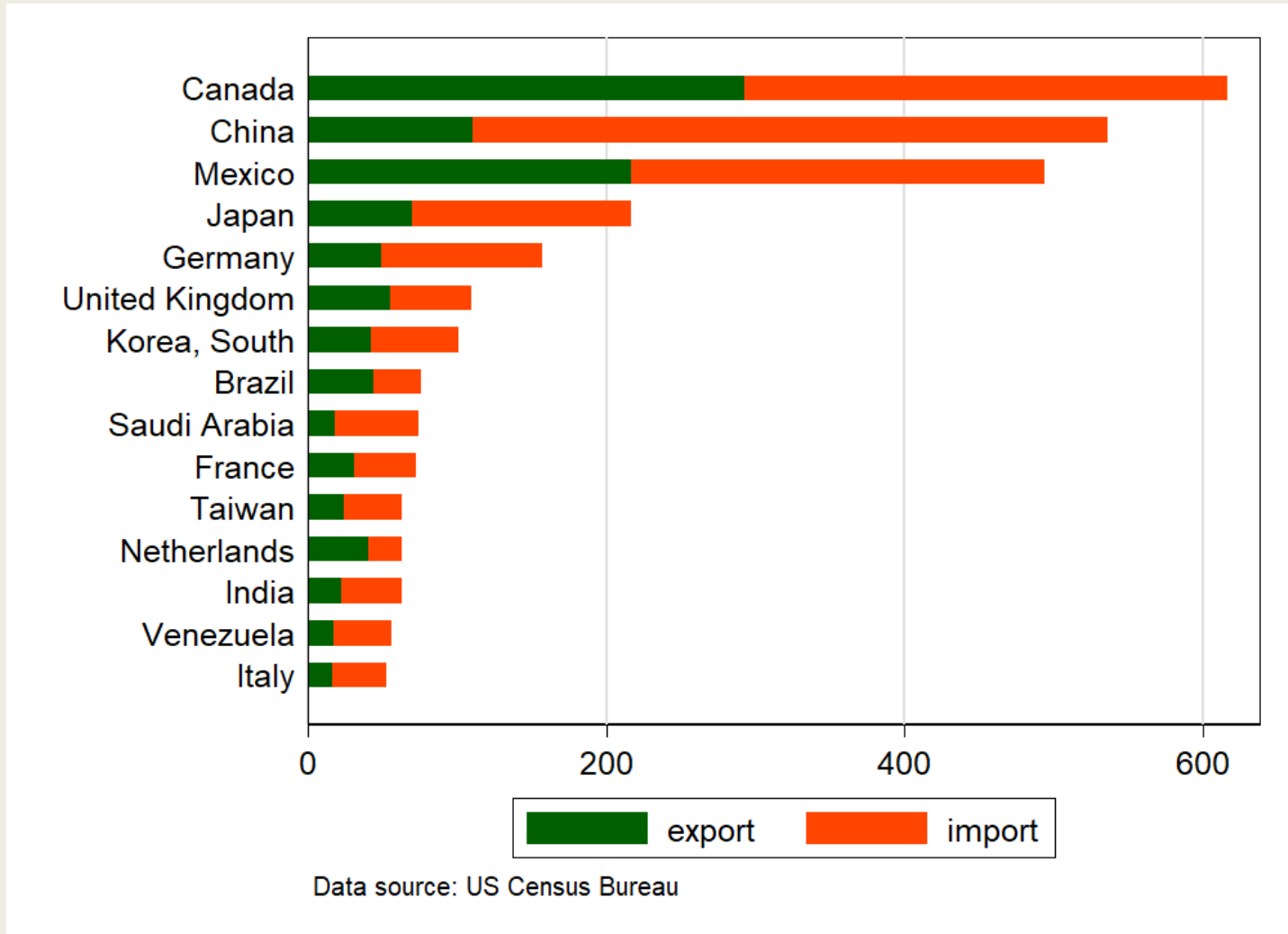
# An Overview of World Trade

- Here we focus on trade in goods and services
- Patterns of Trade
  - *Who trade with whom?*
    - The Gravity Model
  - *Which goods do particular countries export and import*
    - We study “why” in the next lecture
- How did these patterns evolve over time?

# Who Trade With Whom: US Trade with Major Partners, 2016



# Who Trade With Whom: US Trade with Major Partners, 2012



# What are the main determinants of trade flows?

- Sizes of the economies increase trade
  - *Larger economies produce more goods and services, so they have more to sell in the **export** market*
  - *Larger economies generate more income from the goods and services sold, so they are able to buy more **imports***
- Distance between trading partners reduces trade
  - *Shipping costs are higher for more distant trade (e.g., costs of fuel)*
  - *Longer distance → longer time of shipment → higher financial costs of inventories*

# Gravity Model of Trade

- Economists discovered a good approximation for trade flows from country  $i$  to  $j$  (Tinbergen, 1962)

$$T_{ij} = A \times Y_i^a \times Y_j^b / D_{ij}^c$$

- $A$  is a constant
  - $Y_i$  is Gross Domestic Output (GDP) of the exporter
  - $Y_j$  is GDP of the importer
  - $D_{ij}$  is the distance from  $i$  to  $j$
- Compare this to Newton's Gravity Equation

$$F = G \times m_1 \times m_2 / D^2$$

# Gravity Model of Trade

- Economists discovered a good approximation for trade flows from country  $i$  to  $j$  (Tinbergen, 1962)

$$T_{ij} = A \times Y_i^a \times Y_j^b / D_{ij}^c$$

- Estimation finds that  $a, b \approx 1, c \approx 0.7 \sim 1$
- One of the most successful statistical models in economics
- Economists didn't have a good explanation until 1990s
- Still an active research area. E.g., why is  $c$  close to one?
- Similar relationships hold for international investment, migration, trade in services

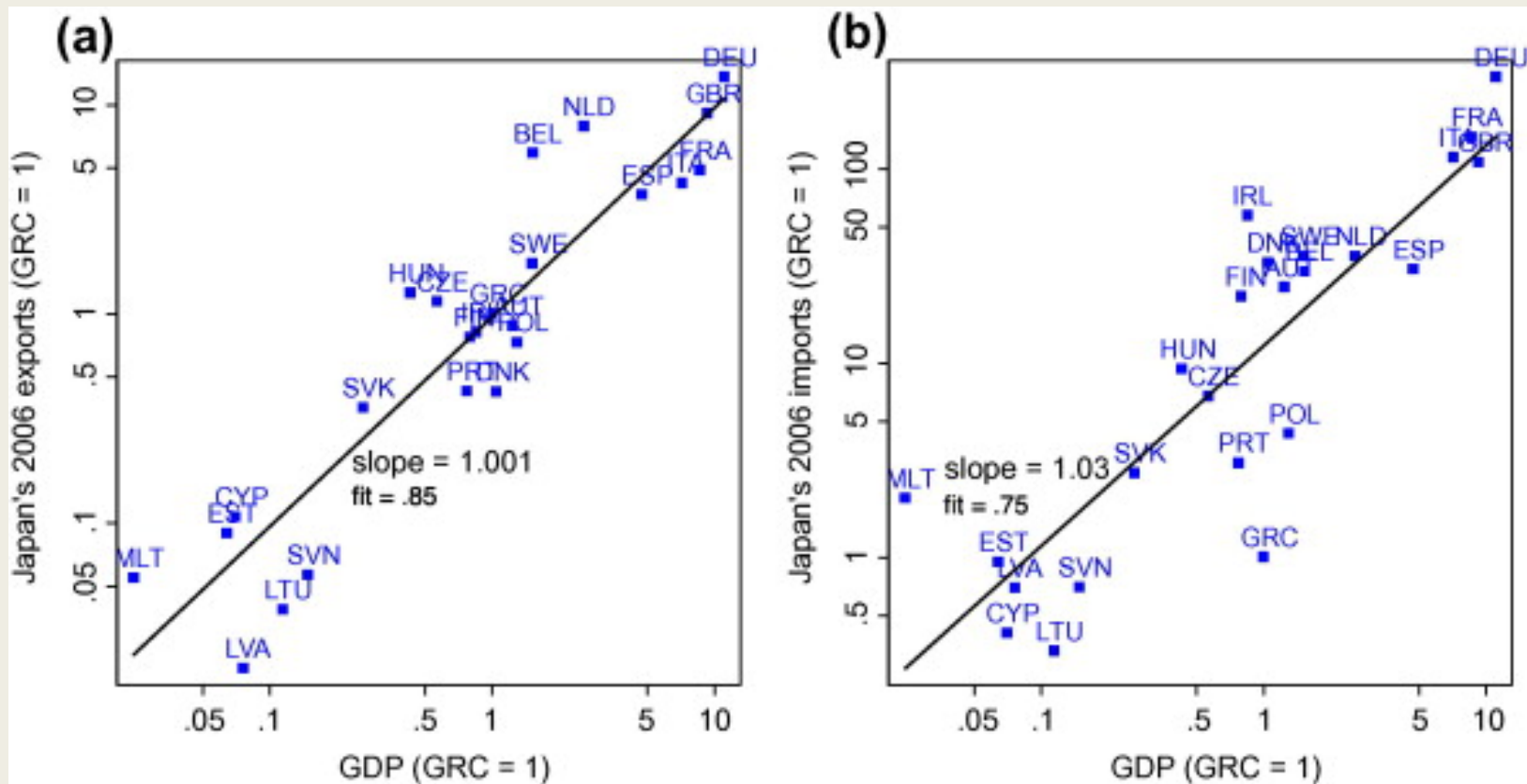
# Japan's trade with EU countries and destination's GDP

- Gravity Model

$$T_{ij} = A \times Y_i^a \times Y_j^b / D_{ij}^c$$

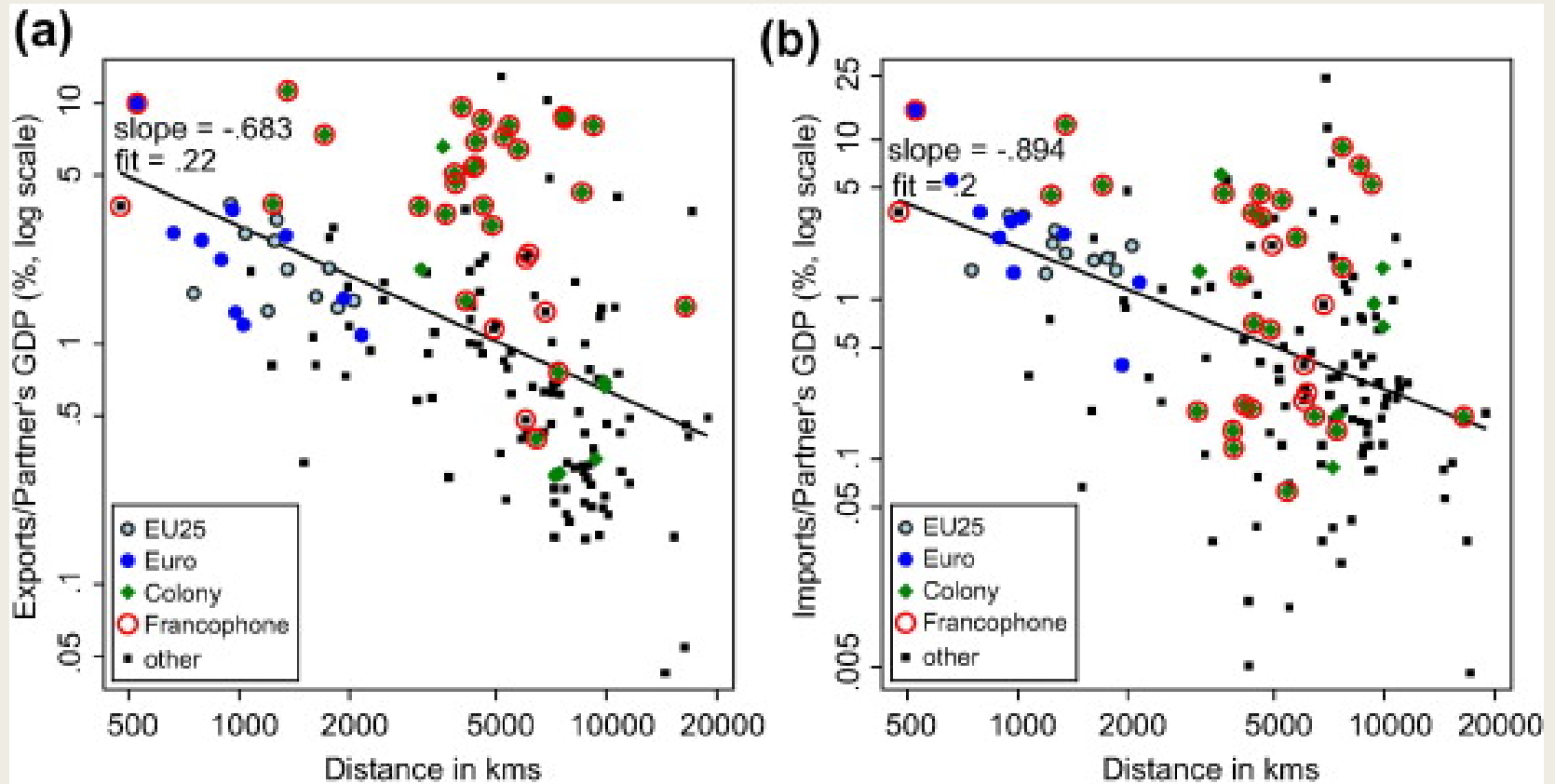
- $Y_i$  is Japan's GDP, which does not depend on j
- $D_{ij}$  is distance from Japan to a typical EU country j, which is similar across j
- There should be a one-to-one mapping from destination country's GDP to the trade volume  $T_{ij}$

# Japan's trade with EU countries and destination's GDP





# France' trade and distance to destinations



Source: Figure 2 in Head, Keith, and Thierry Mayer. 2014. "Chapter 3 - Gravity Equations: Workhorse, Toolkit, and Cookbook." In Handbook of International Economics, Vol4.

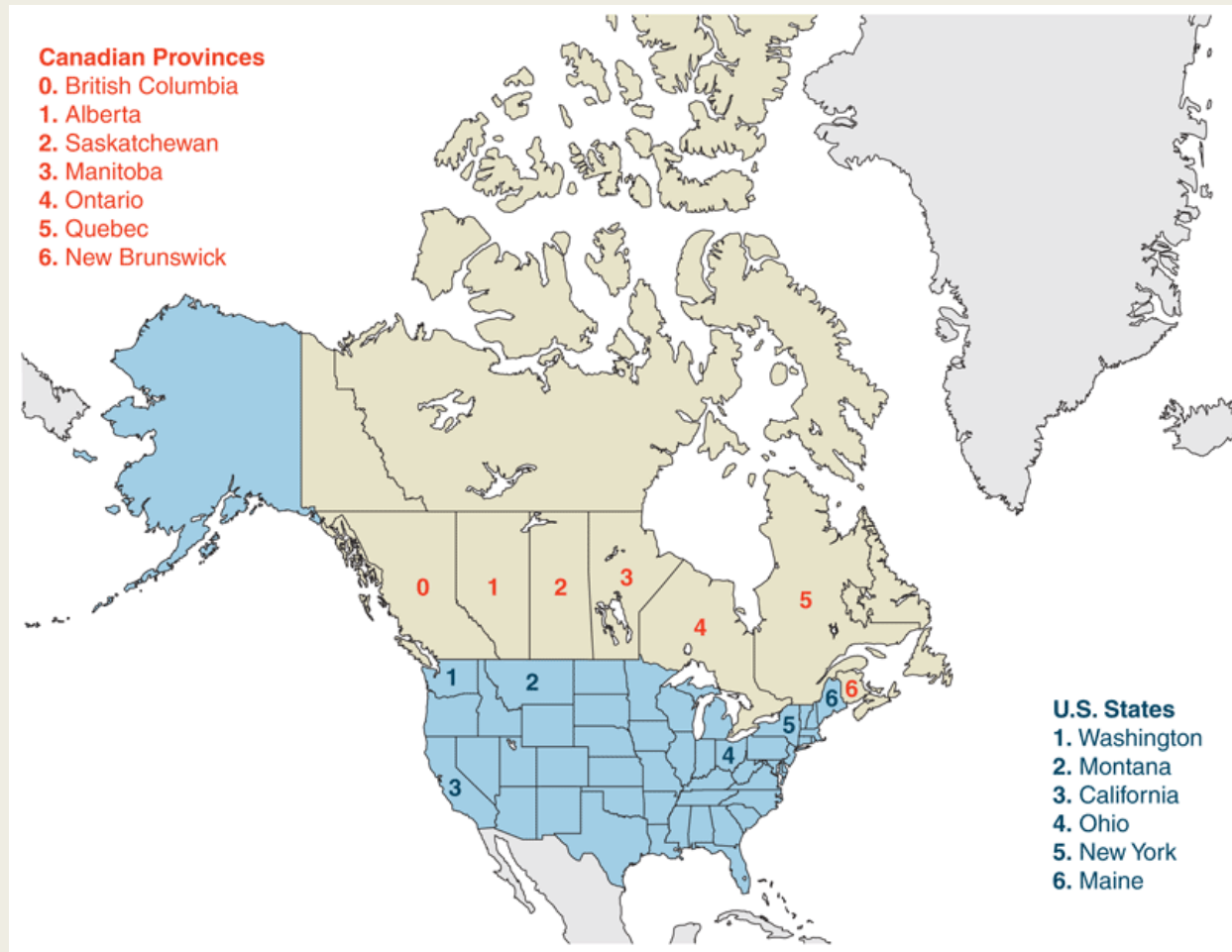
# France' trade and distance to destinations

- Controlling origin and destination GDP, distance negatively affects trade volumes
- The coefficient of distance is around 0.7-1
- But many points are above or below the fitted line, why?

# Other factors affecting trade

- Cultural affinity: close cultural ties, such as a common language, usually lead to strong economic ties.
- Geography: ocean harbors and a lack of mountain barriers make transportation and trade easier.
- Borders: crossing borders involves formalities that take time, e.g., clearing the customs
- Multinational corporations (MNCs): corporations spread across different nations import and export many goods between their divisions.
- Tariffs: higher tariffs reduce trade (more in Lecture 3 & 4)
  - *Trade agreements reduce tariffs and increase trade. E.g., North American Free Trade Agreement*

# Borders still matter: case of the US-Canada Border



# Trade with British Columbia, as Percent of Province GDP, 2009

<b>Canadian Province</b>	<b>Trade as Percent of GDP</b>	<b>Trade as Percent of GDP</b>	<b>U.S. State at Similar Distance from British Columbia</b>
Alberta	6.9	2.6	Washington
Saskatchewan	2.4	1.0	Montana
Manitoba	2.0	0.3	California
Ontario	1.9	0.2	Ohio
Quebec	1.4	0.1	New York
New Brunswick	2.3	0.2	Maine

**Source:** Statistics Canada, US Department of Commerce

# Borders still matter

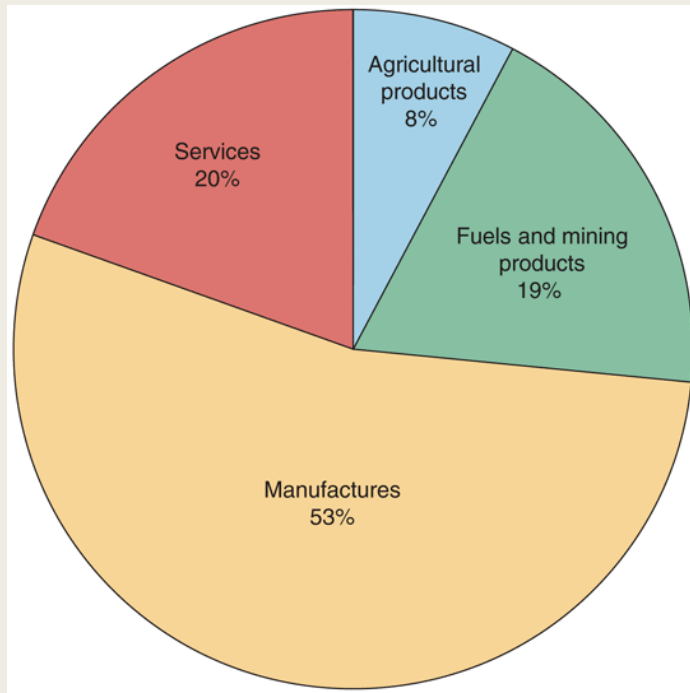
- US and Canada are very integrated: free trade agreement and common language
- However, much more trade happens between Canadian provinces than between Canadian provinces and US states, even holding distance constant
- Some studies show that the US-Canada border has as much effect as if the countries are 1,500 to 2,500 miles apart (numbers debatable, but the effects are there)

# Waves of globalization in international trade

- The first wave: 19<sup>th</sup> and early 20<sup>th</sup> century
  - *Some economic historians think the first wave happened in the 1820s*
  - *Others believe it comes after 1870s, thanks to steamships and the Suez Canal*
  - *Ended due to a wave of protectionist policies and wars*
- The second wave: 1945 to now
  - *International coordination to reduce tariffs (e.g., WTO)*
  - *New technologies such as containerization, jet engines, the Internet, etc.*
  - *Will the recent protectionism reverse the trend?*

# Which goods do countries trade?

KOM Figure 2-6: The Composition of World Trade 2011



Source: World Trade Organization.

- Most is in manufactured goods (53%)
- Services (20%), e.g., shipping, legal consultation, tourists' spending, international education
- Mineral products (19%)
- Agricultural products (8%)



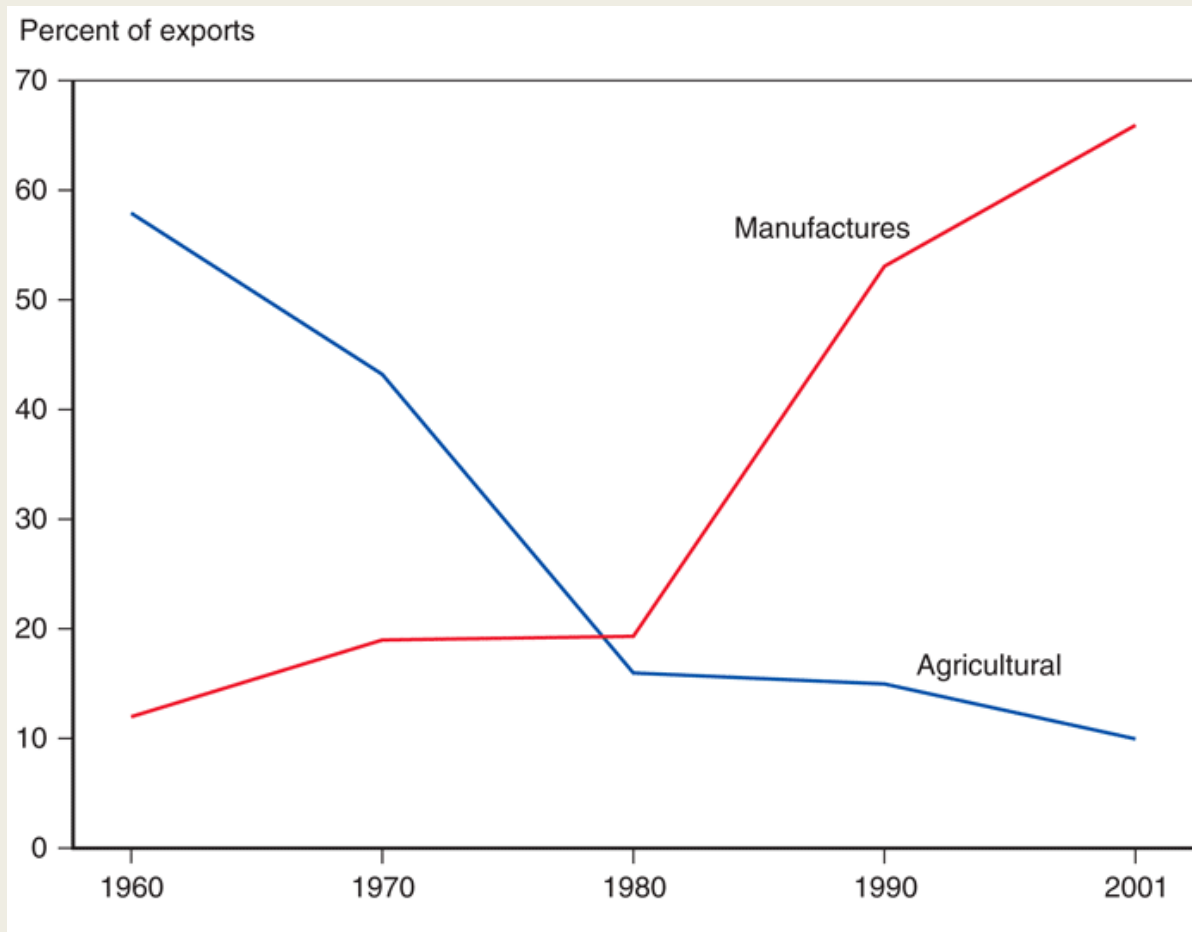
# Changing patterns, 1

- In the past, a large fraction of the volume of trade came from agricultural and mineral products.
- Today, most of the trade is in manufacturing goods

	United Kingdom		United States	
	Exports	Imports	Exports	Imports
1910	75.4	24.5	47.5	40.7
2011	72.1	69.1	65.3	67.2

**Source:** 1910 data from Simon Kuznets, *Modern Economic Growth: Rate, Structure and Speed*. New Haven: Yale Univ. Press, 1966. 2011 data from World Trade Organization.

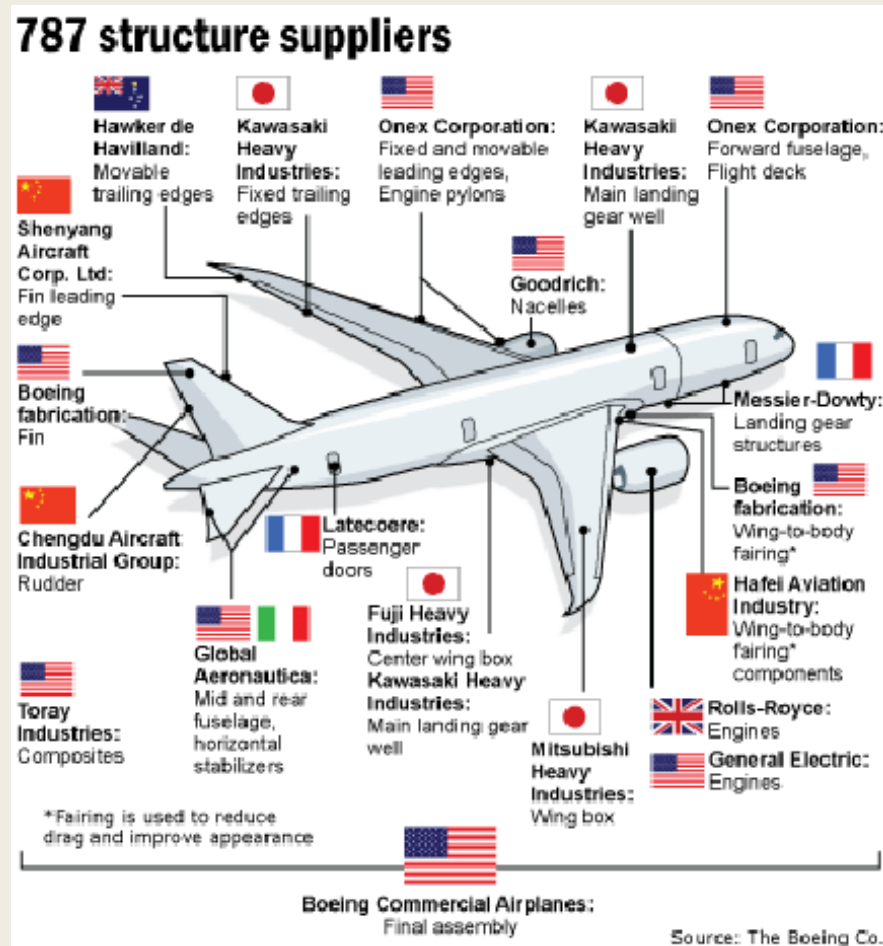
# Changing patterns: composition of developing countries' exports



Source: United Nations Council on Trade and Development.

Source: KOM Figure 2-7

# Changing Patterns 2: Global value chains and trade in intermediate inputs



# Global value chains and trade in intermediate inputs

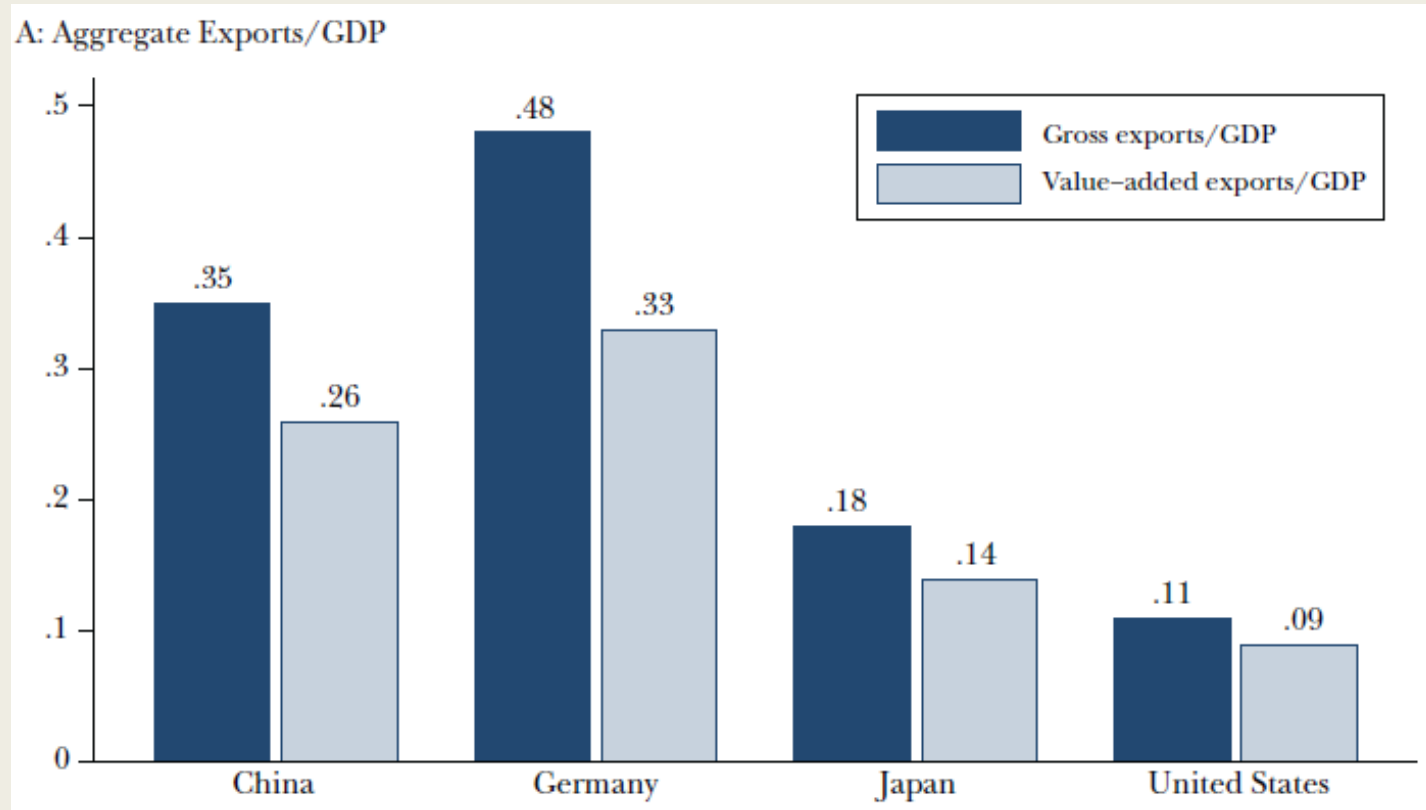
- Many exports and imports are intermediate inputs
  - *Intermediate inputs are assembled into final products (consumed by consumers)*
  - *Intermediate inputs do not directly benefit consumers, but they make final products cheaper/better thus indirectly benefit consumers*
- Gross trade may be larger than “value added”
  - *Value added = Sales – Costs of Intermediate Inputs*
  - *Gross trade is about “Sales”*
  - *However, only value added is distributed as wages, capital rents and firm profits*
- Trade in intermediate inputs has been growing

# Decomposition of value added of iPhone 4 (2010)

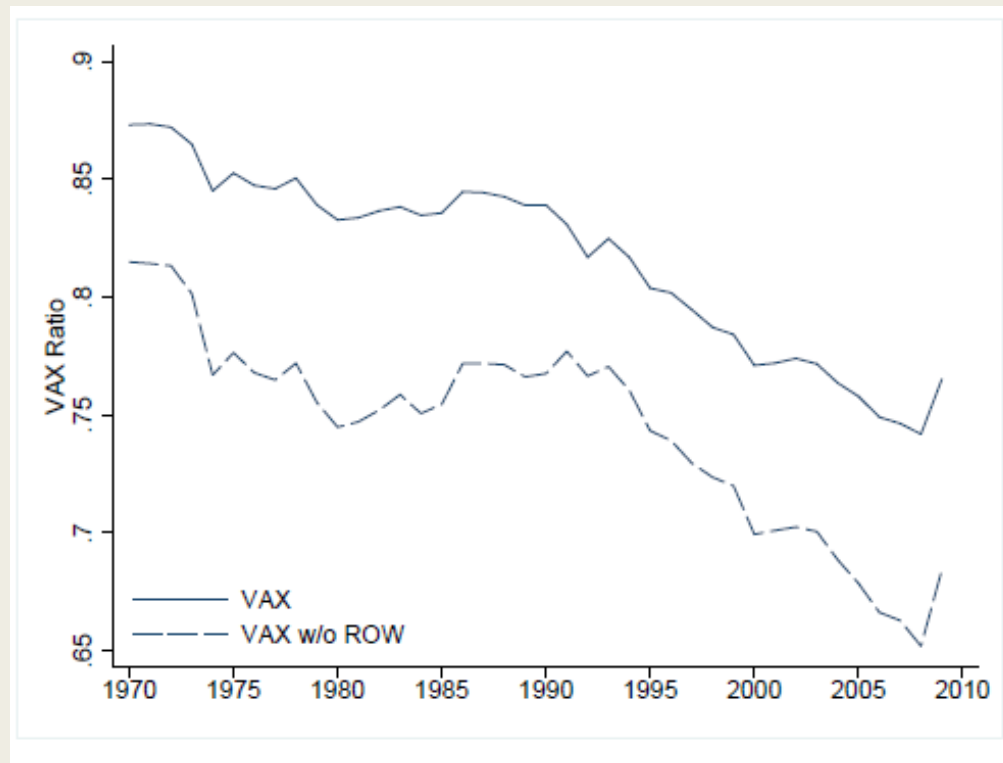
Location/Company	Activity	Amount/Cost
Worldwide	Retail Price	\$549
U.S.	U.S. Total	\$334
Apple	Design/marketing	\$321
U.S. Suppliers	Manufacturing of components	\$13
Japan	Manufacturing of components	\$3
South Korea	Manufacturing of components	\$26
...	...	...
China	Labor for components and for assembly	\$10

When China finally exports iPhones to the US market, value added is tiny compared to the price of the final product

# Gross trade > value added



Growing trade in intermediate inputs → decline in value added share of exports (VAX)

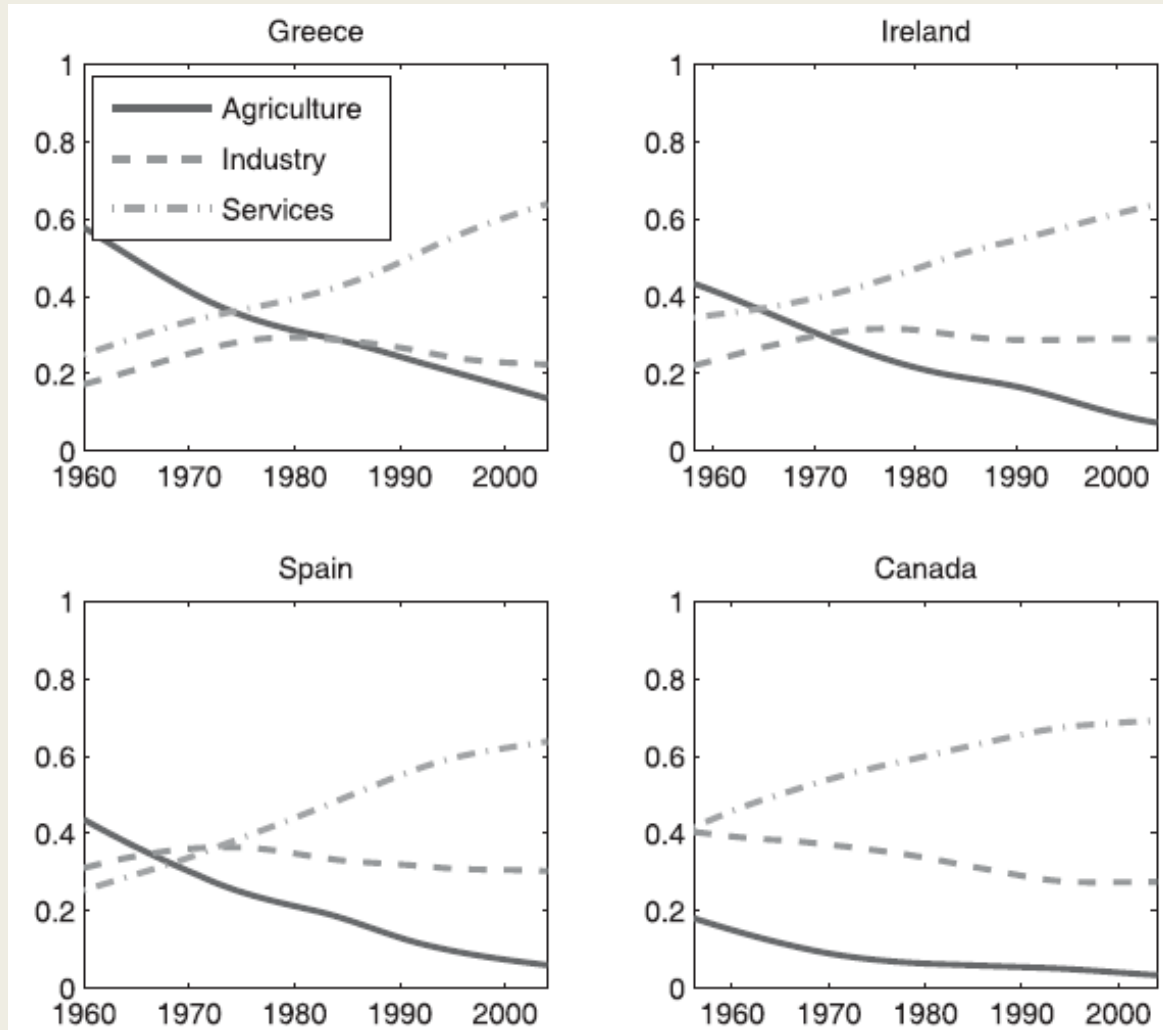


# Changing Patterns 3: Trade in services

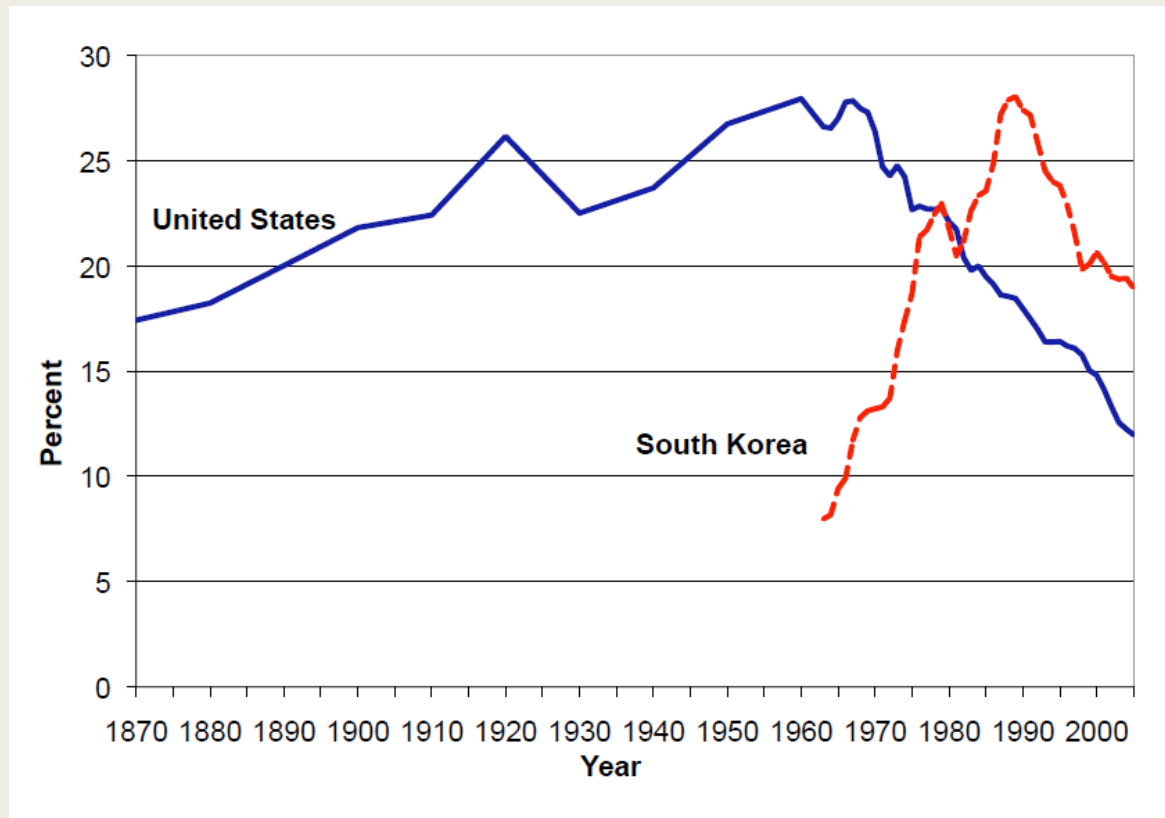
- Trade in services can happen in two cases
  1. *The subject of service moves across borders. E.g., shipping, tourism, education abroad*
  2. *The content of the service can be transmitted internationally in a cheap and quick way. E.g., programming, legal consultation, accounting, medical consultation*
- Still not as big as trade in manufacturing goods, but may grow bigger
- Consistent with the growing share of services in domestic economies (structural change)



# Structural Change: share of hours in agriculture, industry and services



# Structural Change: Hump in Manufacturing Labor Share



# Bring manufacturing back to the US?

- One promise made by President Trump
- Many people blame trade with China (sometimes Mexico) – jobs taken by Chinese (Mexican) workers
- However, a more important reason: structural change
  - *As the economy develops, people prefer to consume services rather than manufacturing goods*
- Even if the US shut down trade with all other countries, the share of manufacturing might not increase much

# Backfire: Harley-Davidson moves production to India



# Harley-Davidson moves production to India

- In Mar, 2018, the US imposed tariffs on steel and aluminum from most countries including EU
- EU retaliated by tariffs on US goods including motorcycles
- Harley-Davidson announced a plan to shift some production from the US to India (for serving the EU market)

# Summary

- Patterns of Trade
  - *Who trade with whom?*
    - The Gravity Model: Size and distance
    - Borders, culture, geography, MNCs, tariffs v.s. trade agreements
  - *Which goods do particular countries export and import*
    - Agricultural goods, manufacturing goods and services
    - We look at how country differences determine which goods they trade in the next lecture
- Changing patterns of trade
  - *Agricultural goods → Manufacturing goods*
  - *Trade in intermediate inputs*
  - *Trade in services*
- Implications for businesses
  - *How to predict market sizes / market access*
  - *Where to produce and sell given market access*

- Turn in the student questionnaire
- Start to talk to your classmates, form groups and pick topics for the policy memo
- Submit group information and choose topic by Feb 10