

Lecture 1: Introduction

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Course: International Macroeconomics

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The Road Ahead

1. World Trade: An Overview
2. Size Matters: Gravity Model

What Is International Economics About?

- A subject about how nations interact through trade of goods and services, flows of money, and investment
 - international trade: transactions of goods and services across nations
 - international finance: financial/monetary transactions across nations (our focus)
- **Why an important subject**
 - now more closely linked nations than ever before
- **Main references**
 - **KOM**: Krugman, Obstfeld & Melitz, "*International Economics: Theory and Policy*", 12th Edition (required)
 - **SUW**: Schmitt-Grohé, Uribe & Woodford, "*International Macroeconomics*" (required)

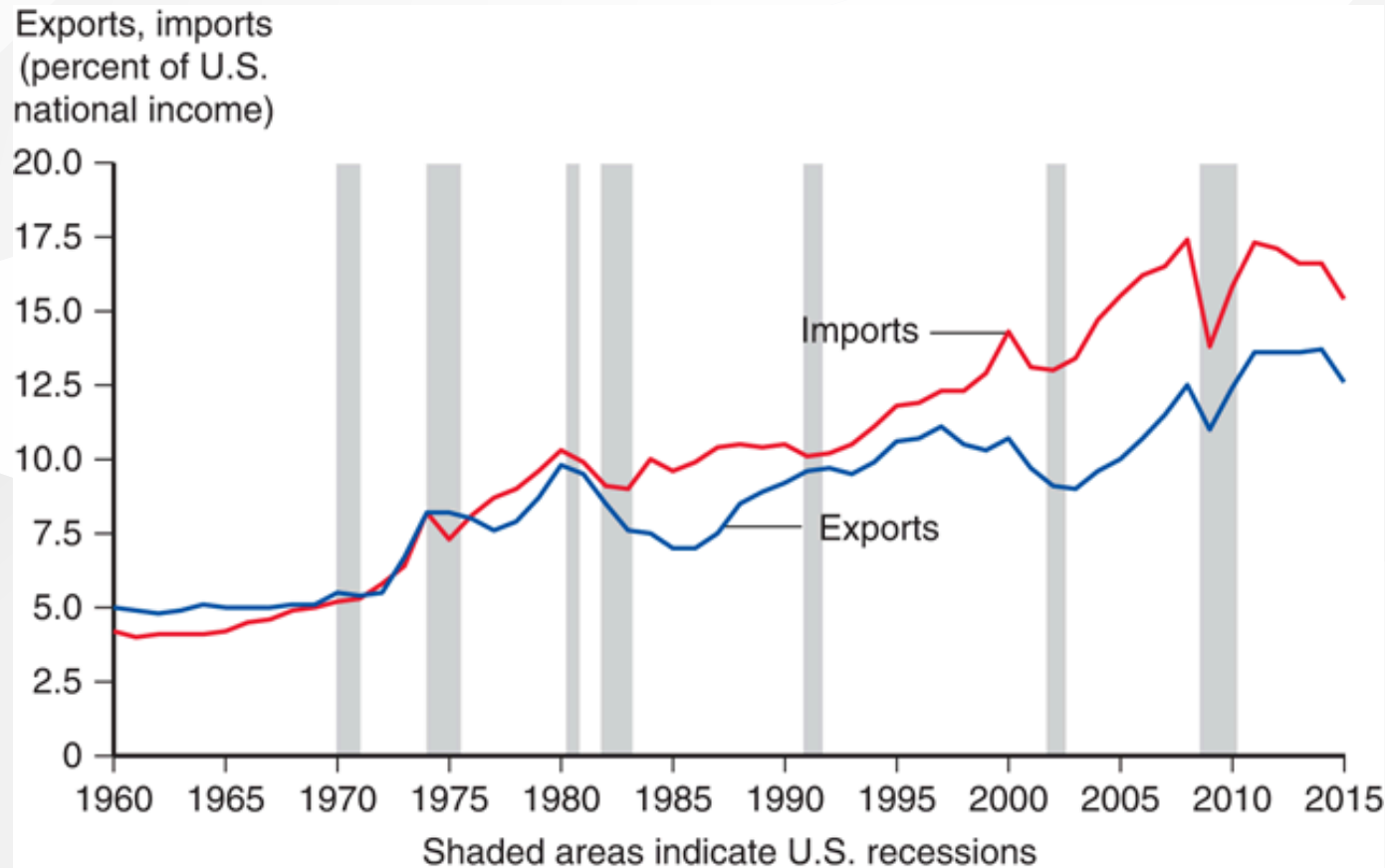
Topics on International Trade

- Gains from trade
 - mutual benefits for countries as a whole
 - affect income distribution within a country
- Patterns of trade
 - who sells what to whom, e.g. Brazil exports coffee & Saudi Arabia exports oil
 - differences in climate, resources, labor productivity, etc.
- How much trade
 - trade policies, e.g. tariffs, quotas, export subsidies, etc.
 - cost and benefit analysis of trade policies

Topics on International Finance

- Balance of payments
 - record a country's trade and financial flows
 - downloadable from www.bea.gov
- Exchange rate determination
 - price of domestic currency (goods) in terms of foreign currency (goods), or vice versa
 - fixed v.s. floating exchange rates
- International policy coordination
 - economic policies of one country can affect others
 - depend on exchange rate regime
- International capital market
 - e.g. foreign exchange market

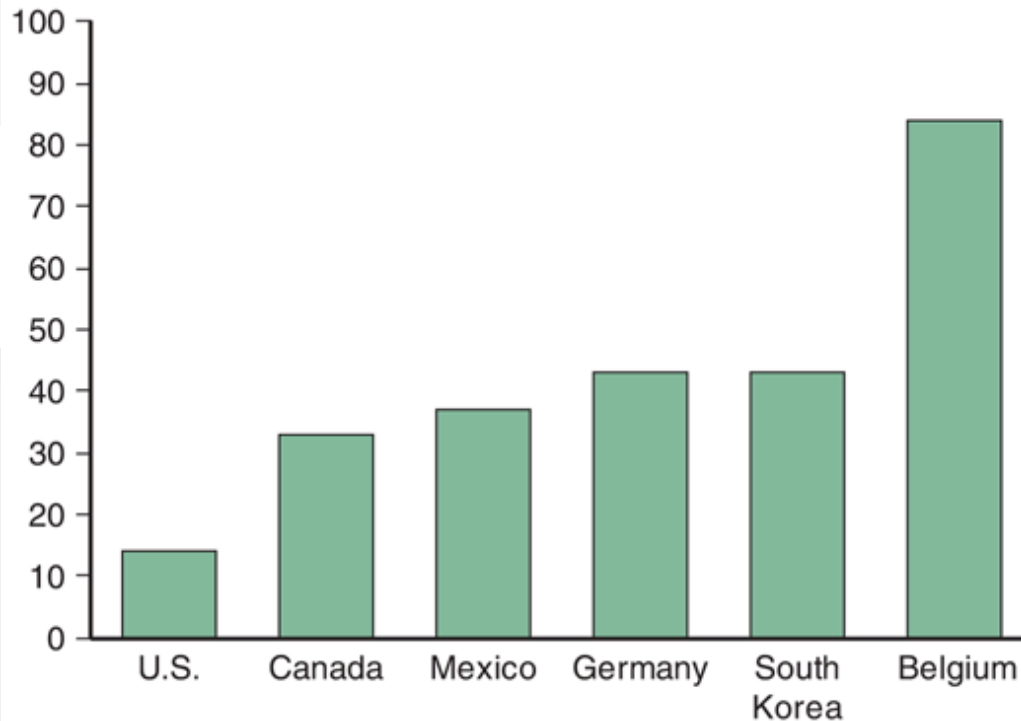
Openness of U.S. Economy



- Exports & imports as percentage of GDP (source: Bureau of Economic Analysis - BEA)
- U.S. international trade roughly tripled in past 50 years

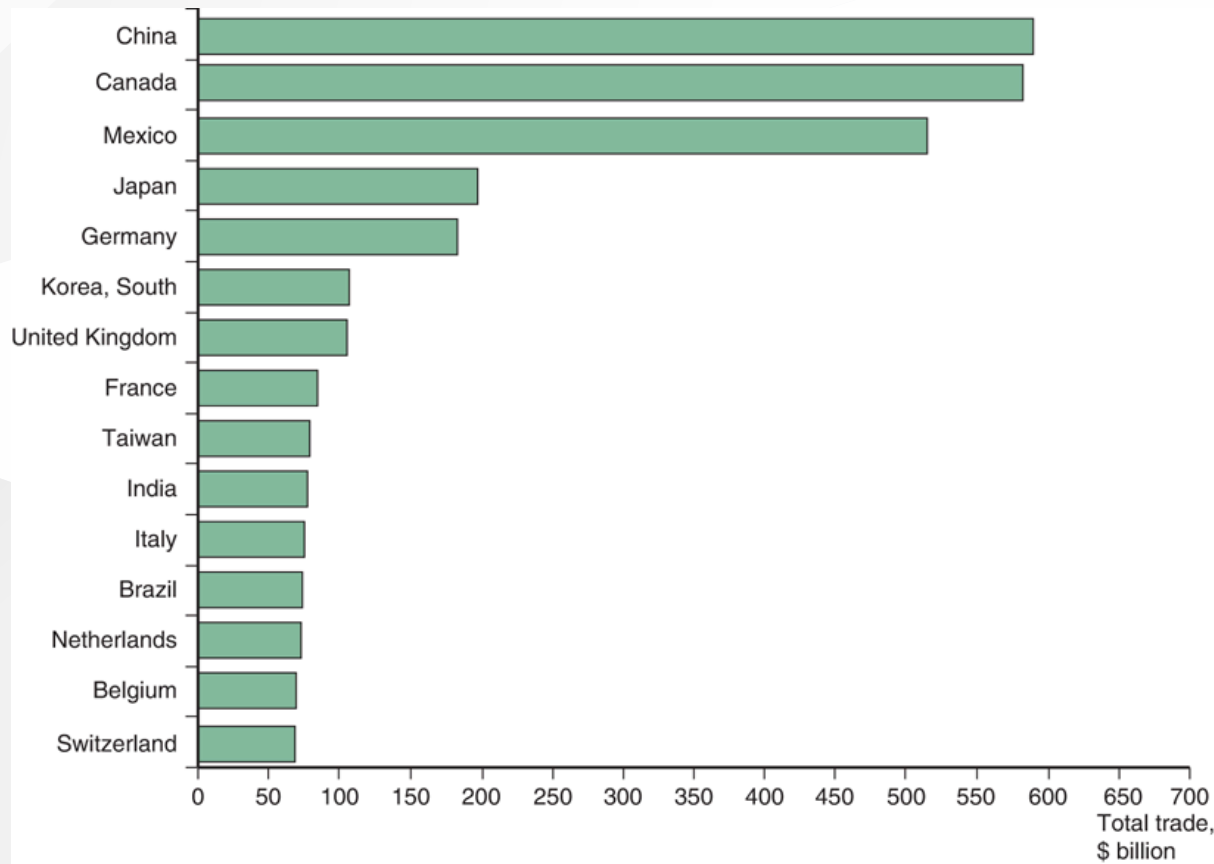
Openness of Other Economies

Exports, imports
(percent of
national income)



- Average of exports & imports as percentage of GDP (source: Organization for Economic Cooperation and Development - OECD)
- U.S. relies less on international trade than others

Who Trades with Whom



- Total value of U.S. trade (exports+imports), 2015 (source: Department of Commerce)
- 15 countries accounted for 75% of U.S. trade

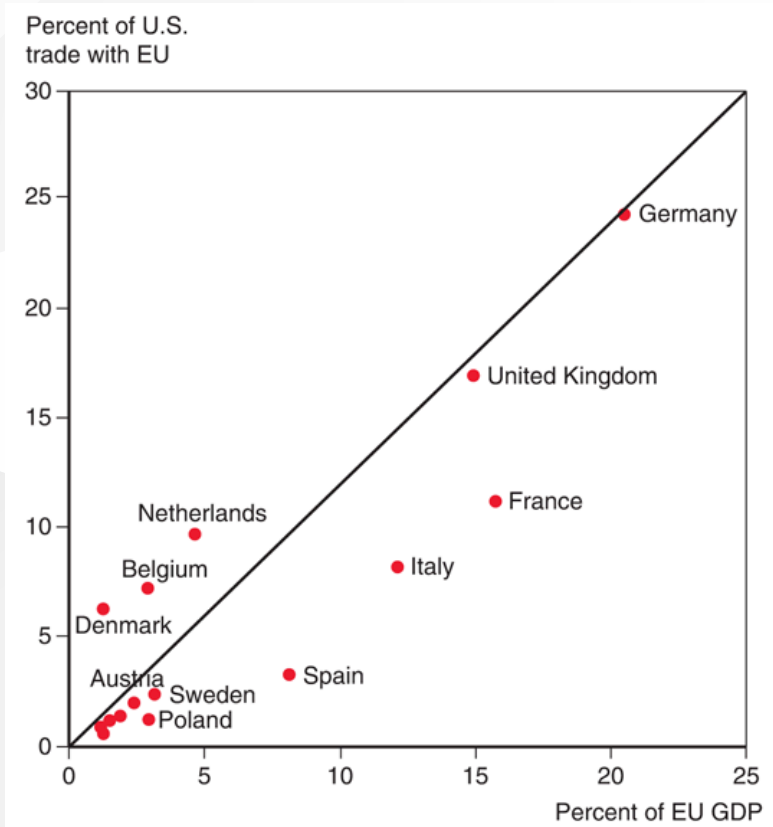
Size Matters

The gravity model

$$T_{ij} = \frac{A \times Y_i^a \times Y_j^b}{D_{ij}^c} \quad \text{where } A, a, b, c > 0$$

- Analogous to Newton's law of gravity
 - T_{ij} = trade value (gravity) between i and j
 - Y_k = country (object) k 's GDP (mass), $k = i, j$
 - D_{ij} = distance between i and j
 - estimates suggest $a, b, c \approx 1$
- Model predictions on trade volume
 - proportional to each country's GDP
 - diminish with distance between two countries

Applying Gravity Model

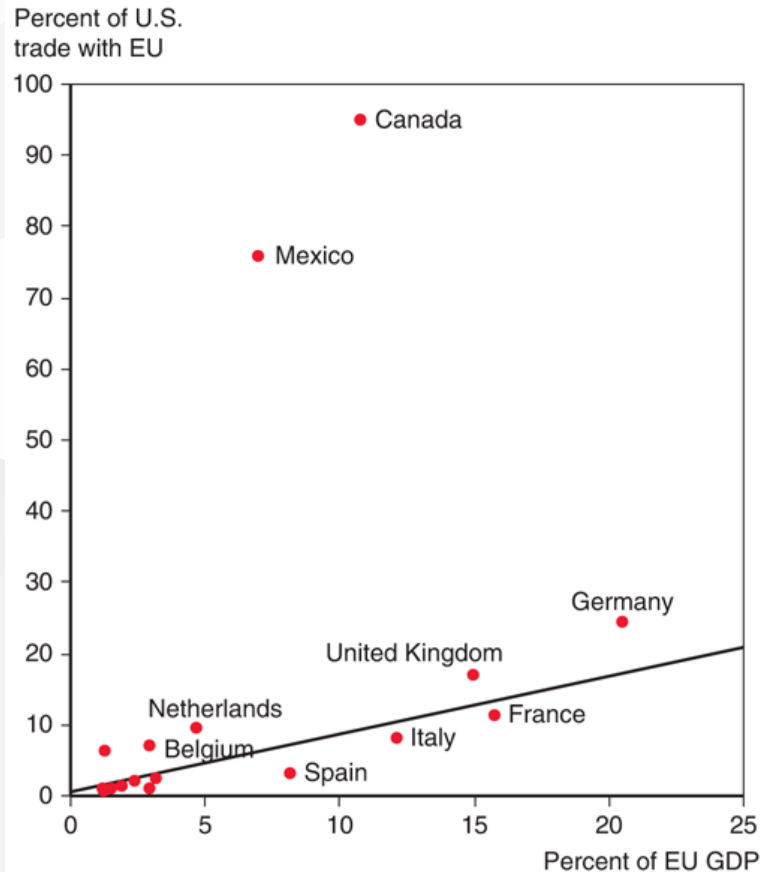


- Size of Euro economies and their trade with U.S. (source: Department of Commerce, European Commission)
- Gravity model fits data well, but not perfectly

Other Factors to Trade

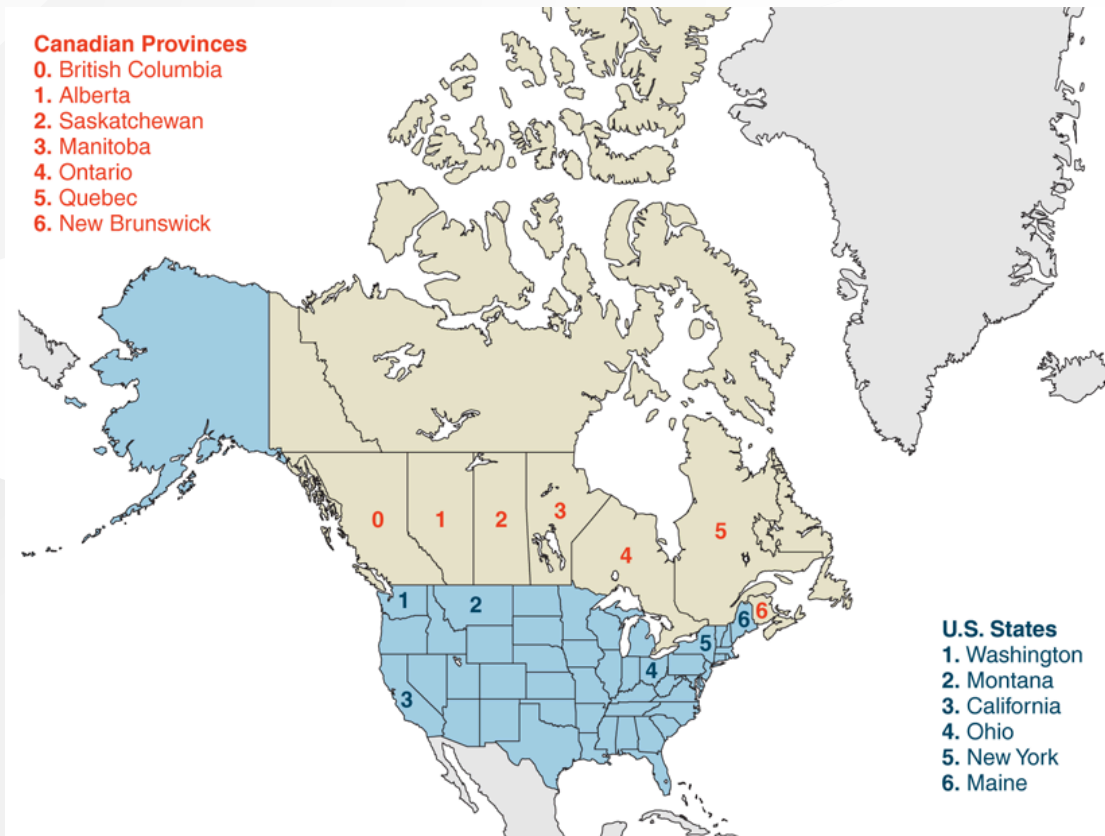
- Distance
 - Canada/Mexico & U.S. (lower transportation cost)
- Borders
 - 1994 North American Free Trade Agreement (few tariffs/formalities)
- Cultural affinity
 - Ireland & U.S. (common language, migration history)
- Geography
 - Netherlands/Belgium & U.S. (near Rhine mouth)
- Multinational corporations
 - export and import among divisions

Applying Gravity Model (Cont'd)



- U.S. trades markedly more with neighbors
- Distance matters

Applying Gravity Model (Cont'd)



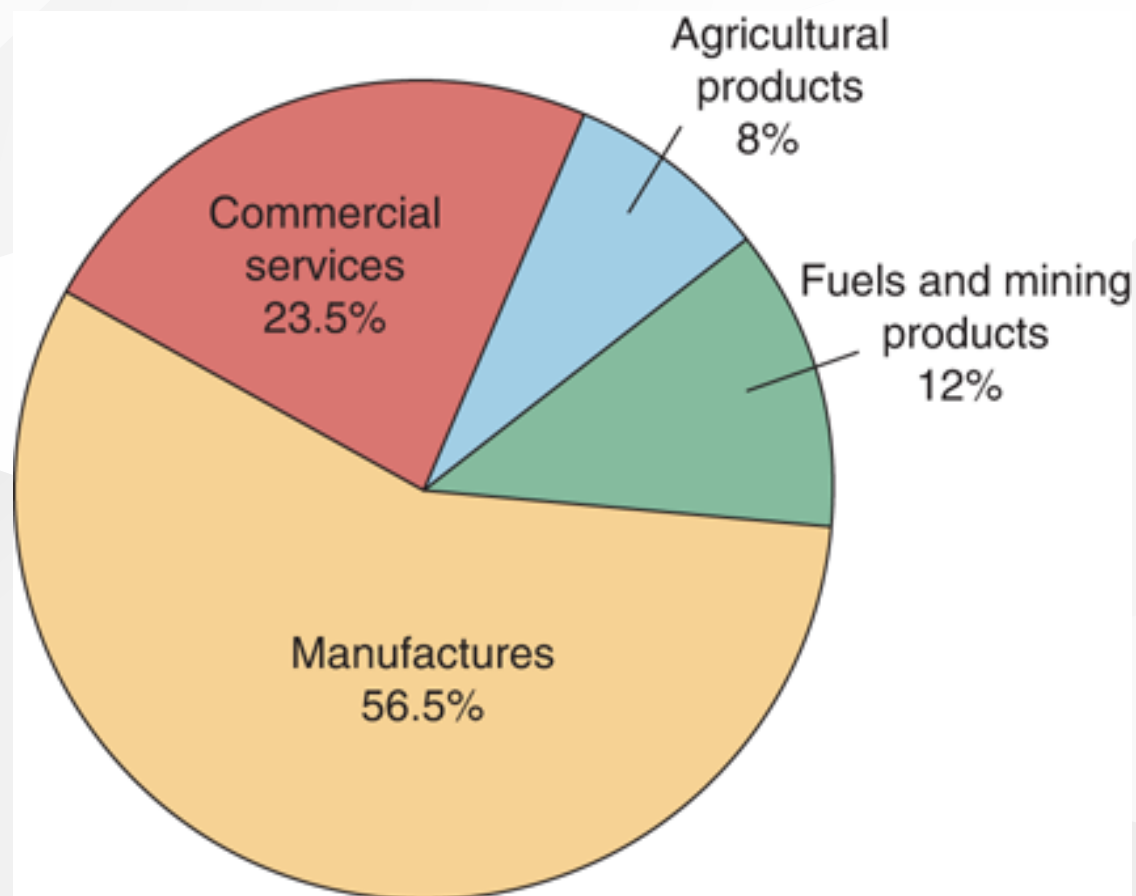
- Canadian provinces and U.S. states (source: Statistics Canada, Department of Commerce)
- Each pair has similar distance from British Columbia

Border Matters (Cont'd)

Canadian Province	Trade as Percent of GDP	Trade as Percent of GDP	U.S. State at Similar Distance from British Columbia
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

- Trade with BC as percentage of province/state's GDP (source: Statistics Canada, Department of Commerce)
- Much larger province-wise than province-state trade

What Do We Trade



- Composition of world trade, 2011 (source: World Trade Organization - WTO)
- Historically agricultural & mineral products made up most

Readings & Exercises

- Readings
 - KOM: chapter 1, 2
- Exercises
 - KOM: problem 1, 2, 3, 4