

International Trade

From Theory to Evidence

1. Introduction

Dr. Christa Brunnschweiler
Lecture 351-0550-00L
ST 2010
Wed 3-5 pm, HG D 1.1

General Information

Contact

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General Information

Main textbook:

Feenstra, R. C. and A. M. Taylor, International Trade, Worth, New York, 2008.

Secondary textbooks:

Markusen, J.R., J.R. Melvin, W.H. Kaempfer and K.E. Maskus, International Trade: Theory and Evidence, McGraw-Hill, New York, 1995.

Krugman, P.R. and M. Obstfeld, International Economics: Theory and Policy, Pearson, Boston, 2006.

Further reading: suggested in each chapter

Lecture notes: will be made available online before each lecture at www.cer.ethz.ch/resec/teaching/IE/ie_st_10

General Information

Basic recommendations:

- attend class regularly as lecture notes are no perfect substitute for visiting the lecture itself;
- take notes during class;
- solve problem sets;
- ask questions;
- study literature.

Course overview

1. Chapter 1: Introduction (Trade in the Global Economy)
2. Chapter 2: Trade and Technology: The Ricardian Model
3. Chapter 3: Gains and Losses from Trade in the Specific-Factors Model
4. Chapter 4: Trade and resources: The Heckscher-Ohlin Model
5. Chapter 5: Movement of Labor and Capital between countries
6. Chapter 6: Increasing Returns to Scale and Imperfect Competition
7. Trade and growth empirics
8. Chapter 8: Import Tariffs and Quotas under Perfect Competition
9. Chapter 9: Import Tariffs and Quotas under Imperfect Competition
10. Chapter 10: Export Subsidies in Agriculture and High-Technology Industries
11. Chapter 11: International Agreements: Trade, Labor and the Environment

There will be three problem sets with solutions supplied online.

1. What is the course about?

The field of international economics consists of 2 parts:

1. Real analysis (trade theory)

- reasons for and consequences of international trade;
- implications of changes in real variables such as capital stocks and labor supply;
- effects of trade restrictions;
- foundation in market-clearing microeconomic equilibrium processes.

2. Monetary analysis (international finance or international macroeconomics)

- determination of exchange rates, international transmission of inflation and unemployment;
- foundation in macroeconomic analysis.

This lecture focuses on real analysis.

2. Basics of world trade

- Why do countries trade?
 - They can get products from abroad cheaper or of higher quality than those obtained domestically.
- Globalization
 - Flow of goods and services across borders
 - Movement of people and firms
 - Spread of culture and ideas between countries
 - Tight integration of financial markets.
- International trade and the integration of financial markets were strong even before World War I.
- Many factors over time have disrupted these flows, positively and negatively.

2. Basics of world trade

- Migration across countries is not as free as the flow of goods and services due to different restrictions.
- Foreign direct investment (FDI) is mostly unrestricted in industrial countries, but not necessarily in developing countries.
- Investments in both developing and industrial countries are a way for firms to spread their business and knowledge across borders.

2. Basics of world trade

- **Imports** are the purchase of goods or services from another country.
- **Exports** are the sale of goods or services to other countries.
 - Germany had the largest exports of *goods* in 2008, with China and the U.S. coming in second and third.
- **Merchandise goods:** include manufacturing, mining, and agricultural products.

2. Basics of world trade

- **Service exports:** includes business services like eBay, travel, insurance, and transportation.
 - In combining all goods and services, the U.S. is the world's largest exporter followed by Germany and China.
- **Migration** is the flow of people across borders as they move from one country to another.
- **Foreign Direct Investment (FDI)** is the flow of capital across borders when a firm owns a company in another country.

2. Basics of world trade

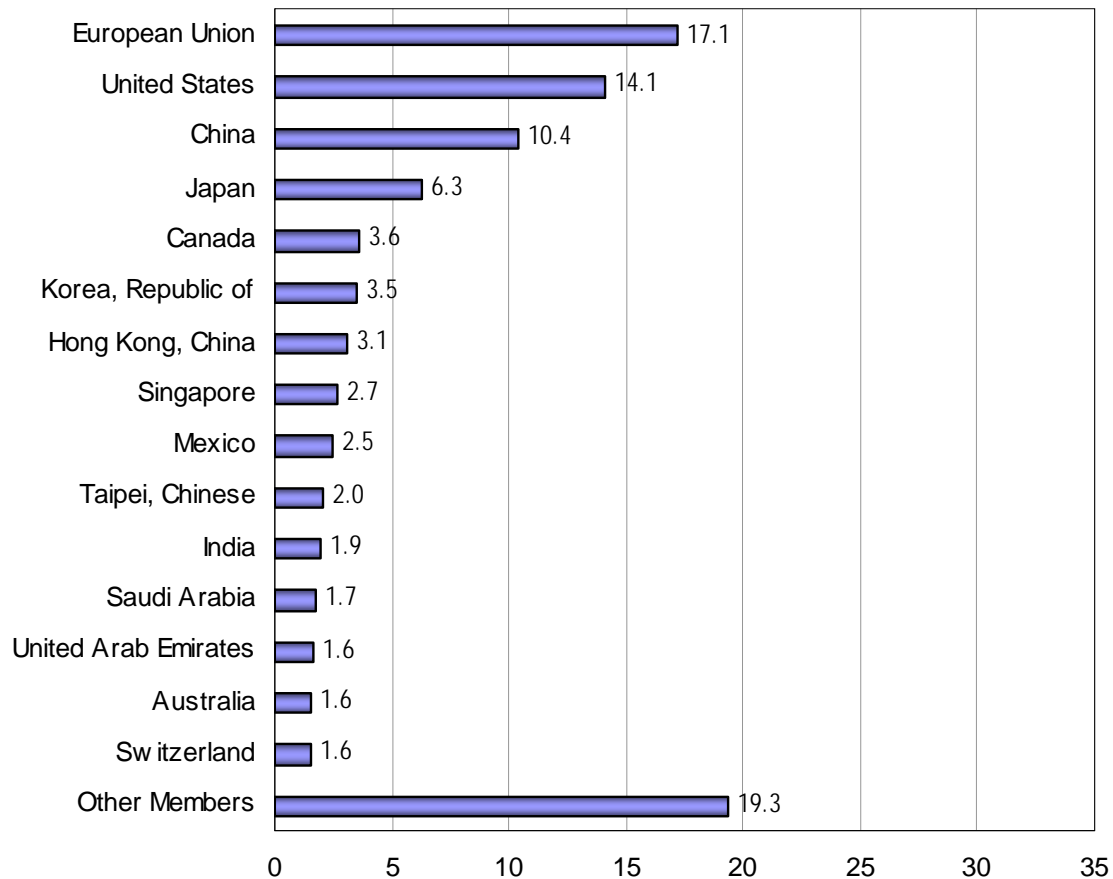
- The **Trade Balance** of a country is the difference between the total value of exports and the total value of imports.
 - Usually includes both goods and services
- A **Trade Surplus** exists when a country exports more than it imports.
- A **Trade Deficit** exists when a country imports more than it exports.

2. Basics of world trade

- **Bilateral Trade Balance** is the difference between exports and imports between two countries.
 - The U.S. trade deficit with China was over \$200 billion in 2005 and 2006.
- What are the problems with bilateral trade data?
 - If some of the inputs are imported into the country, then the value-added is less than the value of exports.
 - Barbie is made with oil from Saudi Arabia, plastic from Taiwan, hair from Japan, and is assembled in China.
 - Doll is valued at \$2 when it leaves China but only 35 cents is value-added from Chinese labor.

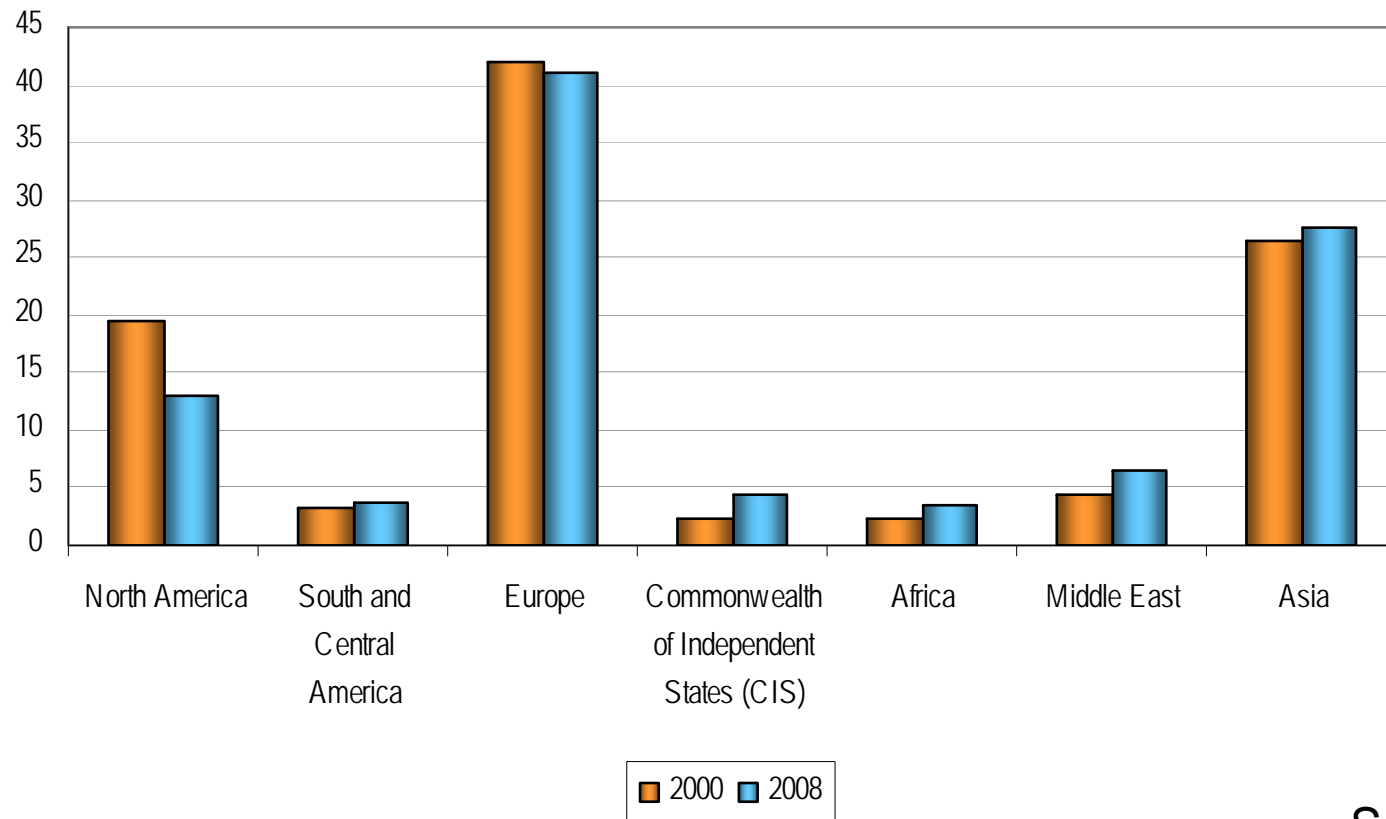
2.1 Map of world trade

Figure 1.2: WTO members' share in world merchandise trade, excluding intra-EU(27), 2008 (Source: WTO)



2.1 Map of world trade

Figure 1.3: Regional shares of world merchandise exports, 2000 and 2008



Source:WTO

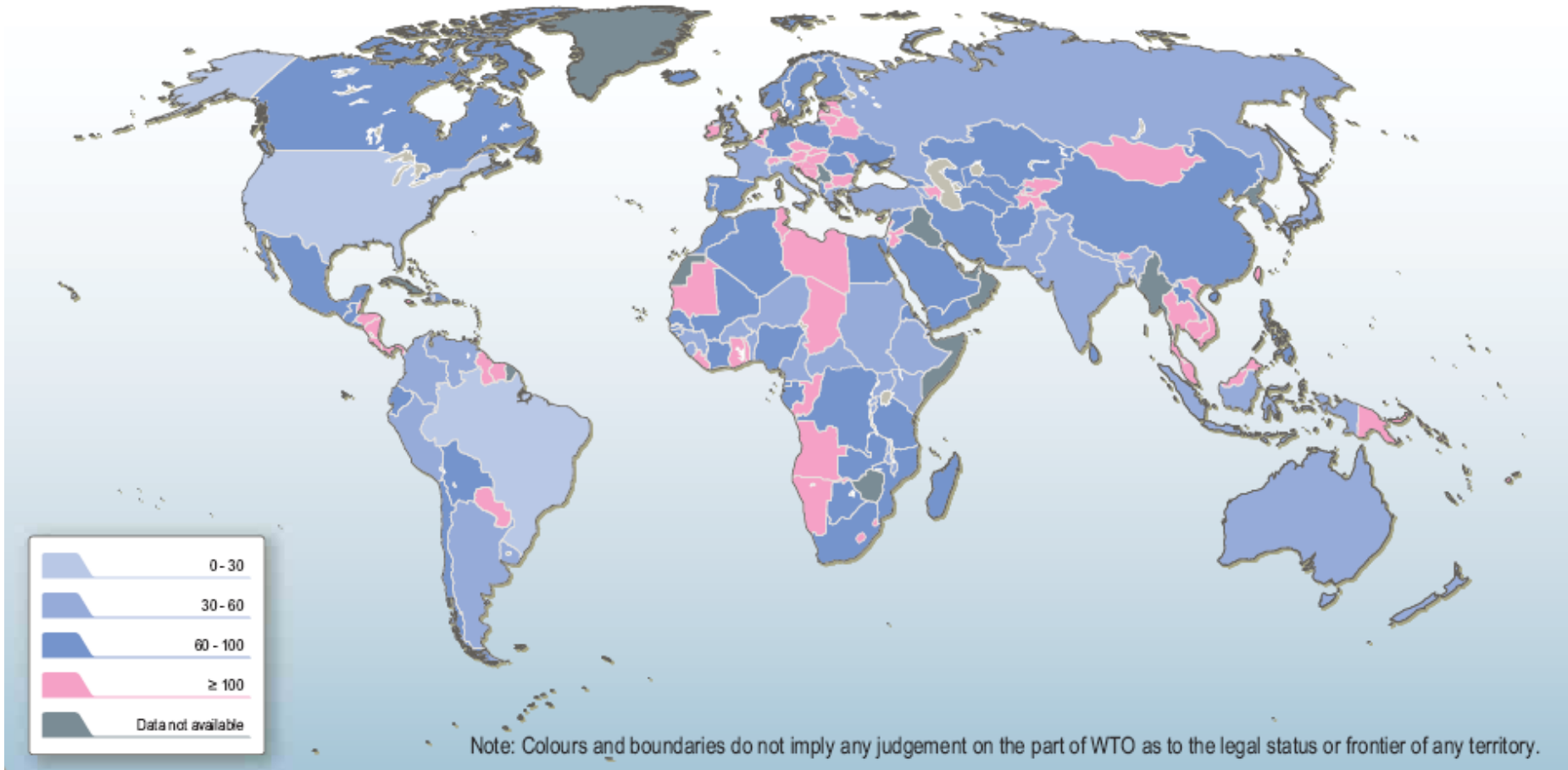
2.2 Trade and GDP

- Another way to measure trade is by looking at its ratio to GDP.
- In 2005 trade relative to GDP for the U.S. was 13%.
- Most other countries have a higher ratio.
- Countries that are important shipping and processing centers have much higher trade ratio.
 - Hong Kong, Malaysia, and Singapore
- Barbie example: the value-added can be much less than the total value of exports → trade can be greater than GDP.
- The countries with the lowest ratio are those with large economic values or those that have just started trading.

2.2 Trade and GDP

Figure 1.4: Ratio of exports and imports of goods and commercial services to GDP, 2007 (Source: WTO)

(Percentage based on current dollar values)



2.2 Trade and GDP

The trade impact of the recent financial crisis

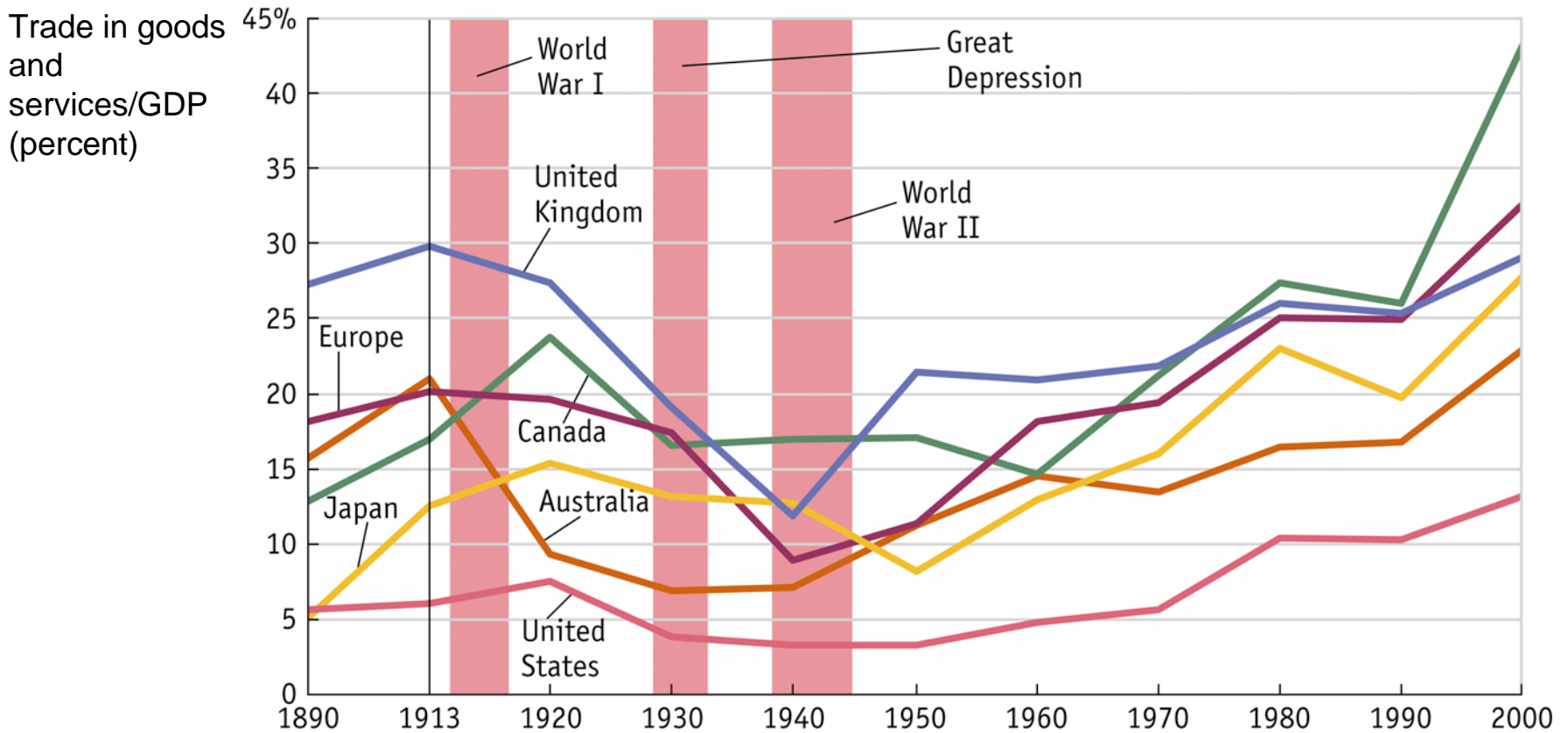
- International merchandise trade continued to increase rapidly through the first half of 2008; decline only started in September 2008. Annual trade growth for 2008 still +15%, compared to +16% for 2007 and +12% average since 2000.
- Trade flows fell most in and within Europe in Q4 of 2008, followed by North America and Asia. Q1 saw even stronger trade declines in CIS, Africa and ME, mostly due to falling commodity prices.
 - Trade in automotive products was sector most affected (-48% in Q1 2009), followed by iron and steel (-37%), office and telecom equipment (-29%) and integrated circuits (-31 %).
- Trade flows started to increase again in Q2 of 2009.
- Note that economic downturns tend to redress trade imbalances. E.g., trade surplus of Germany and Japan, and trade deficit of United States all decreased.

2.3 Barriers to trade

- Reasons for changes in trade/GDP ratio over time include trade barriers, transportation costs, wars and other crises, etc.
- **Trade barriers** refer to all factors that influence the amount of goods and services shipped across international borders.
- Barriers to trade change over time as policies, technology, etc. change.
- Figure 1.5 shows the ratio of trade in goods and services to GDP for a selection of countries over time. Figure 1.6 shows average tariffs.

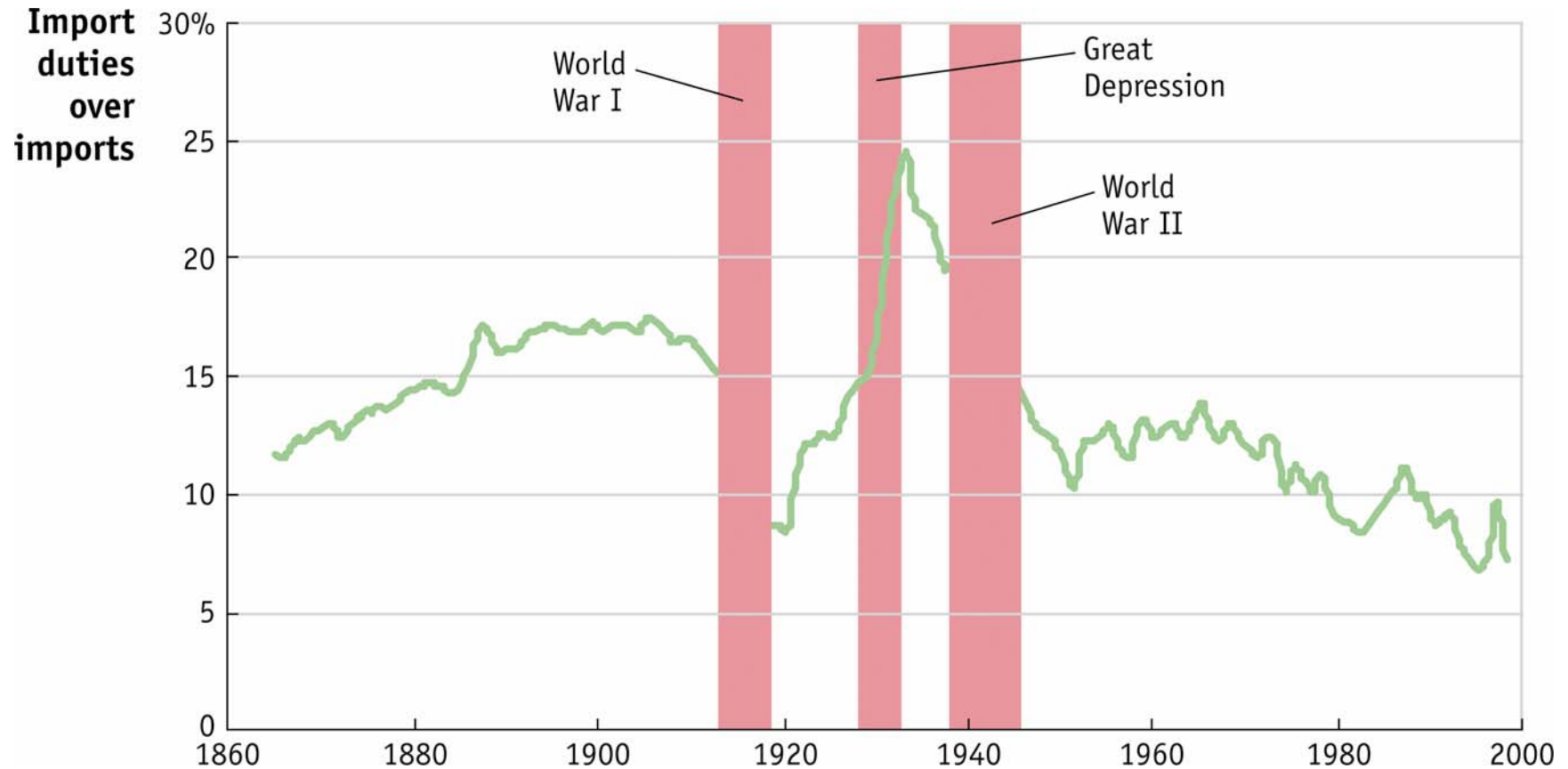
2.3 Barriers to trade

Figure 1.5 Trade in Goods and Services Relative to GDP



2.3 Barriers to trade

Figure 1.6 Average Worldwide Tariffs, 1860–2000



2.3 Barriers to trade

About transportation costs

“A sea change in shipping 50 years ago”

Feenstra & Taylor 2008, p.14

In 1956 an entrepreneur from North Carolina, Malcom McLean, loaded a ship with 58 35-foot containers and sailed from Newark, NJ to Houston, TX. He was the first to design a transportation system around the packaging of cargo in huge metal boxes that could be loaded and unloaded by cranes. Container shipping ended up replacing the traditional “break-bulk” cargo-handling method – where cargo was stowed loosely in the ship’s hold. This invention dramatically reduced shipping costs making it much easier and cost effective to ship world-wide. It allowed trade to increase significantly.

3.1 Map of migration

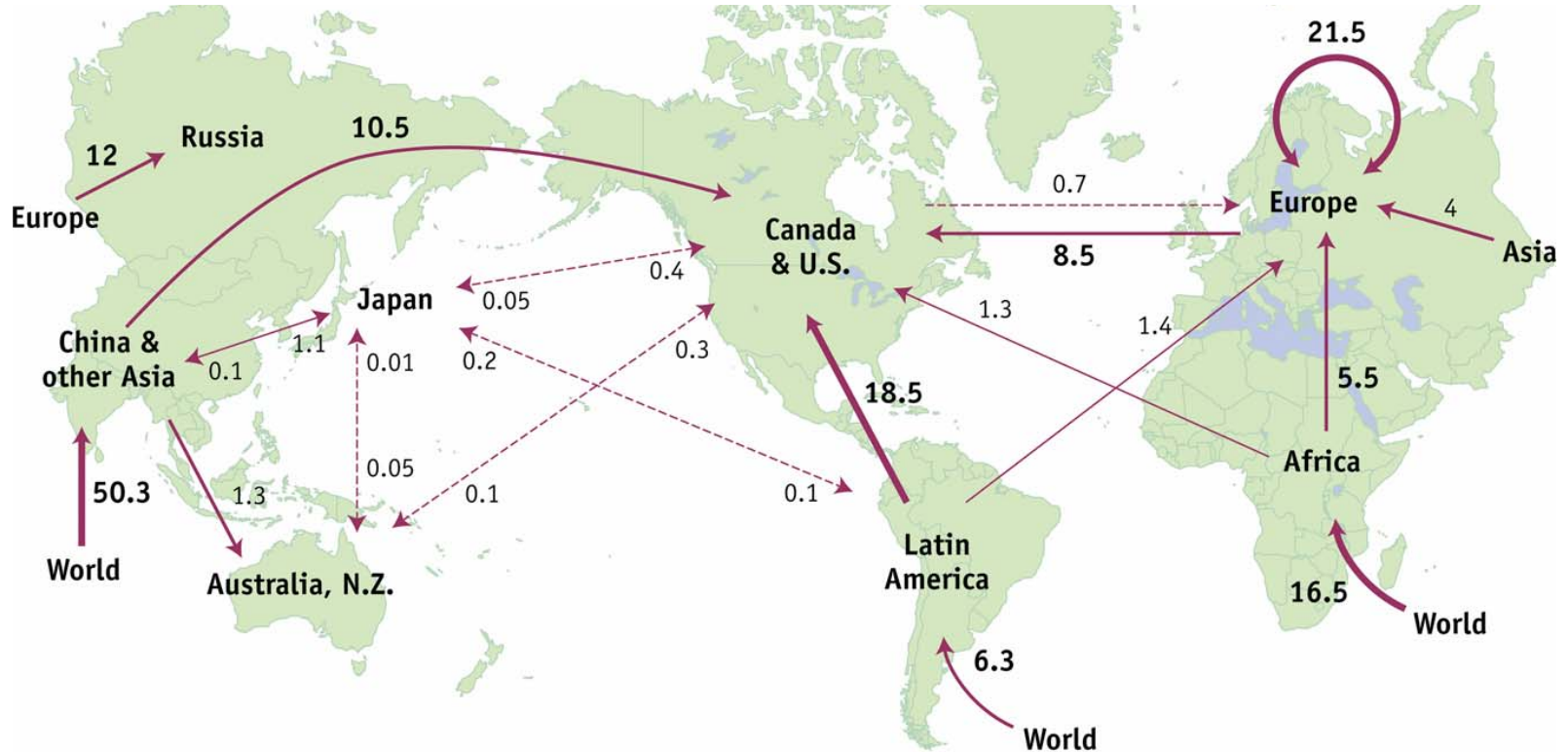
- International trade, migration, and foreign direct investment (FDI) all affect the economy of a nation that opens its borders to interact with other nations.
- Unlike trade, the majority of migration occurs outside the OECD between countries that are less wealthy.
- Many immigrants come from same continent but move between countries for employment or other reasons.
- Given a choice, migrants would like to move to a higher-wage country.
- Unlike trade, there are much more significant regulations on migration.

3.1 Map of migration

- However, international trade can act as a substitute for movements of capital and labor across borders.
 - Trade can raise the living standard of workers in the same way that moving to a higher-wage country can.
 - As trade has increased worldwide, more workers are able to work in export industries.
 - This allows them to benefit from trade without moving to another country.

3.1 Map of migration

Figure 1.7 Foreign-Born Migrants, 2000 (millions)



Total world migrants in 2000: 177 million

World Migration

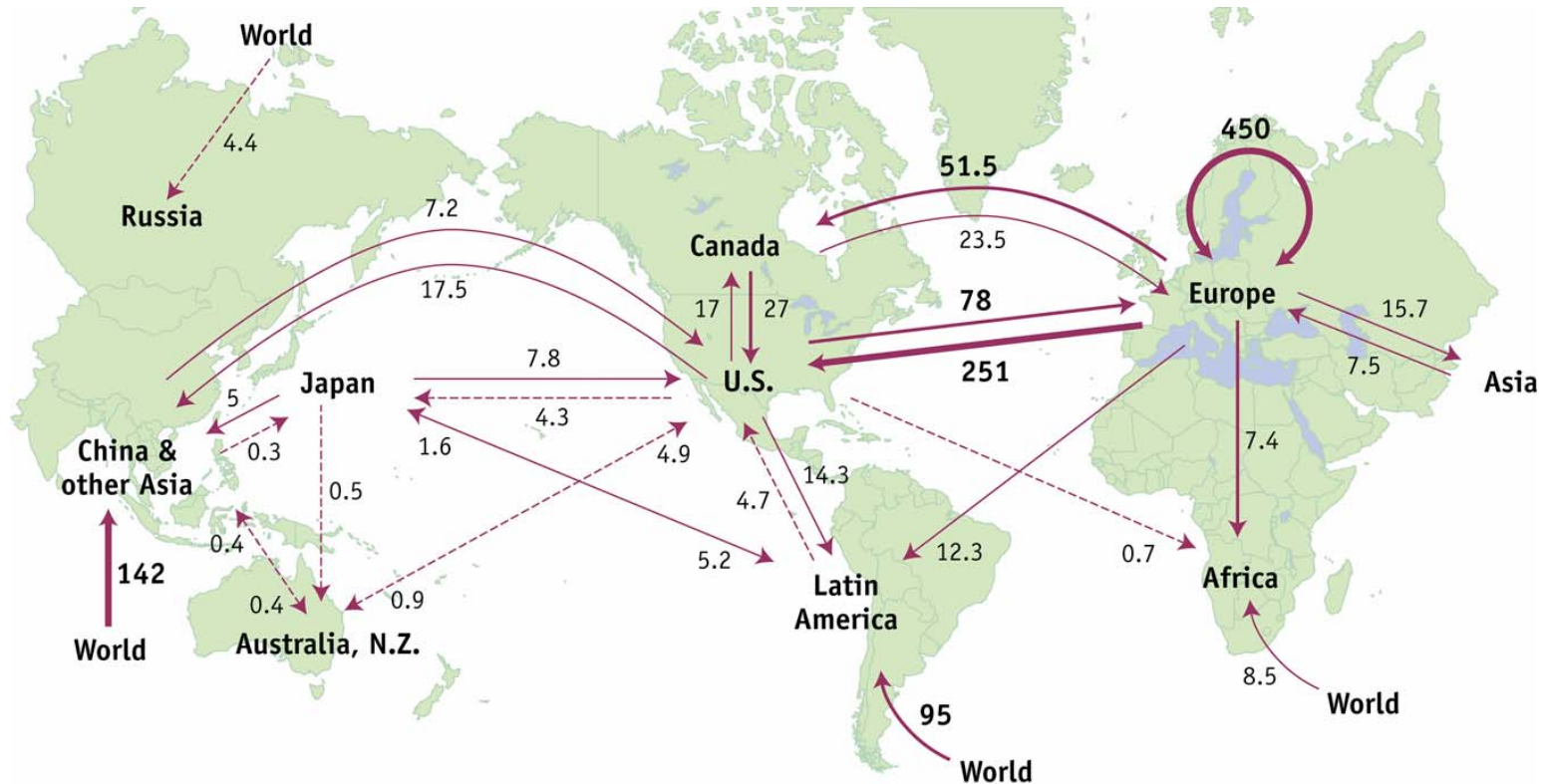
- - - - - < 1 million
- 1–5 million
- 5–15 million
- > 15 million

3.2 Map of FDI

- FDI occurs when a firm in one country (partially) owns a company in another country.
- Unlike migration, most FDI occurs between OECD countries.
 - Fig. 1.8: in 2000 FDI was US\$ 1.3 trillion in/out of OECD; over 90% total FDI worldwide.

3.2 Map of FDI

Figure 1.8 Flows of Foreign Direct Investment, 2000



Total world FDI flows in 2000: \$1,400 billion

World FDI Flows

- < \$5 billion
- \$5–25 billion
- \$25–100 billion
- > \$100 billion

3.2 Map of FDI

Two ways FDI can occur

- **Horizontal FDI:** a firm from one industrial country owns a company in another industrial country (ex. Fiat buys into Chrysler)
- Reasons for Horizontal FDI
 - Having a plant abroad allows the parent firm to avoid any tariffs or quotas from exporting to a foreign market since it produces locally.
 - Having a foreign subsidiary also provides improved access to that economy because local firms will have better facilities and information for marketing products.
 - An alliance between the production divisions of firms allows technical expertise to be shared.

3.2 Map of FDI

- **Vertical FDI:** a firm from an industrial country owns a plant in a developing country.
 - This usually occurs to take advantage of lower wages in the developing country.
 - Ex., firms have moved to China to avoid tariffs and acquire local partners to sell there.
 - China joined the WTO in 2001 and has reduced tariffs, but firms have remained, and autos are now being exported from China.

3.2 Map of FDI

- Flows within Europe and between Europe and the U.S. add up to 55% of the world total.
- The greatest amount of FDI is between industrialized countries; thus, the greatest amount is horizontal FDI.
- China is the largest recipient country for FDI in Asia, the third largest recipient of FDI in the world.
- Reverse-vertical FDI refers to companies from developing/emerging countries buying firms in industrial countries.
 - They are acquiring the technological knowledge of those firms to combine with low wages in home country (ex. Lenovo buys IBM – acquisition of highly skilled management).

4. Key points

- Globalization is not new phenomenon: trade and integration of financial markets strong before WWI; picked up again after WWII.
- The trade balance of a country (exports minus imports) is determined by macroeconomic conditions.
- A large portion of international trade is between industrial countries.
- It is possible to explain trade between countries that are similar as well as between those that are different.

4. Key points

- Larger countries tend to have smaller shares of trade relative to GDP since much of their trade is internal.
- The majority of world migration occurs between developing/emerging economies.
- International trade in goods and services acts as a substitute for migration.
- The majority of world flows of FDI occurs between industrial countries.