Economic Growth

Lecture 10: Growth in the Open Economy

İlhan Güner

University of Kent | EC569

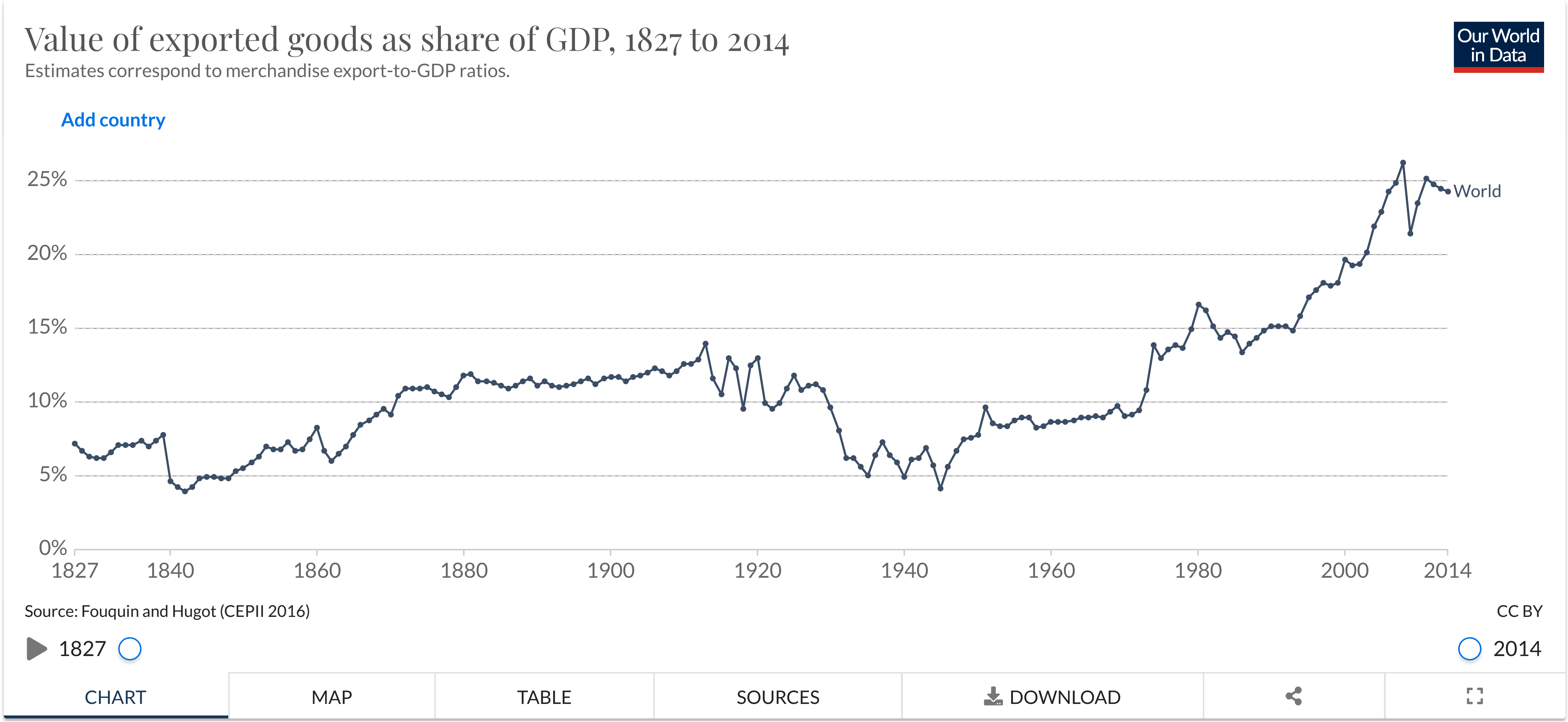
Overview

1. Some basic statistics about globalization
2. What are the causes of rising economic integration in the 20th century?
3. Does being open to world economy affect a country's economic growth?
4. What are the particular channels through which openness affects growth?
5. Why are some people opposed to openness?

Autarky versus openness

- Autarky: a country does not interact economically at all with the rest of the world
- Openness in the form of
  - exchange of final goods and services
  - flow of factors of production across borders
- Measuring openness
  - Quantities of goods and factors flowing across borders
  - Deviations from the law of one price,
    - if two countries trade freely with each other, the same good will sell for the same price in both markets

Growth of the world trade



Growth of world trade

- Globalization
  - 1st wave of globalization: mid 1800s - 1914
  - retreat from global integration: 1914 - 1950
  - 2nd wave of globalization: 1950 -
- Capital mobility
  - golden age of international capital flows: late 1800s-WWI
    – British were the "bankers for the world"
    – Britain financed half of the total sum invested across country borders
  - retreat from global integration: WWI - 1990
  - emerging market investment boom: 1990 -

Growth of world trade

- Globalization
  - 1st wave of globalization: mid 1800s - 1914
  - retreat from global integration: 1914 - 1950
  - 2nd wave of globalization: 1950 -
- Capital mobility
  - golden age of international capital flows: late 1800s-WWI
    – British were the "bankers for the world"
    – Britain financed half of the total sum invested across country borders
  - retreat from global integration: WWI - 1990
  - emerging market investment boom: 1990 -
- Labor mobility
  - peak of labor market integration: 1914
    –Between 1870 and 1925 100M people changed countries (1/10 of the world's population in 1870)
  - Reduced importance of immigration after WWII
    – end of colonization
    – the rise of nationalism:
  - In 1910, 14.7% of the U.S. population was foreign born
  - In 2010, 12.4% of the U.S. population was foreign born

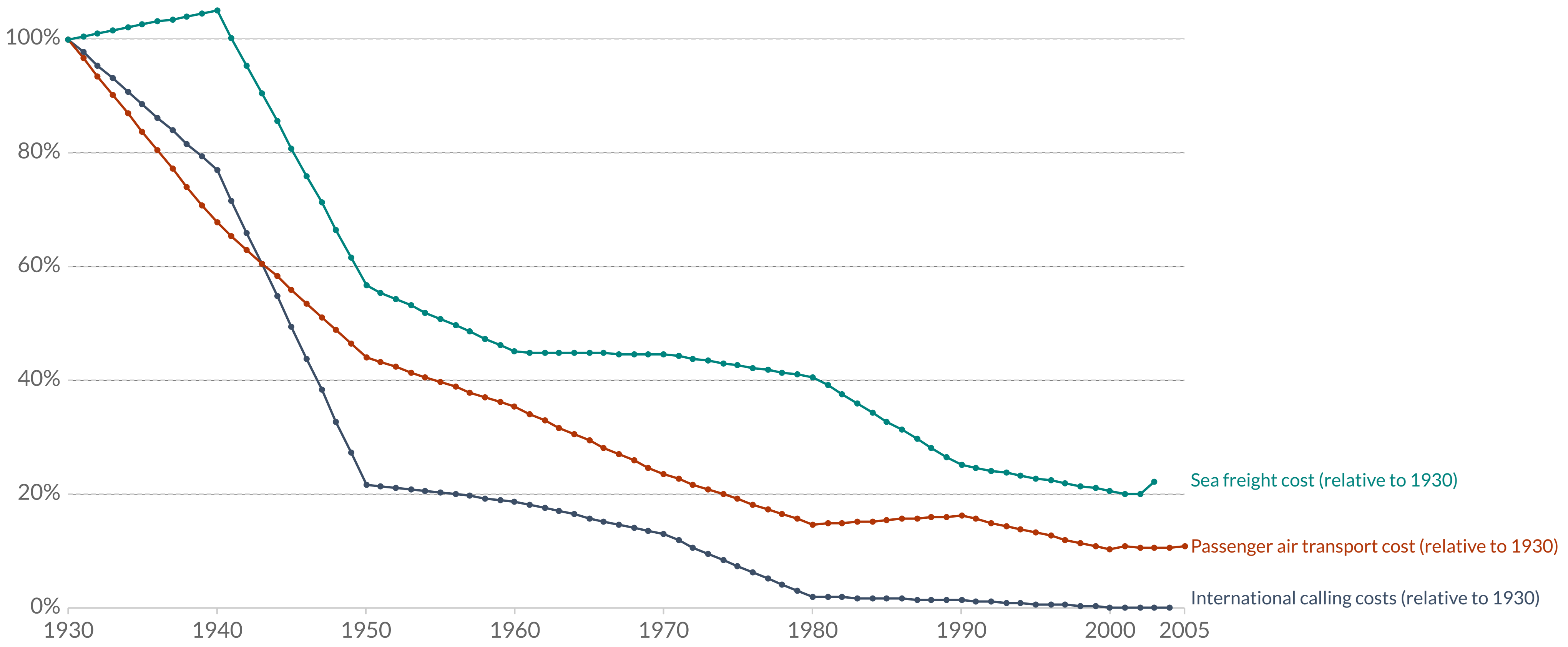
Causes of globalization

Globalization: the causes

- Decline in transport costs
- Increase in the ease of transmission of information (decline in the cost as well)
    - simplied the coordination of economic activity
    - enabled new types of trade (e.g. internet service providers)
- Trade policy

The decline of transport and communication costs relative to 1930

Sea freight corresponds to average international freight charges per tonne. Passenger air transport corresponds to average airline revenue per passenger mile until 2000 spliced to US import air passenger fares afterwards. International calls correspond to cost of a three-minute call from New York to London.



Source: Transaction Costs - OECD Economic Outlook (2007)

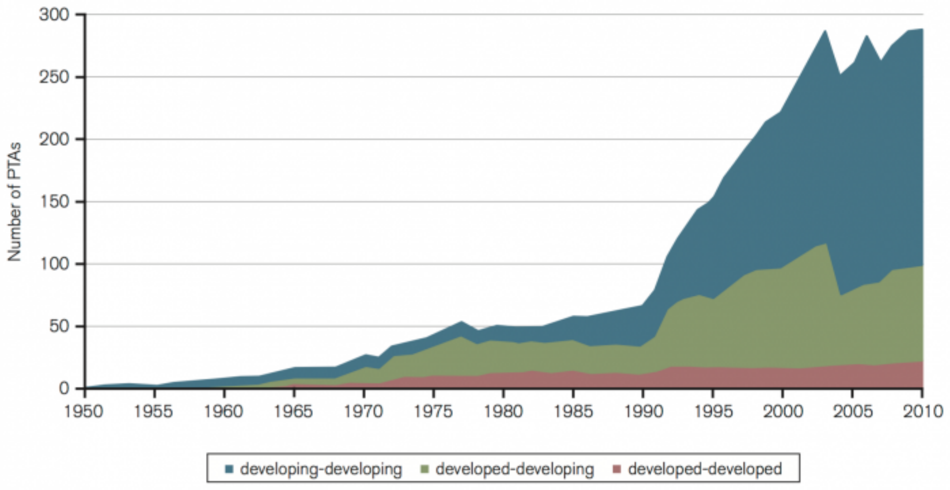
1930 2005

CHART | TABLE | SOURCES | DOWNLOAD

Trade policy

- Reductions in trade restrictions (GATT, WTO)
- Average tariffs in the industrial countries
  - 40% at the end of WW2
  - 6% by 2000
- In 2010, average tariff was 2.8% among OECD countries
  - 8.2% among middle-income countries
  - 11% among poor countries
- Among industrialized countries, the highest tariff is on agriculture

Number of preferantial trade aggreements



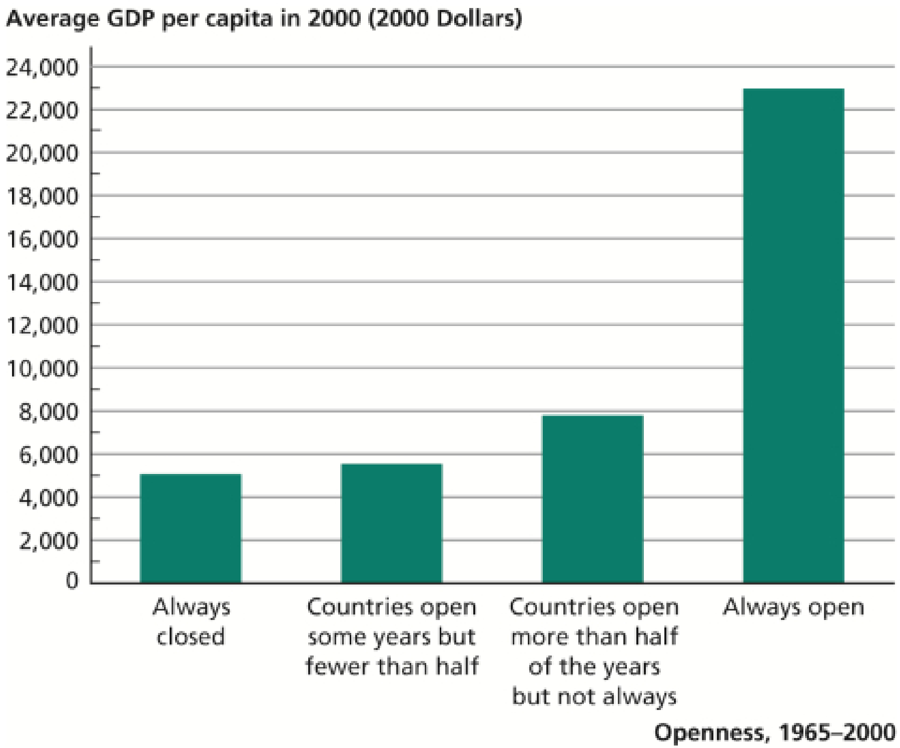
Source: WTO Secretariat.

Graph from ourworldindata.org

Does being open to world economy affect a country's economic growth?

Does being open to world economy affect a country's economic growth?

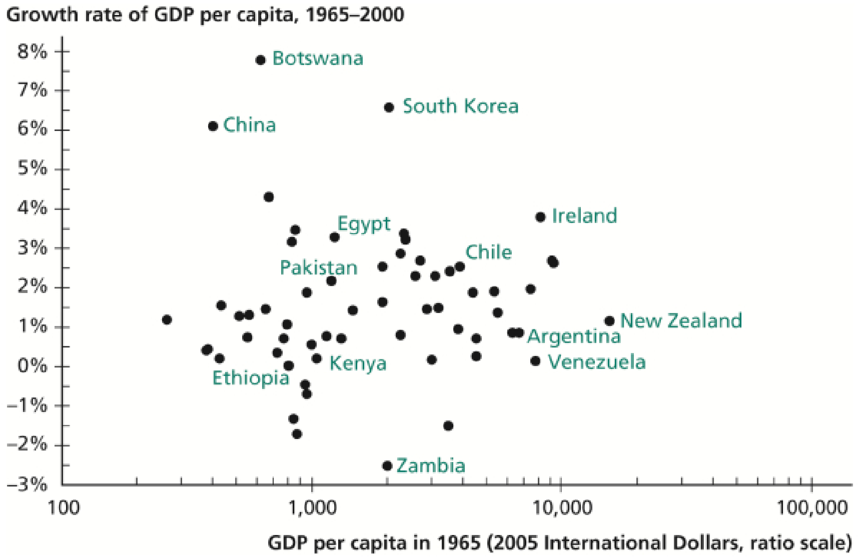
- Measure of openness:
  - level of tariffs
  - manipulation of exchange rate
  - government monopoly on export
- For each year from 1965-2000: 1 if open, 0 if not
- Always open countries are 4.5 times as rich as never open countries
- Countries open more than half the time are 1.5 times as rich as countries that are open less than half the time



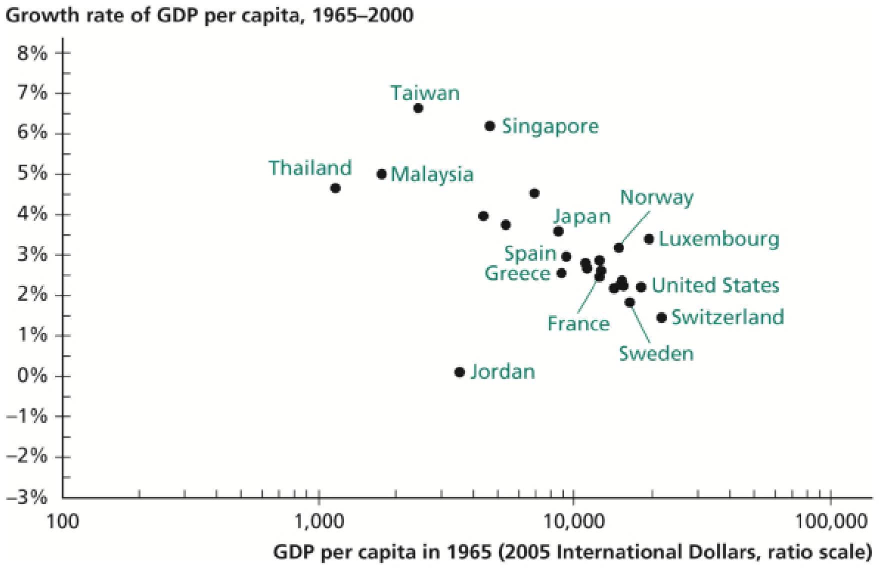
Sources: Sachs and Warner (1995), Wacziarg and Welch (2008).

Graphic from: Economic Growth (David Weil, 3e)

Growth in the closed and open economies



Sources: Sachs and Warner (1995), Wacziarg and Welch (2008), Heston et al. (2011).



Sources: Sachs and Warner (1995), Wacziarg and Welch (2008), Heston et al. (2011).

- Closed economies: closed for some or all years with the available data
- Average growth = 1.5%

- Open economies: open entire period
- Average growth = 3.1%
- Negative relationship between initial GDP and growth

Graphics from: Economic Growth (David Weil, 3e)

Does changes in openness of a country affect its growth?

- Trade liberalization led to rapid growth in
  - Japan (1858): 65% increase in real income over two decades
  - South Korea (1964-1965): income doubled in next 11 years
  - Rapid growth in Uganda and Vietnam in 1990s, after their integration into the world economy.
- Trade embargo in the US (1807-1809, Jefferson) led to unemployment and bankruptcies

The effect of geographical barriers to trade

- Geography: an exogenous factor that affects openness to trade
- Frankel and Romer (1999)
  - Geographical factors affect trade
  - How does geographically determined trade volume affect income per capita?
  - Raising the ratio of trade to GDP by one percentage point would raise income by 0.5%-2%
- Feyrer (2009a, 2009b)
  - Natural experiment: Closing of the Suez Canal (Egypt-Israel fight, 1967-1975)
  - Significant reduction in trade volumes for countries that trading distance increased as a result
  - Air freight led to increase in trade volume
  - Rising trade led to rising income, falling trade led to falling income.

The channels through which openness affects economic growth

Openness and growth

- What are the particular channels by which being open to the outside world affects a country's level of income per capita?
    - through factor accumulation
    - through productivity

Growth with capital mobility

Physical capital flows across national borders through

- foreign direct investment
  - 248M USD of 659M USD private capital flows into developing countries in 2010
- portfolio investment
- government grants
- lending from banks and multinational agencies like World Bank

Saving rate and investment rate

- In the Solow model, the economy is assumed to be closed
  - Hence, saving rate = investment rate

Saving rate and investment rate

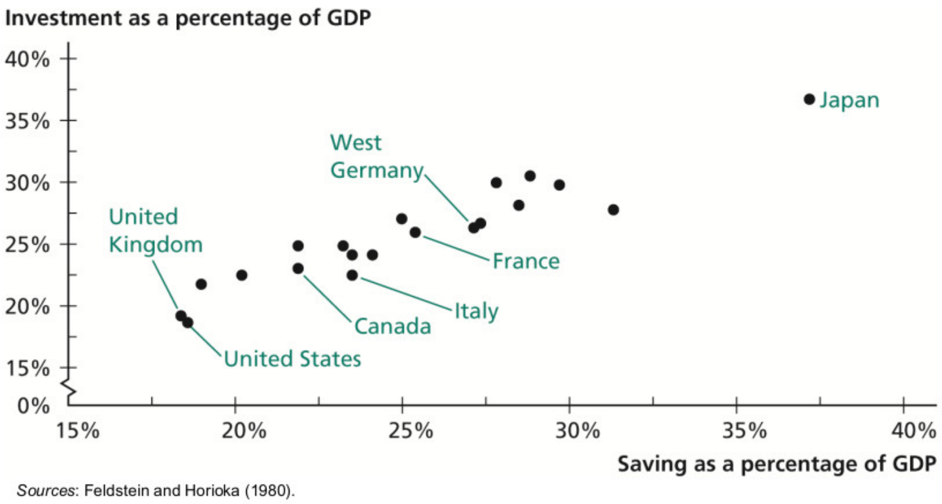
- In the Solow model, the economy is assumed to be closed
  - Hence, saving rate = investment rate
- In an open economy, saving rate might differ from the investment rate
  - with a simplistic theory, we expect that saving rate is uncorrelated with investment rate
  - high saving countries might invest in other countries
  - Gross Domestic Product (GDP) will not be higher for high saving rate countries
  - Gross National Product (GNP) will be higher for high saving rate countries

Saving rate and investment rate

- In the Solow model, the economy is assumed to be closed
  - Hence, saving rate = investment rate
- In an open economy, saving rate might differ from the investment rate
  - with a simplistic theory, we expect that saving rate is uncorrelated with investment rate
  - high saving countries might invest in other countries
  - Gross Domestic Product (GDP) will not be higher for high saving rate countries
  - Gross National Product (GNP) will be higher for high saving rate countries
- Openning to free capital flows
  - raises GDP of low saving rate country
  - decreases GDP of high saving rate country
  - GNP will be higher in both low and high saving countries after openning to international capital flows

Feldstein-Horioka Puzzle

- Under perfect capital mobility assumption, saving rate and investment rate should be uncorrelated
  - People invest their savings in places with better returns
  - They don't need to invest in home country
- Not in reality
  - Positive correlation of saving rate and investment rate
- Puzzle: when an existing theory contradicts with the observed reality



Graphic from: Economic Growth (David Weil, 3e)

Lucas Paradox

- Capital should flow from capital rich countries to capital scarce countries
  - Return on capital investment is higher in capital scarce countries
  - Remember, the diminishing returns to capital
- Large capital flows from capital scarce countries to capital rich countries
  - E.g. major capital flow from China to the US

Openness and productivity

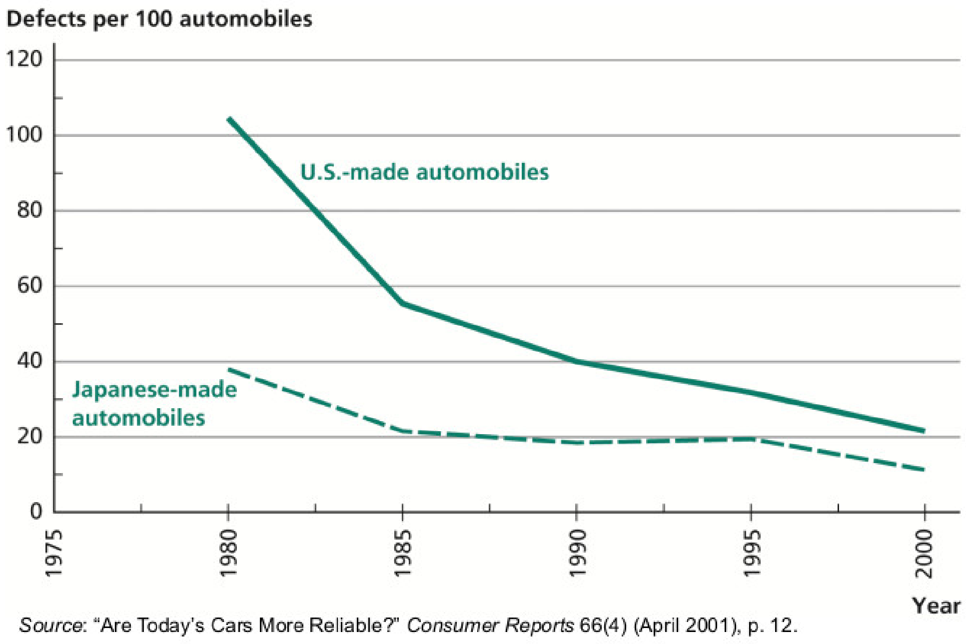
Gains from trade

- comparative advantage: improvements in resource allocation
  - Natural endowments: tropical fruit in Guatemala
  - Abundance of factors of production well suited to production of a good: the polishing of small diamonds in India
  - It has already specialized in it (movies in the US)
- increasing returns to scale leads to gains from specialization even without comparative advantage
- Tariff reduction agreements under the Uruguay Round (1986-1994)
  - raised world purchasing power by 73B USD per year (0.2% of world GDP) [Brown, Deardorf and Stern (2002)]

Openness and productivity, cont'd

Competition

- exposure to global competition forces improvement in efficiency
- weakens monopolies who lead to resource misallocation
- in 1965: imports account for 6% of the U.S. car market
- in 1980: 27% (75% of which was from Japan)
- Led to increase in quality of American cars
- After completion the US - Canada trade agreement
    - productivity in previously protected industries rose 3 times as unprotected industries



Graphic from: Economic Growth (David Weil, 3e)

Openness and productivity, cont'd (2)

- Technology transfer
  - foreign direct investment: factories, management
  - importing embodied technology: key inputs, capital goods
  - importing ideas generated abroad
  - interaction among countries: innovative organizational techniques
- Incentives to R&D
  - larger market and profit opportunity

Opposition to openness

- Workers and firms that have comparative disadvantage
  - Reallocation of factors of production to different sectors / geographies are costly
  - Adjustment takes long time
  - Gains accrue to large number of people, each gains a small share
  - Losses accrue to small number of people, each shoulder a high burden
- Firms losing monopoly power
- Owners of factor of production (openness leads to lower returns if capital was scarce before openness)
- Higher return to low educated people without trade in advanced economies

Summary

- Main causes of rising economic integration
  - declining transportation and communication costs
  - reductions in barriers to trade
- Being open to world economy has positive effects on economic growth
- Openness affect economic growth through
  - factor accumulation
  - productivity gains
- Even though openness to trade (on average) benefit the society
  - there are losers from international trade
  - the losses from trade might be concentrated in certain geographies/demographics
  - gains are widespread
- To review this lecture, read Chapter 11 of Economic Growth by David Weil