Negotiations and International Organizations

Introduction to the Trade Disputes, Capital Flows

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Negotiations and International Organizations I

Outline of This Set of Lectures

- The Political Economy of Trade Policy
  - The cases for free trade
  - The cases against free trade
  - Political models of trade policy
  - International negotiations of trade policy and the World Trade Organization
- Trade Policy in Developing Countries
  - Import-substituting industrialization
  - Trade liberalization since 1985
  - Trade and growth: takeoff in Asia

Negotiations and International Organizations II

Outline of This Set of Lectures

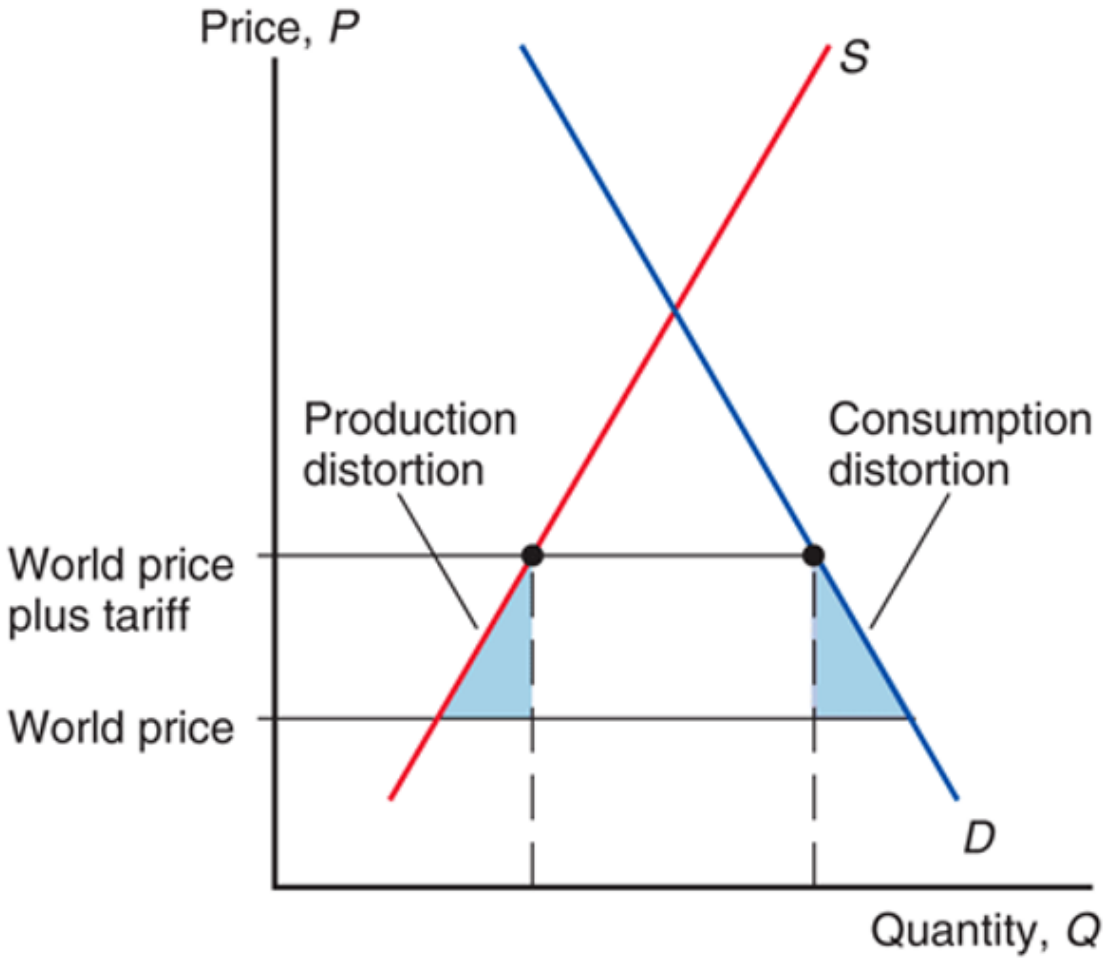
- Controversies in Trade Policy
  - Arguments for "activist" trade policies
    - Externality or appropriability problem
    - Strategic trade policy with imperfect competition
  - Arguments concerning trade and people
    - Trade and low-wage labor
    - Trade and the environment
    - Trade and culture

The Case for Free Trade – I

- The first case for free trade is the argument that producers and consumers allocate resources most efficiently when governments do not distort market prices through trade policy.
  - National welfare of a small country is highest with free trade.
  - With restricted trade, consumers pay higher prices and consume too little while firms produce too much.

The Case for Free Trade – II

Figure: The Efficiency Case for Free Trade



The Case for Free Trade – III

- However, because tariff rates are already low for most countries, the estimated benefits of moving to free trade are only a small fraction of national income for most countries.
  - For the world as a whole, protection costs less than 1 percent of GDP.
  - The gains from free trade are somewhat smaller for advanced economies such as the United States and Europe and somewhat larger for poorer developing countries.

United States	0.57
European Union	0.61
Japan	0.85
Developing countries	1.4
World	0.93

Source: William Cline, *Trade Policy and Global Poverty* (Washington, D.C.: Institute for International Economics, 2004), p. 180.

The Case for Free Trade – IV

- Free trade allows firms or industry to take advantage of **economies of scale**.
- Protected markets limit gains from external economies of scale by inhibiting the concentration of industries:
  - Too many firms to enter the protected industry.
  - The scale of production of each firm becomes inefficient.
- Free trade provides **competition and opportunities for innovation** (dynamic benefits).
- By providing entrepreneurs with an incentive to seek new ways to export or compete with imports, free trade offers more opportunities for learning and innovation.

The Case for Free Trade – V

- Free trade avoids the loss of resources through rent seeking.
  - Spend time and other resources seeking quota rights and the profit that they will earn.
- The political argument for free trade says that free trade is the best feasible political policy, even though there may be better policies in principle.
  - Any policy that deviates from free trade would be quickly manipulated by political groups, leading to decreased national welfare.

The Case against Free Trade – I

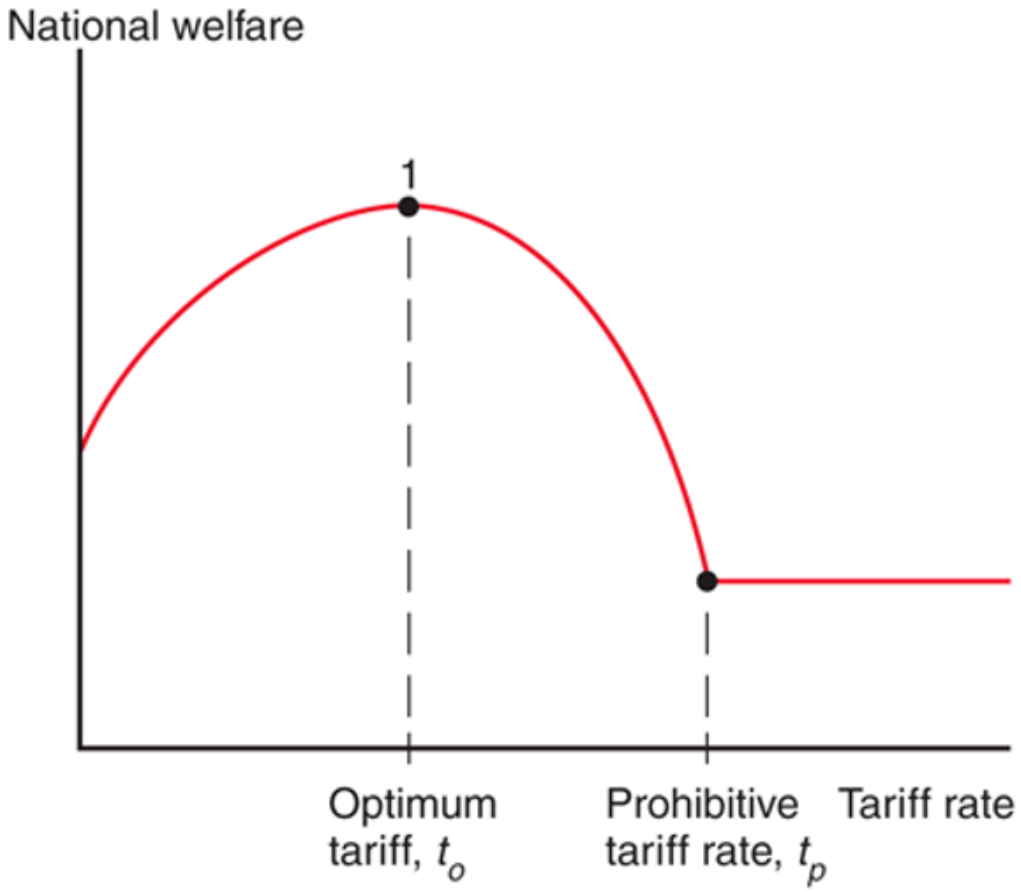
Argument Against Free Trade (1)

- For a "large" country, a tariff lowers the price of imports in world markets and generates a terms of trade gain.
  - This benefit may exceed the losses caused by distortions in production and consumption.
- A small tariff will lead to an increase in national welfare for a large country.
  - But at some tariff rate, the national welfare will begin to decrease as the economic efficiency loss exceeds the terms of trade gain.

The Case against Free Trade – II

Argument Against Free Trade (1)

Figure: The Optimum Tariff



The Case against Free Trade – III

Argument Against Free Trade (1)

- A tariff rate that completely prohibits imports leaves a country worse off, but a tariff rate, t_0, may exist that maximizes national welfare: an **optimum tariff**.
- An export tax (a negative export subsidy) that completely prohibits exports leaves a country worse off, but an export tax rate may exist that maximizes national welfare through the terms of trade.
  - An export subsidy lowers the terms of trade for a large country; an export tax raises the terms of trade for a large country.
  - An export tax may raise the price of exports in the world market, increasing the terms of trade.

The Counter-Argument

- For some countries like the U.S., an import tariff and/or export tax could improve national welfare at the expense of other countries.
- But this argument ignores the likelihood that other countries may retaliate against large countries by enacting their own trade restrictions.

The Case against Free Trade – I

Argument Against Free Trade (2)

- A second argument against free trade is that **domestic market failures** may exist that cause free trade to be a suboptimal policy.
  - The economic efficiency loss calculations using consumer and producer surplus assume that markets function well.
- **Types of market failures include**
  - Persistently high underemployment of workers
    - surpluses that are not eliminated in the market for labor because wages do not adjust
  - Persistently high underutilization of structures, equipment, and other forms of capital

The Case against Free Trade – II

Argument Against Free Trade (2)

- surpluses that are not eliminated in the market for capital because prices do not adjust

- Property rights not well defined or well enforced

- **Types of market failures include**
  - technological benefits for society discovered through private production, but from which private firms cannot fully profit
  - environmental costs for society caused by private production, but for which private firms do not fully pay
  - sellers that are not well informed about the (opportunity) cost of production or buyers that are not well informed about value from consumption

The Case against Free Trade – III

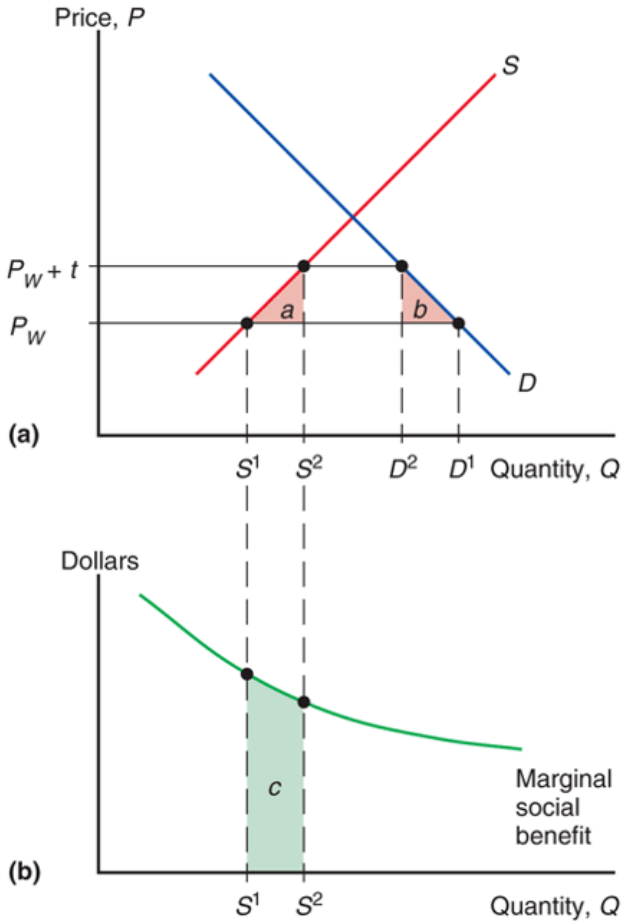
Argument Against Free Trade (2)

- Economists calculate the **marginal social benefit** to represent the additional benefit to society from private production.
  - With a market failure, marginal social benefit is not accurately measured by the producer surplus of private firms, so that economic efficiency loss calculations are misleading.
- It's possible that when a tariff increases domestic production, the benefit to domestic society will increase due to a market failure.

The Case against Free Trade – IV

Argument Against Free Trade (2)

Figure: The Domestic Market Failure Argument for a Tariff



The Case against Free Trade – V

Argument Against Free Trade (2)

- The domestic market failure argument against free trade is an example of a more general argument called the ***theory of the second best***.
- Government intervention that distorts market incentives in one market may increase national welfare by offsetting the consequences of market failures elsewhere.
  - If the best policy, fixing the market failures, is not feasible, then government intervention in another market may be the "second-best" way of fixing the problem.

The Counter-Argument

- Economists supporting free trade counter-argue that domestic market failures should be corrected by a "first-best" policy: a domestic policy aimed directly at the source of the problem.
  - If persistently high underemployment of labor is a problem, then the cost of labor or production of labor-intensive products could be subsidized by the government.
  - This policy could avoid economic efficiency losses due to a tariff.
- Unclear when and to what degree a market failure exists in the real world.
- Government policies to address market failures are likely to be manipulated by politically powerful groups.
- Due to distorting the incentives of producers and consumers, trade policy may have unintended consequences that make a situation worse, not better.

Political Models of Trade Policy

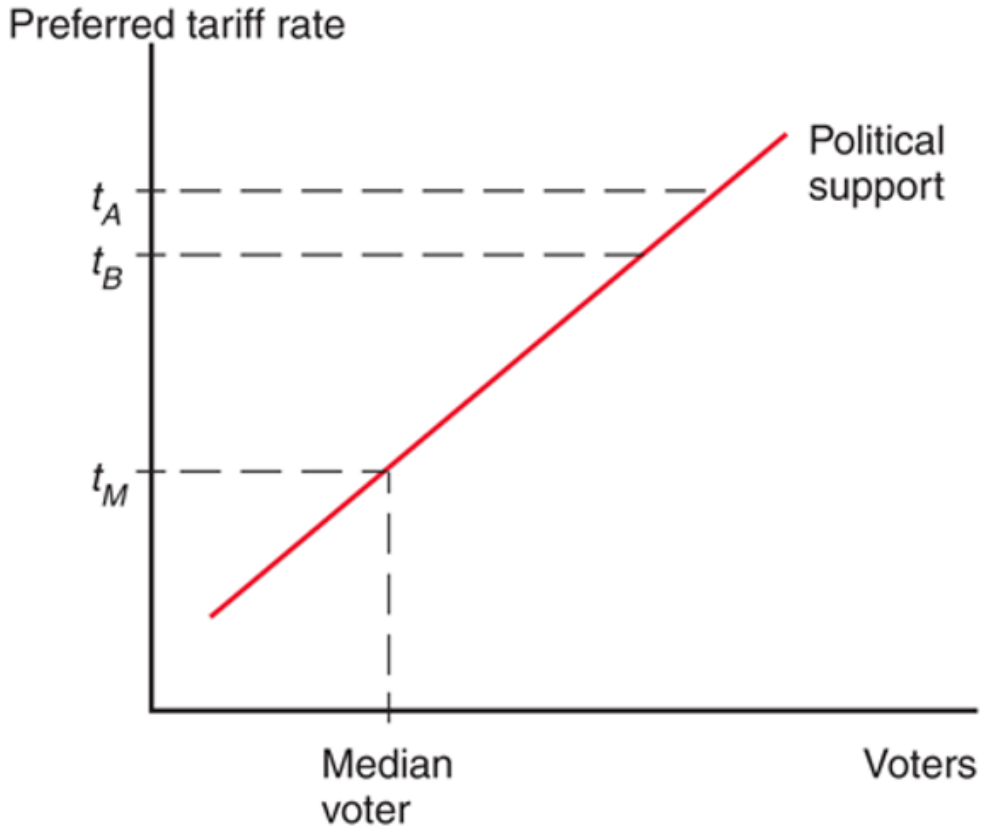
- How is trade policy determined?
- Models of governments maximizing political success rather than national welfare:
  1. Median voter theorem
  2. Collective action
  3. A model that combines aspects of collective action and the median voter theorem

The Median Voter – I

- Assumptions of the model:
  1. There are two competing political parties.
  2. The objective of each party is to get elected by majority vote.
- What policies will the parties promise to follow?
  - Both parties will offer the same tariff policy to court the median voter (the voter in the middle of the spectrum) in order to capture the most votes.

The Median Voter – II

Figure: Political Competition



The Median Voter – III

- Thus, the median voter theorem implies that a two-party democracy should enact trade policy based on how many voters it pleases.
  - A policy that inflicts large losses on a few people (import-competing producers) but benefits a large number of people (consumers) should be chosen.
- But trade policy doesn't follow this prediction.

Collective Action

- Political activity is often described as a collective action problem:
  - While consumers as a group have an incentive to advocate free trade, each individual consumer has no incentive because his benefit is not large compared to the cost and time required to advocate free trade.
  - Policies that impose large losses for society as a whole but small losses on each individual may therefore not face strong opposition.
- However, for groups who suffer large losses from free trade (for example, unemployment), each individual in that group has a strong incentive to advocate the policy he desires.
  - In this case, the cost and time required to advocate restricted trade is small compared to the cost of unemployment.

A Model of Trade Policy

- While politicians may win elections partly because they advocate popular policies as implied by the median voter theorem, they also require funds to run campaigns.
- These funds may especially come from groups who do not have a collective action problem and are willing to advocate a special interest policy.
- Models of trade restrictions try to measure the trade-off between the reduction in welfare of constituents as a whole and the increase in campaign contributions from special interests.

Which Industries Are Protected – I

- **Agriculture**: In the U.S., Europe, and Japan, farmers make up a small fraction of the electorate but receive generous subsidies and trade protection.
  - Examples: European Union's Common Agricultural Policy, Japan's 1000% tariff on imported rice, America's sugar quota.
- **Clothing**: textiles (fabrication of cloth) and apparel (assembly of cloth into clothing).
  - Until 2005, quota licenses granted to textile and apparel exporters were specified in the Multi-Fiber Agreement between the United States and many other nations.
  - Phase-out of MFA drastically reduced the costs of U.S. protection, from 14.1b in 2002 (11.8b from textiles and apparel) to 2.6b estimate for 2015 (only 0.5b from textiles and apparel).

Which Industries Are Protected – II

	2002 Estimate	2015 Projected
Total	14.1	2.6
Textiles and apparel	11.8	0.5

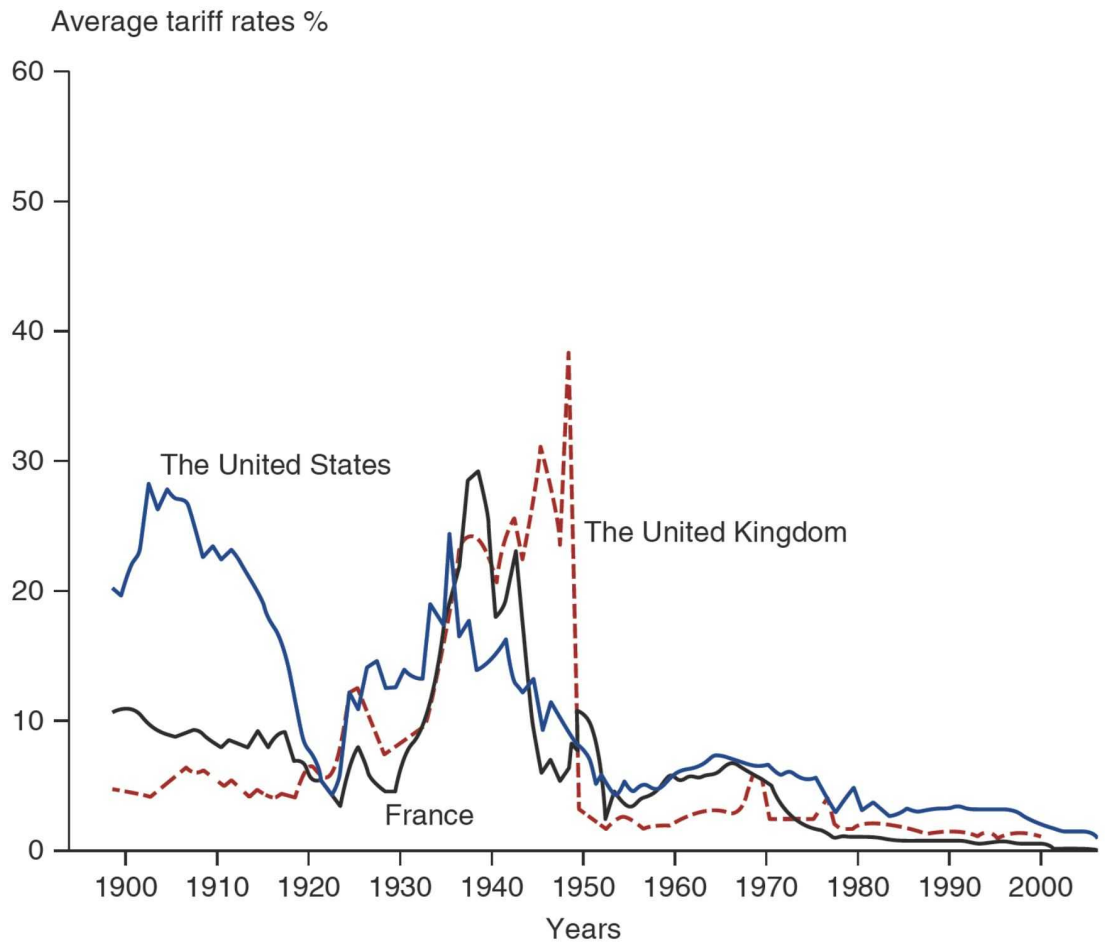
Source: U.S. International Trade Commission.

International Negotiations of Trade Policy – I

- After rising sharply at the beginning of the 1930s, the average U.S. tariff rate has decreased substantially from the mid-1930s to 1998.
- Since 1944, much of the reduction in tariffs and other trade restrictions has come about through international negotiations.
  - The **General Agreement of Tariffs and Trade** was begun in 1947 as a provisional international agreement and was replaced by a more formal international institution called the **World Trade Organization** in 1995.

International Negotiations of Trade Policy – II

Figure: Average Tariff Rates on Total Imports (France, U.K., U.S.)

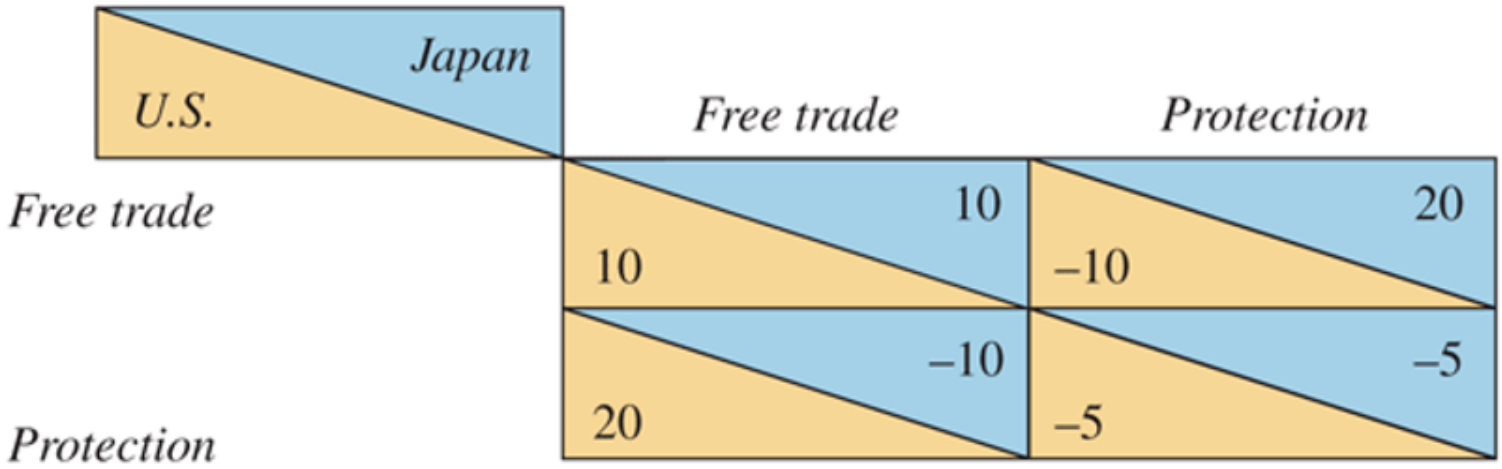


International Negotiations of Trade Policy – III

- Multilateral negotiations mobilize exporters to support free trade if they believe export markets will expand.
  - This support would be lacking in a unilateral push for free trade. The multilateral approach counteracts the support for restricted trade by import-competing groups.
- Multilateral negotiations also help avoid a trade war between countries, where each country enacts trade restrictions.
- A trade war could result if each country has an incentive to adopt protection, regardless of what other countries do.
  - All countries could enact trade restrictions, even if it is in the interest of all countries to have free trade.
  - Countries need an agreement that prevents a trade war or eliminates the protection from one.

International Negotiations of Trade Policy – IV

Figure: The Problem of Trade Warfare



- In this example, each country acting individually would be better off with protection ($20 > 10$), but both would be better off if both chose free trade than if both choose protection ($10 > -5$).

International Negotiations of Trade Policy – V

- If Japan and the U.S. can establish a binding agreement to maintain free trade, both can avoid the temptation of protection and both can be made better off.
  - Or if the damage has already been done, both countries can agree to return to free trade.

International Trade Agreements

A Brief History

- In 1930, the United States passed a remarkably irresponsible tariff law, the Smoot-Hawley Act.
  - Tariff rates rose steeply and U.S. trade fell sharply.
- Initial attempts to reduce tariff rates were undertaken through bilateral trade negotiations:
  - U.S. offered to lower tariffs on some imports if another country would lower its tariffs on some U.S. exports.
- Bilateral negotiations, however, do not take full advantage of international coordination.
  - Benefits can "spill over" to countries that have not made any concessions.

World Trade Organization – I

- In 1947, a group of 23 countries began trade negotiations under a provisional set of rules that became known as the General Agreement on Tariffs and Trade, or GATT.
- In 1995, the World Trade Organization, or WTO, was established as a formal organization for implementing multilateral trade negotiations (and policing them).
- WTO negotiations address trade restrictions in at least 3 ways:

1. **Reducing tariff rates** through multilateral negotiations.
2. **Binding tariff rates**: a tariff is "bound" by having the imposing country agree not to raise it in the future.

World Trade Organization – II

3. **Eliminating nontariff barriers**: quotas and export subsidies are changed to tariffs because the costs of tariff protection are more apparent and easier to negotiate.
   - Subsidies for agricultural exports are an exception.
   - Exceptions are also allowed for "market disruptions" caused by a surge in imports.

- The World Trade Organization is based on a number of agreements:
  - *General Agreement on Tariffs and Trade*: covers trade in goods.
  - *General Agreement on Tariffs and Services*: covers trade in services (ex., insurance, consulting, legal services, banking).
  - *Agreement on Trade-Related Aspects of Intellectual Property*: covers international property rights (ex., patents and copyrights).

World Trade Organization – III

- *The dispute settlement procedure*: a formal procedure where countries in a trade dispute can bring their case to a panel of WTO experts to rule upon.
  - The panel decides whether member counties are breaking their agreements.
  - A country that refuses to adhere to the panel's decision may be punished by the WTO allowing other countries to impose trade restrictions on its exports.

- The GATT multilateral negotiations in the Uruguay Round, ratified in 1994:
  - agreed that all quantitative restrictions (ex., quotas) on trade in textiles and clothing as previously specified in the Multi-Fiber Agreement were to be eliminated by 2005.

- Quotas on imports from China had to be temporarily reimposed due to surge in Chinese clothing exports when MFA expired.

World Trade Organization – IV

- In 2001, a new round of negotiations was started in Doha, Qatar, but these negotiations have not yet produced an agreement.
  - Most of the remaining forms of protection are in agriculture, textiles, and clothing—industries that are politically well organized.

Figure: Percentage Distribution of Potential Gains from Free Trade

	Full Liberalization of:			
Economy	**Agriculture and Food**	**Textiles and Clothing**	**Other Merchandise**	**All Goods**
Developed	46	6	3	55
Developing	17	8	20	45
All	63	14	23	100

Source: Kym Anderson and Will Martin, "Agricultural Trade Reform and the Doha Agenda," *The World Economy* 28 (September 2005), pp. 1301–1327.

Do Agricultural Subsidies in Rich Countries Hurt Poor Countries? – I

- We learned previously that subsidies lower the world price of products.
- Since importing countries benefit from cheaper food, why would poor countries want rich countries to remove their agricultural subsidies?
- Subsidies harm farmers in poor countries who compete with farmers in rich countries.

Do Agricultural Subsidies in Rich Countries Hurt Poor Countries? – II

Figure: Percentage Gains in Income under Two Doha Scenarios

	Ambitious	Less Ambitious
High-income	0.20	0.05
Middle-income	0.10	0.00
China	−0.02	−0.05
Low-income	0.05	0.01
World	0.18	0.04

Source: See Table 10-4.

Preferential Trading Agreements – I

- Preferential trading agreements are trade agreements between countries in which they lower tariffs for each other but not for the rest of the world.
- Under the WTO, such discriminatory trade policies are generally not allowed:
  - Each country in the WTO promises that all countries will pay tariffs no higher than the nation that pays the lowest: called the "most favored nation" (MFN) principle.
  - An exception is allowed only if the lowest tariff rate is set at zero.
- There are two types of preferential trading agreements in which tariff rates are set at or near zero:

Preferential Trading Agreements – II

1. A **free trade area**: an agreement that allows free trade among members, but each member can have its own trade policy towards non-member countries.
   - An example is the North America Free Trade Agreement (NAFTA).
2. A **customs union**: an agreement that allows free trade among members and requires a common external trade policy towards non-member countries.
   - An example is the European Union.

- Are preferential trading agreements necessarily good for national welfare?
- No, it is possible that national welfare decreases under a preferential trading agreement.

Preferential Trading Agreements – III

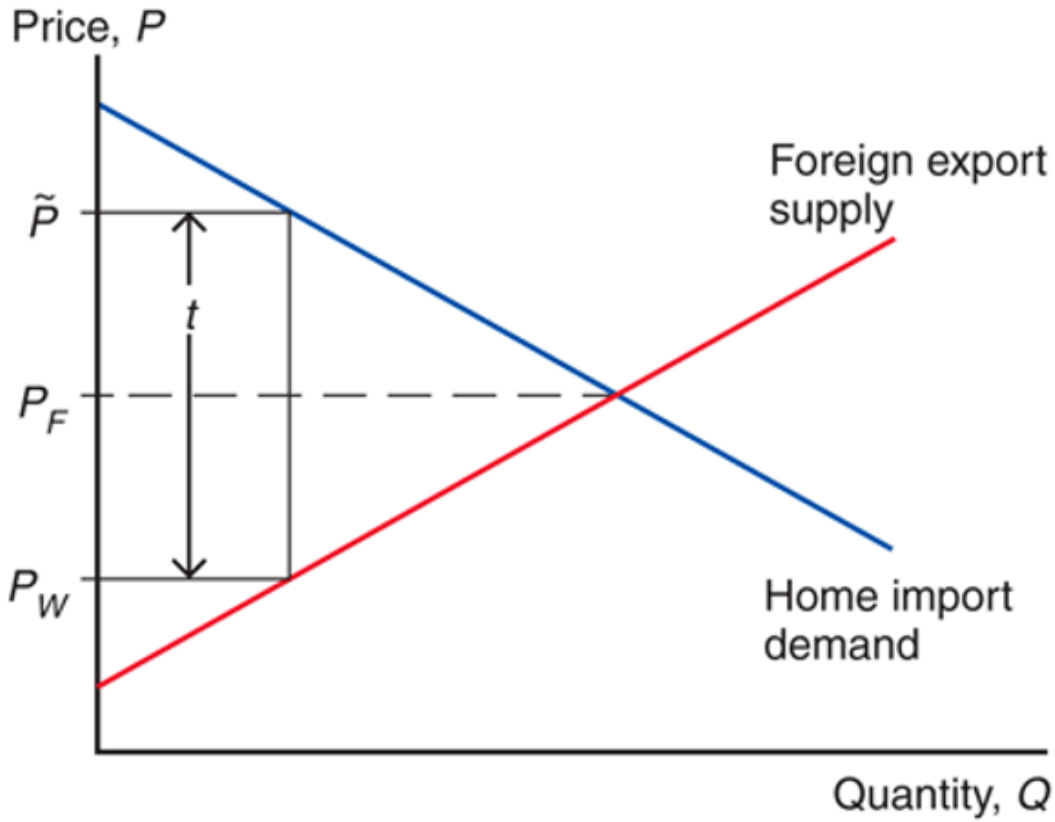
- How? Rather than gaining tariff revenue from inexpensive imports from world markets, a country may import expensive products from member countries but not gain any tariff revenue.
- Preferential trading agreements increase national welfare when new trade is created, but not when existing trade from the outside world is diverted to trade with member countries.
- **Trade creation**
  - occurs when high-cost domestic production is replaced by low-cost imports from other members.
- **Trade diversion**
  - occurs when low-cost imports from nonmembers are diverted to high-cost imports from member nations.

Why is the Optimal Tariff Positive – I

- A tariff always improves the terms of trade of a large country but at the same time distorts production and consumption. For a sufficiently small tariff, the terms of trade gain is always larger than the distortion loss.
- Thus, there is always an optimal tariff that is positive.
- A tariff drives a wedge between internal and world prices, driving the internal Home price up and the world price down.
  - For a small country, foreign supply is highly elastic. So for a small country, a tariff will have little effect on the world price while raising the domestic price almost one-for-one.

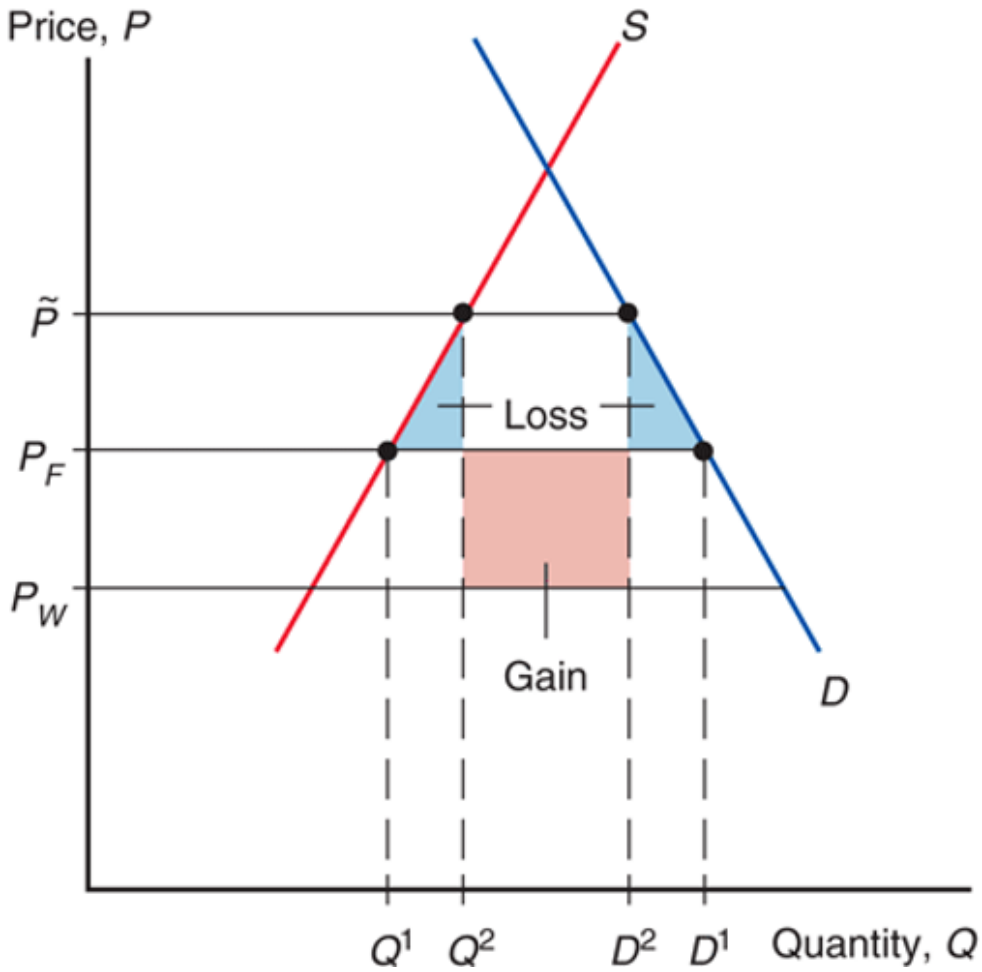
Why is the Optimal Tariff Positive – II

Figure: Effects of a Tariff on Prices



Why is the Optimal Tariff Positive – III

Figure: Welfare Effects of a Tariff



Why is the Optimal Tariff Positive – IV

- The net benefit of a tariff is equal to the area of the colored rectangle minus the area of the two shaded triangles.
- With a bit (a lot) of algebra, it is possible to show that the net effect on welfare, is of the form

$$\text{Gain} - \text{Loss} = t \times U - t^2 \times V,$$

where U and V are complicated expressions that are, however, independent of the level of the tariff and positive. That is, the net effect is the sum of a positive number times the tariff rate and a negative number times the square of the tariff rate.

  - Suppose a tariff of 20 percent turns out to produce a net loss.

Why is the Optimal Tariff Positive – V

- Then try a tariff of 10 percent. The positive term in that tariff 's effect will be only half as large as with a 20 percent tariff, but the negative part will be only one-quarter as large.
- If the net effect is still negative, try a 5 percent tariff; this will again reduce the negative effect twice as much as the positive effect.
- At some sufficiently low tariff, the negative effect will have to be outweighed by the positive effect.

Developing Economies

- Which countries are "developing countries"?
- The term "developing countries" does not have a precise definition, but it is a name given to many low- and middle-income countries.

TABLE 11-1 **Gross Domestic Product Per Capita, 2019 (dollars, adjusted for differences in price levels)**

United States	64,747
Germany	55,110
Japan	43,445
South Korea	44,203
Mexico	21,294
China	13,548
Bangladesh	4,513

Source: Conference Board Total Economy Database.

Import-Substituting Industrialization – I

Arguments in favor (1)

- Import-substituting industrialization was a trade policy adopted by many low- and middle-income countries before the 1980s.
- The policy aimed to encourage domestic industries by limiting competing imports.

Import-Substituting Industrialization – II

Arguments in favor (1)

Figure: Effective Protection of Manufacturing in Some Developing Countries (percent)

Mexico (1960)	26
Philippines (1965)	61
Brazil (1966)	113
Chile (1961)	182
Pakistan (1963)	271

Source: Bela Balassa, *The Structure of Protection in Developing Countries* (Baltimore: Johns Hopkins Press, 1971), p. 82.

- The principal justification of this policy was/is the **infant industry argument**:

Import-Substituting Industrialization – III

Arguments in favor (1)

- Countries may have a potential comparative advantage in some industries, but these industries cannot initially compete with well-established industries in other countries.
- To allow these industries to establish themselves, governments should temporarily support them until they have grown strong enough to compete internationally.

Problems with the Infant Industry Argument

1. It may be wasteful to support industries now that will have a comparative advantage in the future.
2. With protection, infant industries may never "grow up" or become competitive.
3. There is no justification for government intervention unless there is a market failure that prevents the private sector from investing in the infant industry.

Infant Industries and Market Failures – I

- Two arguments for how market failures prevent infant industries from becoming competitive:

1. Imperfect financial asset markets
   - Because of poorly working financial laws and markets (and more generally, a lack of property rights), firms cannot or do not save and borrow to invest sufficiently in their production processes.
   - If creating better functioning markets and enforcing laws is not feasible, then high tariffs would be a second-best policy to increase profits in new industries, leading to more rapid growth.
2. The problem of appropriability
   - Firms may not be able to privately appropriate the benefits of their investment in new industries because those benefits are public goods.

Infant Industries and Market Failures – II

- The knowledge created when starting an industry may not be *appropriable* (may be a public good) because of a lack of property rights.
- If establishing a system of property rights is not feasible, then high tariffs would be a second-best policy to encourage growth in new industries.

- Import-substituting industrialization in Latin American countries worked to encourage manufacturing industries in the 1950s and 1960s.
- But economic development, not encouraging manufacturing, was the ultimate goal of the policy.
- Did import-substituting industrialization promote economic development?
  - No, countries adopting these policies grew more slowly than others.

Infant Industries and Market Failures – III

- It appeared that the infant industry argument was not as valid as some had initially believed.
- New industries did not become competitive despite or because of trade restrictions.
- Import-substitution industrialization involved costs and promoted wasteful use of resources:
  - It involved complex, time-consuming regulations.
  - It set high tariff rates for consumers, including firms that needed to buy imported inputs for their products.
  - It promoted inefficiently small industries.

Trade Liberalization – I

- Some low- and middle-income countries that had relatively free trade had higher average economic growth than those that followed import substitution.
- By the mid-1980s, many governments had lost faith in import substitution and began to liberalize trade.
  - Dramatic fall in tariff rates in India and Brazil, and less drastic reductions in many other developing countries.
- Trade liberalization in developing countries occurred along with a dramatic increase in the volume of trade.
  - The share of trade in GDP has tripled over 1970–1998, with most of the growth happening after 1985.

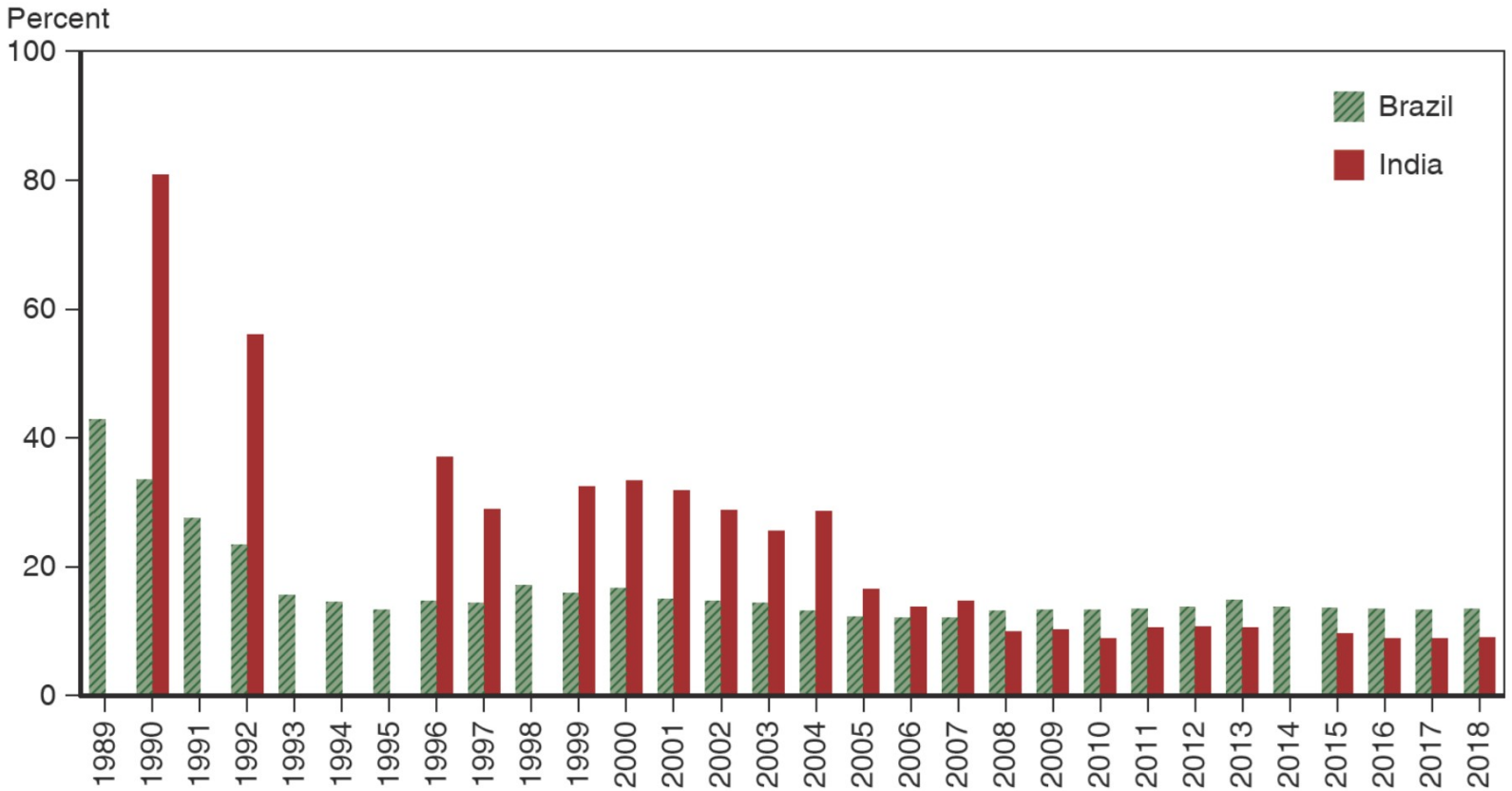
Trade Liberalization – II

- The share of manufactured goods in developing-country exports surged, coming to dominate the exports of the biggest developing economies.

- A number of developing countries have achieved extraordinary growth while becoming more, not less, open to trade.

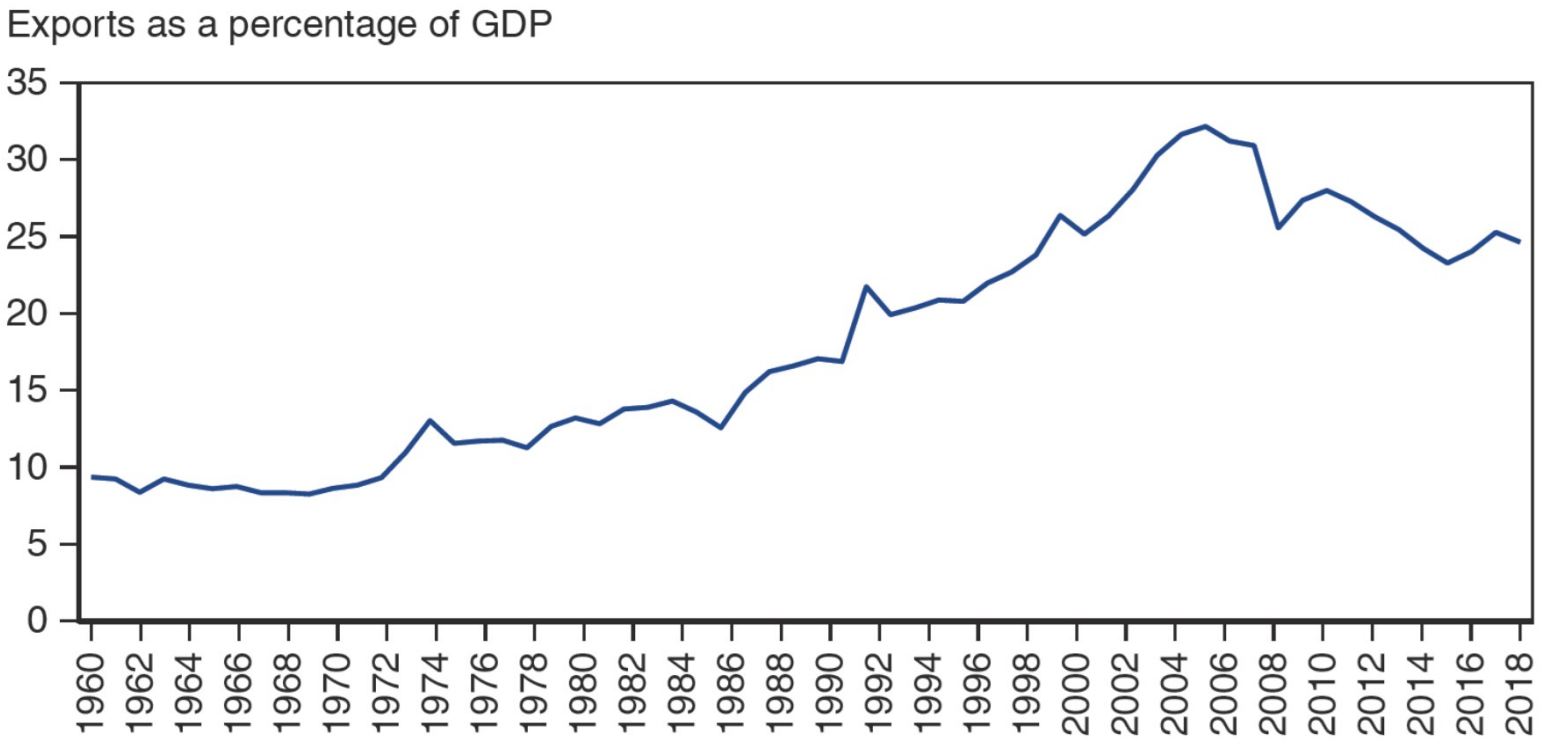
Trade Liberalization – III

Figure: Tariff Rates in Developing Countries



Trade Liberalization – IV

Figure: The Growth of Developing-Country Trade



- Has trade liberalization promoted development? The evidence is mixed.

Trade Liberalization – V

- Growth rates in Brazil and other Latin American countries have been slower since trade liberalization than they were during import-substituting industrialization.
  - But unstable macroeconomic policies and financial crises contributed to slower growth since the 1980s.
- Other countries like India have grown rapidly since liberalizing trade in the 1980s, but it is unclear to what degree liberalized trade contributed to growth.
- Some economists also argue that trade liberalization has contributed to income inequality (a prediction of the Heckscher-Ohlin model).

Trade and Growth: Takeoff in Asia – I

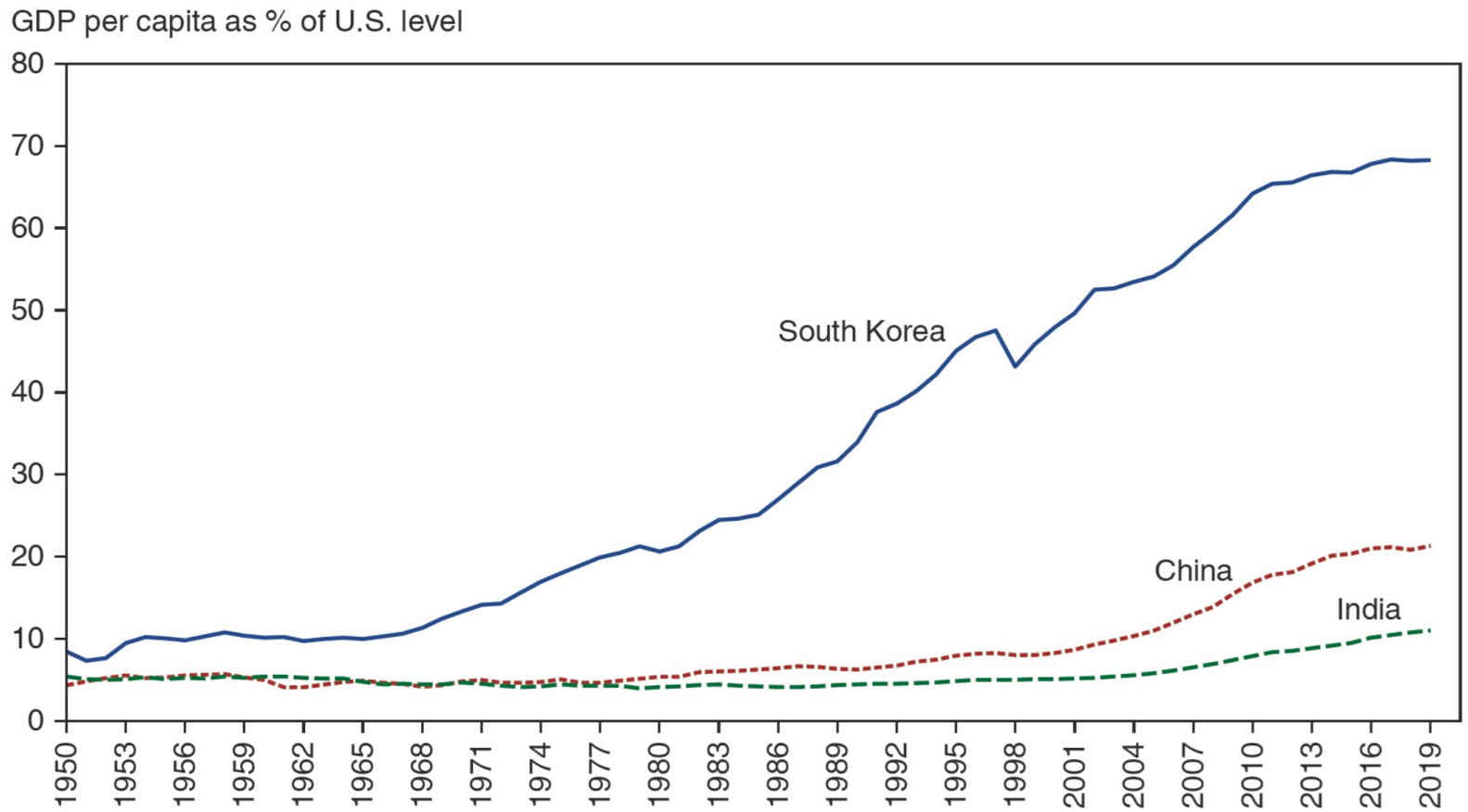
- Instead of import substitution, several countries in East Asia adopted trade policies that promoted exports in targeted industries.
  - Japan, Hong Kong, Taiwan, South Korea, Singapore, Malaysia, Thailand, Indonesia, and China have experienced rapid growth in various export sectors and rapid economic growth in general.
- These high-performance Asian economies generated a high volume of exports and imports relative to total production.
- Their policy reforms were followed by a large increase in openness, as measured by their share of exports in GDP.
- So it is possible to develop through export-oriented growth.

Trade and Growth: Takeoff in Asia – II

- However, Latin American nations such as Mexico and Brazil, which also sharply liberalized trade and shifted toward exports, did not see comparable economic takeoffs.
- These Latin American results suggest that other factors must have played a crucial role in the Asian miracle.

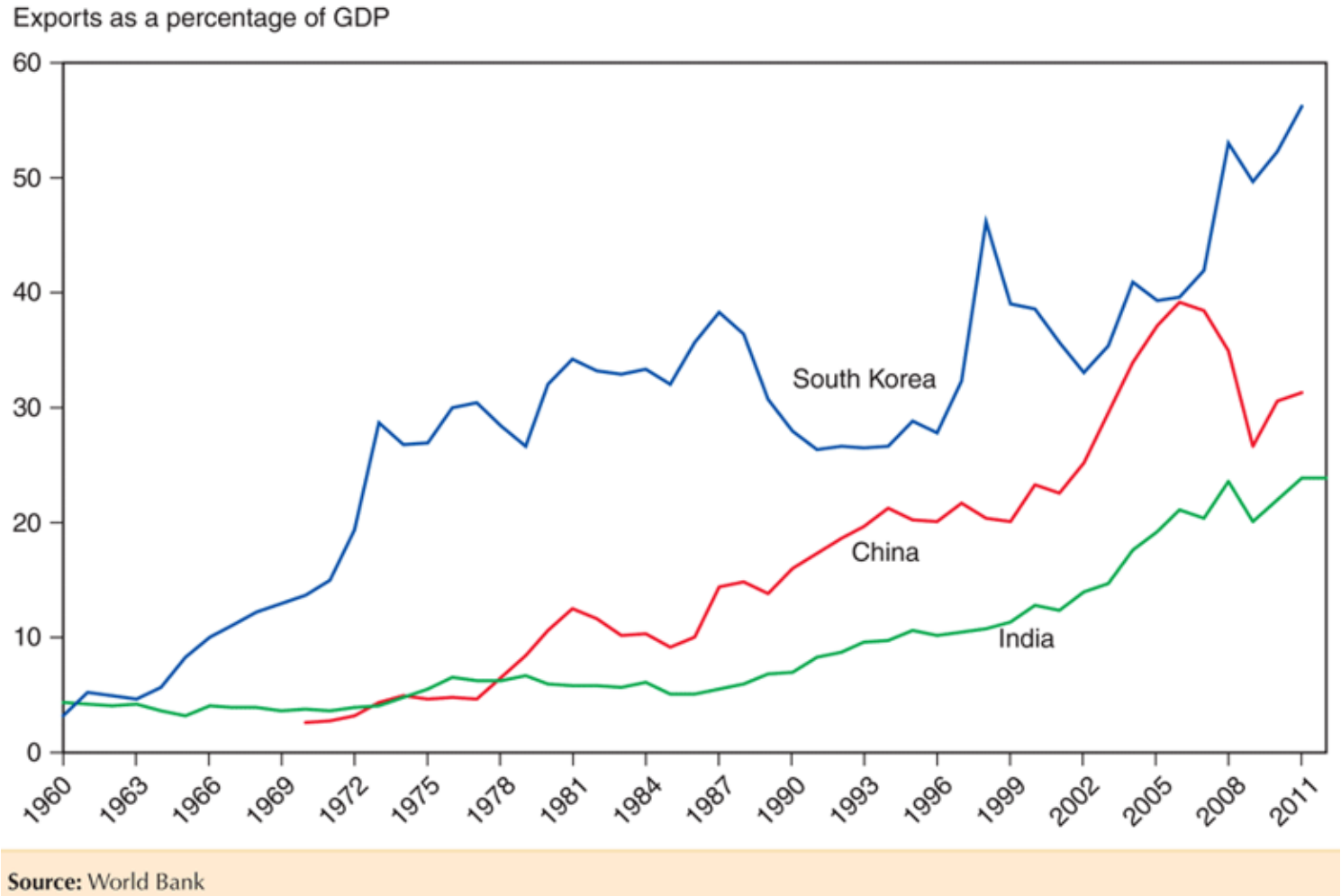
Trade and Growth: Takeoff in Asia – III

Figure: The Asian Takeoff



Trade and Growth: Takeoff in Asia – IV

Figure: Asia's Surging Trade



Trade and Growth: Takeoff in Asia – V

- It's unclear if the high volume of exports and imports caused rapid economic growth or was merely correlated with rapid economic growth.
  - High saving and investment rates could have led to both rapid economic growth in general and rapid economic growth in export sectors.
  - Rapid growth in education led to high literacy and numeracy rates important for a productive labor force.
  - These nations also undertook other economic reforms.

Arguments for an Activist Trade Policy

- An activist trade policy usually means government policies that actively support export industries through subsidies.
- Arguments for activist trade policies use an assumption that import-substituting industrialization and the cases against free trade used: market failure.
  - *Externalities* or an *appropriability* problem
  - Imperfect competition that results in revenues that exceed all (opportunity) costs: "excess" profits.

Technology and Externalities – I

- Firms that invest in new technology generally create knowledge that other firms can use without paying for it: an appropriability problem.
  - By investing in new technology, firms are creating an extra benefit for society that is easily used by others.
  - An appropriability problem is an example of an externality: benefits or costs that accrue to parties other than the one that generates it.
  - An externality implies that the marginal social benefit of investment is not represented by producer surplus.
- Governments may want to actively encourage investment in technology when externalities in new technologies create a high marginal social benefit.
- Should the U.S. government subsidize high- technology industries?

Technology and Externalities – II

- When considering whether a government should subsidize high-technology industries, consider:

1. The ability of governments to subsidize the right activity.
   - Much activity by high technology firms has nothing to do with generating knowledge: subsidizing equipment purchases or non-technical workers generally does not create new technology.
   - Knowledge and innovation are created in industries that are not usually classified as high tech.
2. Instead of subsidizing specific industries, the U.S. subsidizes research and development through the tax code.
   - Research and development expenses can be deducted from corporate taxable income.

Technology and Externalities – III

3. The economic importance of externalities.
   - It is difficult to determine the quantitative importance that externalities have on the economy.
   - Therefore, it is difficult to say how much to subsidize activities that create externalities.
4. Externalities may occur across countries as well.
   - No individual country has an incentive to subsidize industries if all countries could take advantage of the externalities generated in a country.

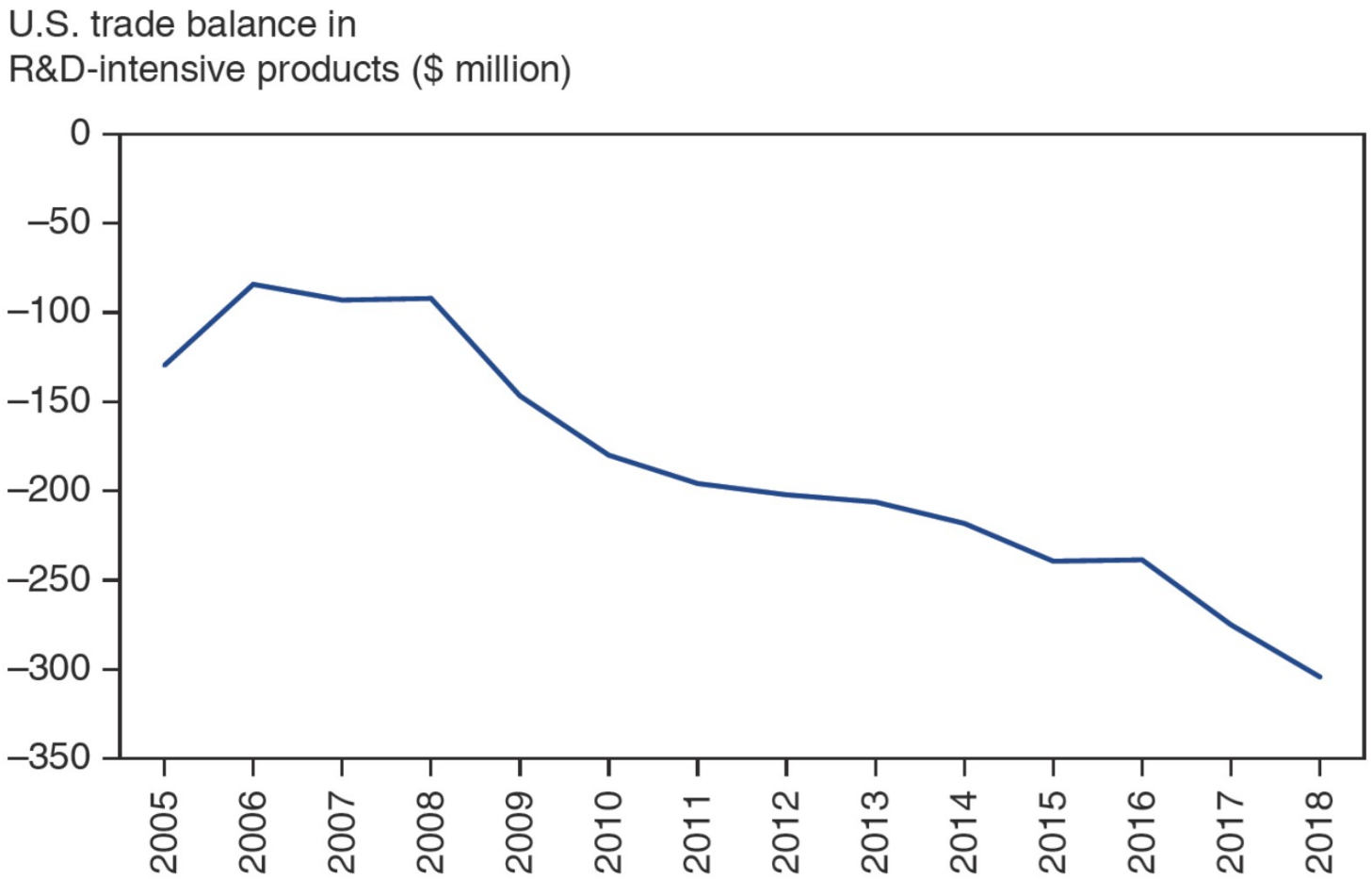
- Some argue that the United States should have a deliberate policy of promoting high-technology industries and helping them compete against foreign rivals.

Technology and Externalities – IV

- Fear in the 1980s that Japan's dominance of the semiconductor memory market would translate into a broader dominance of computers and related technologies proved to be unfounded.
- More recently, the decline in U.S. employment in the information, communication, and technology (ICT) industries, which are at the heart of the information technology revolution, and large U.S. trade deficits in ICT goods have renewed fears.

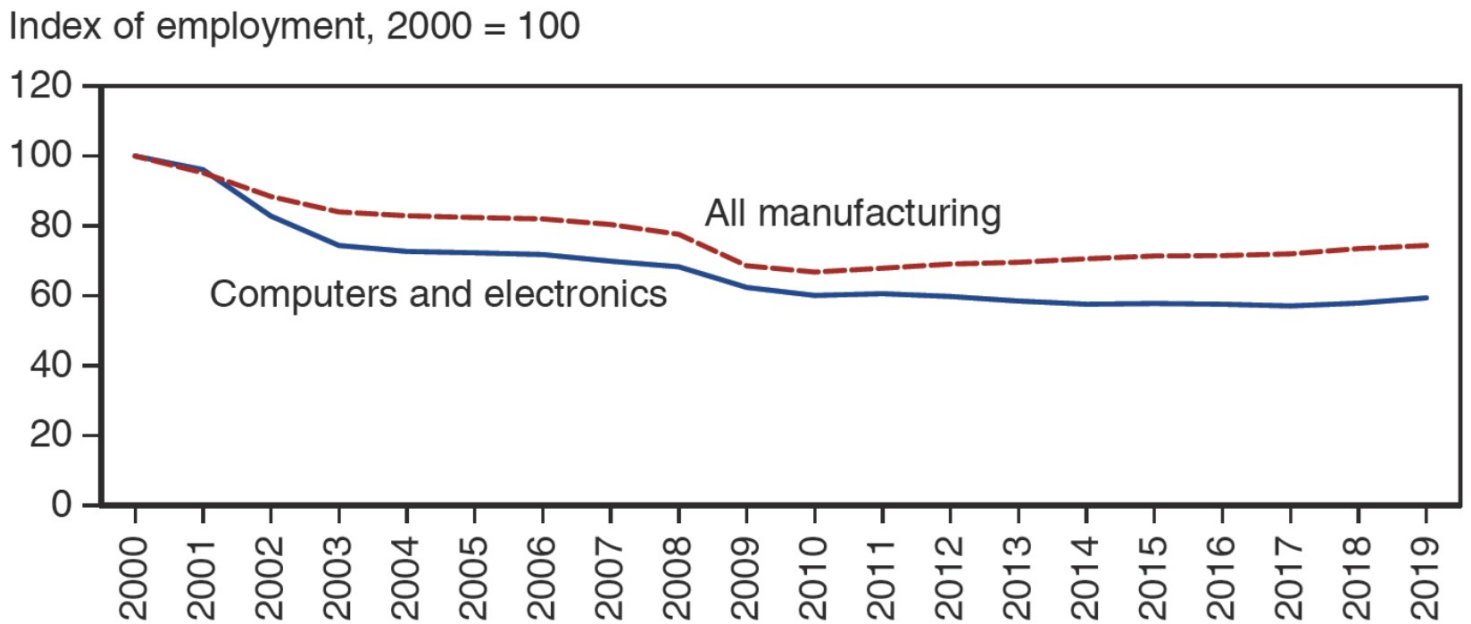
Technology and Externalities – V

Figure: U.S. Trade Balance in R&D-Intensive Goods



Technology and Externalities – VI

Figure: U.S. Manufacturing Employment



Imperfect Competition and Strategic Trade Policy – I

- Imperfectly competitive industries are typically dominated by a few firms that generate monopoly profits or **excess profits**.
  - Excess profits are revenues that exceed all opportunity costs: profits higher than what equally risky investments elsewhere in the economy earn.
- In an imperfectly competitive industry, government subsidies can shift excess profits from a foreign firm to a domestic firm.
- Example (called the Brander-Spencer analysis):
  - Two firms (Boeing and Airbus) compete in the international market but are located in two different countries (U.S. and EU).
  - Both firms manufacture airplanes, but each firm's profits depends on the actions of the other.
  - Each firm decides to produce or not depending on profit levels.

Imperfect Competition and Strategic Trade Policy – II

TABLE 12-1 Two-Firm Competition

Boeing \ Airbus	Produce	Don't produce
Produce	–5, –5	100, 0
Don't produce	0, 100	0, 0

- The predicted outcome depends on which firms invest/produce first.
  - If Boeing produces first, then Airbus will not find it profitable to produce.
  - If Airbus produces first, then Boeing will not find it profitable to produce.

Imperfect Competition and Strategic Trade Policy – III

- But a subsidy by the European Union can alter the outcome by making it profitable for Airbus to produce *regardless of Boeing's action*.

TABLE 12-2 Effects of a Subsidy to Airbus

Boeing \ Airbus	Produce	Don't produce
Produce	20, –5	0, 100
Don't produce	125, 0	0, 0

- If Boeing expects that the European Union will subsidize Airbus, Boeing will be deterred from entering the industry.

Imperfect Competition and Strategic Trade Policy – IV

- Thus, the subsidy of 25 will generate profits of 125 for Airbus.
- The subsidy raises profits more than the amount of the subsidy itself due to its deterrent effect on foreign competition.

- A government policy to give a domestic firm a strategic advantage in production is called a **strategic trade policy**.

Imperfect Competition and Strategic Trade Policy – I

Criticisms of the Above Analysis

1. Practical use of strategic trade policy requires more information about firms than is likely available.
   - The predictions from the simple example differ if the numbers are slightly different.
   - What if governments or economists are not exactly right when predicting the profits of firms?
     - For example, what if Boeing has a better technology that only it can recognize, so that even if Airbus produces, Boeing still finds it profitable to produce?
2. Foreign retaliation also could result:

Imperfect Competition and Strategic Trade Policy – II

Criticisms of the Above Analysis

- If the European Union subsidizes Airbus, the U.S. could subsidize Boeing, which would deter neither firm from producing, start a trade war, and waste taxpayer funds.

3. Strategic trade policy, like any trade policy, could be manipulated by politically powerful groups.

Trade and Low-Wage Labor – I

- Manufactured exports from low- and middle- income countries have been increasing.
- Compared to rich-country standards, workers who produce these goods are paid low wages and may work under poor conditions.
- Some have opposed free trade for this reason.
- One example of this situation is the maquiladora sector: Mexican firms that produce for export to the U.S.
- Opponents of the North American Free Trade Agreement have argued that it is now easier for employers to replace high-wage workers in the U.S. with low-wage workers in Mexico.

Trade and Low-Wage Labor – II

- The above claim can be true, but we cannot conclude that trade hurts workers.
- A Ricardian model predicts that while wages in Mexico should remain lower than those in the U.S. due to low productivity in Mexico, they will rise relative to their pretrade level.
- A Heckscher-Ohlin model does predict that unskilled workers in the U.S. will lose from NAFTA, but it also predicts that unskilled workers in Mexico will gain.
- Despite the low wages earned by workers in Mexico, both theories predict that those workers are better off with trade than they would be if trade had not taken place.

Trade and Low-Wage Labor – III

- Evidence consistent with these predictions would show that wages in maquiladoras have risen relative to wages in other Mexican sectors.
- One could also compare working conditions in maquiladoras with the working conditions in other Mexican sectors, rather than with those in the U.S.

TABLE 12-3 Real Wages

(A) Before Trade	High-Tech Goods/Hour	Low-Tech Goods/Hour
Japan	1	1
Vietnam	1/8	1/2
(B) After Trade	**High-Tech Goods/Hour**	**Low-Tech Goods/Hour**
Japan	1	2
Vietnam	1/4	1/2

Trade and Low-Wage Labor – IV

- Some labor activists want to include labor standards in trade negotiations.
  - However, labor standards imposed by foreign countries are opposed by governments of low- and middle-income countries.
  - International standards could be used as a protectionist policy or a basis for lawsuits when domestic producers did not meet them.
  - Standards set by high-income countries would be expensive for low- and middle-income producers.
- A policy that could be agreeable for governments of low- and middle-income countries is a system that monitors wages and working conditions and makes this information available to consumers.
  - Products could be certified as made with acceptable wage rates and working conditions.
  - But this policy would have a limited effect, since a large majority of workers in low- and middle-income countries do not work in the export sector.

Trade and the Environment – I

- Compared to rich-country standards, environmental standards in low- and middle- income countries are lax.
- Some have opposed free trade for this reason.
- But we cannot conclude that trade hurts the environment, since consumption and production in the absence of trade have degraded the environment.
- Some environmental activists want to include environmental standards in trade negotiations.
  - However, environmental standards imposed by foreign countries are opposed by governments of low- and middle-income countries.
  - International standards could be used as a protectionist policy or a basis for lawsuits when domestic producers did not meet them.

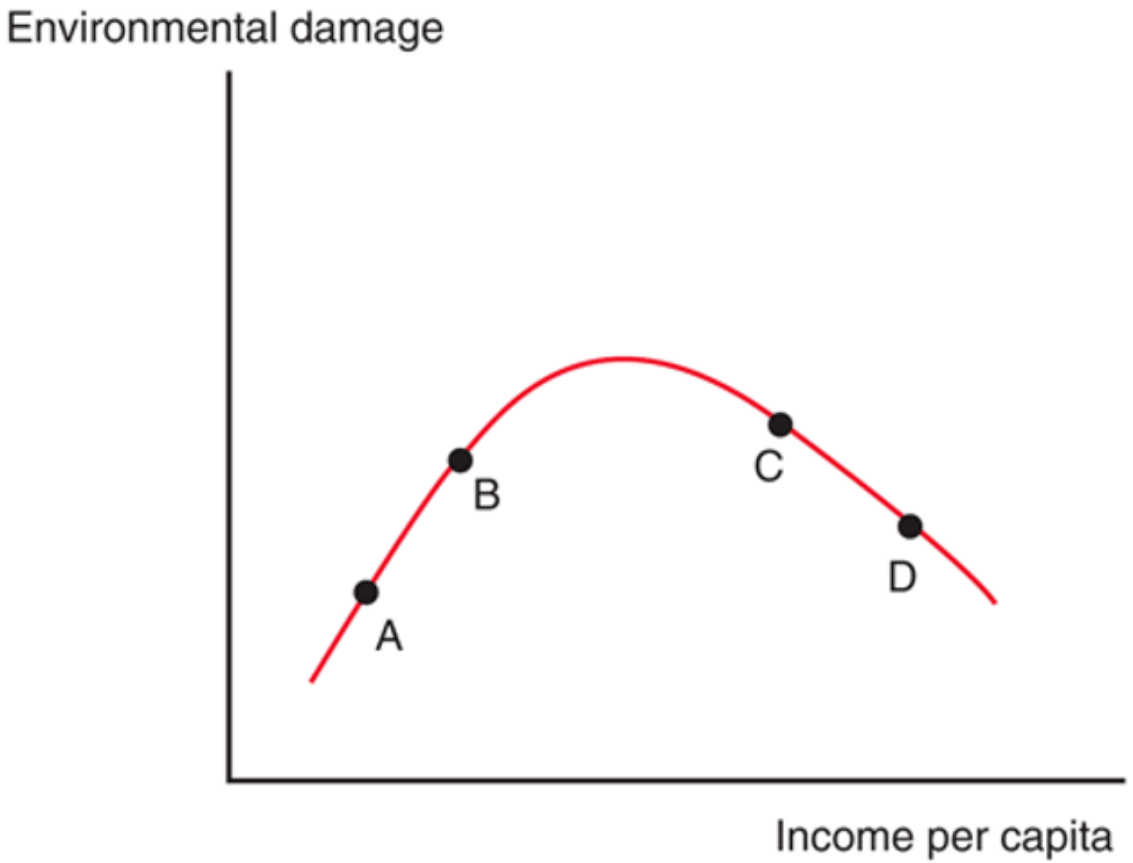
Trade and the Environment – II

  - Standards set by high-income countries would be expensive for low- and middle-income producers.

- As poor countries grow richer, possibly partly due to trade, they produce more and can consume more, leading to more environmental degradation.
- But as countries grow richer, they want to pay for more stringent environment protection.
- Both of these ideas are represented as an environmental Kuznets curve:
  - an inverted "U-shaped" relationship between environmental degradation and income per person

Trade and the Environment – III

Figure: The Environmental Kuznets Curve

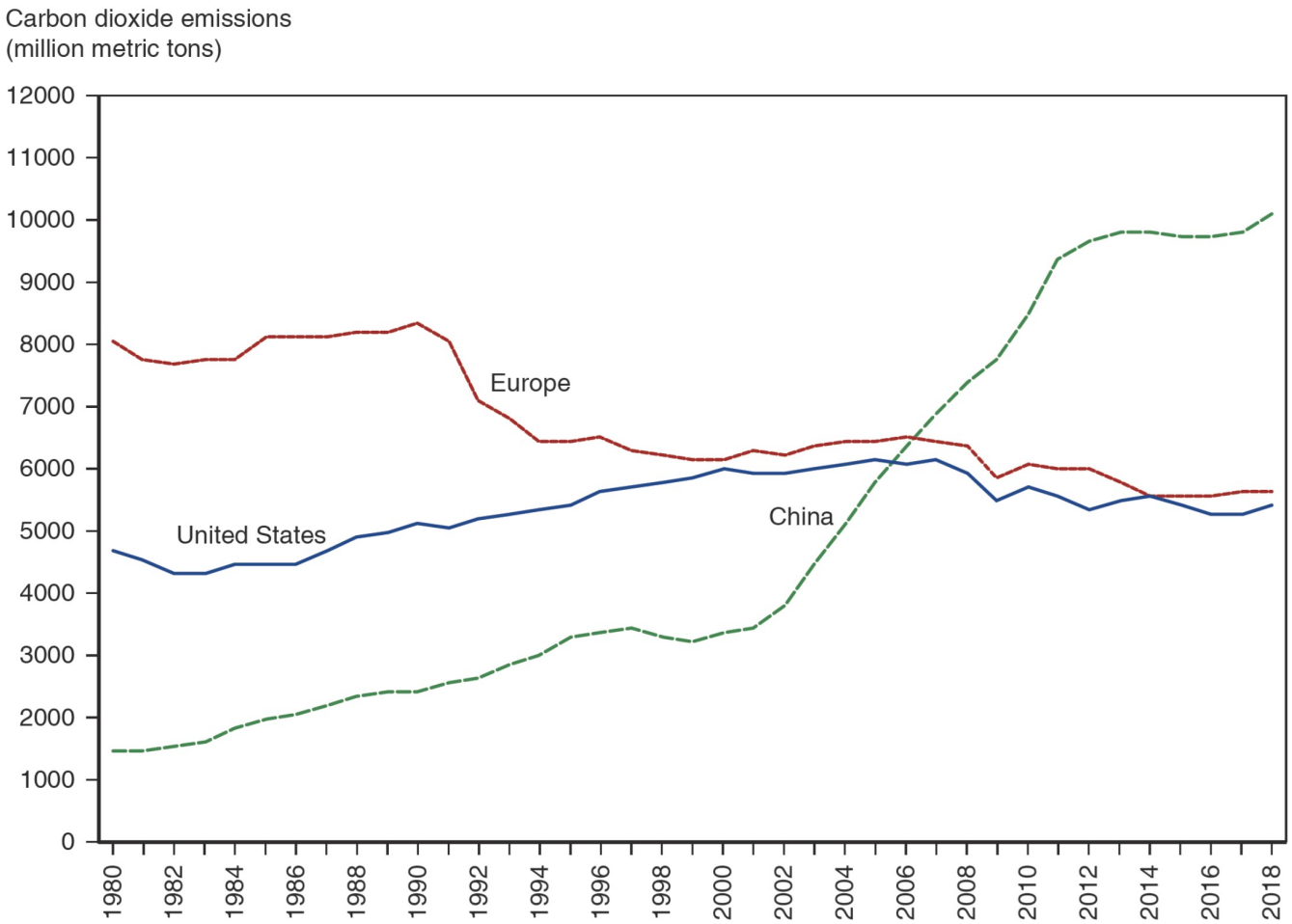


Trade and the Environment – IV

- Because rich countries usually have strict environmental regulations and poor countries do not, environmentally hazardous activities may be moved to poor countries.
  - A **pollution haven** is a place where an economic activity that is subject to strict environmental controls in some countries is moved to (sold to) other countries with less strict regulation.
  - Yet, there is evidence that pollution havens are insignificant relative to the pollution that occurs without international trade.

Trade and the Environment – V

Figure: Carbon Dioxide Emissions



Trade and the Environment – VI

- Pollution in some countries may cause a negative externality for other countries.
  - For example, production in China could cause air pollution in Korea (or on the West Coast of the U.S.).
  - To the degree that pollution causes negative externalities for other countries, they should want to include it in international negotiations.
  - Emissions of carbon dioxide is an example of pollution that causes a negative externality and that has been included in internationalnegotiations.
- **Carbon tariffs**: charge importers of goods from countries without climate-change policies an amount proportional to the carbon dioxide emitted in the production of those goods. The charge per ton of emissions would be equal to the price of carbon dioxide emission licenses in the domestic market.

Trade and the Environment – VII

- This would give overseas producers an incentive to limit their carbon emissions and would remove the incentive to shift production to countries with lax regulation. In addition, it would, possibly, give countries with lax regulations an incentive to adopt climate-change policies of their own.
  - Critics of carbon tariffs argue that they would be protectionist and also violate international trade rules, which prohibit discrimination between domestic and foreign products.
  - Supporters argue that they would simply place producers of imported goods and domestic producers on a level playing field when selling to domestic consumers, with both required to pay for their greenhouse gas emissions. And because carbon tariffs create a level playing field, they argue, such tariffs—carefully applied—should also be legal under existing trade rules.

Trade and Culture

- Some activists believe that trade destroys culture in other countries.
  - This belief neglects the principle that we should allow people to define their culture through the choices that they make, not through standards set by others.
  - Also, any economic change, not just trade, leads to changes in everyday life.