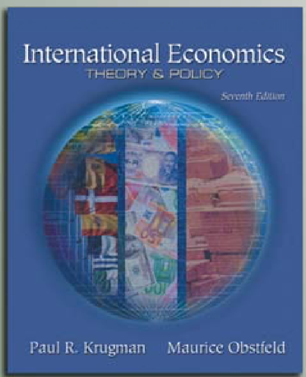


Chapters 9-10-11

Free Trade vs. Protectionism

Slides prepared by Thomas Bishop (adapted by R.Helg)

Preview

- The cases for free trade
- The cases against free trade

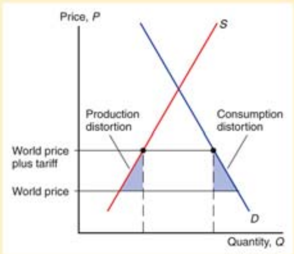
The Cases for Free Trade

a) 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.
- With restricted trade, distorted prices cause overproduction either by existing firms producing more or by more firms entering the industry.

The Cases for Free Trade (cont.)

Figure 9-1
The Efficiency Case for Free Trade
A trade restriction, such as a tariff, leads to production and consumption distortions.



The Cases for Free Trade (cont.)

- However, because tariff rates are already low for most countries, estimated benefits of moving to free trade are only a small fraction of national income for most countries.

The Cases for Free Trade (cont.)

TABLE 9-1 Benefits of a Move to Worldwide Free Trade (percent of GDP)

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 Cases for Free Trade (cont.)

- Yet for some countries in some time periods, the estimated cost of protection was substantial.

The Cases for Free Trade (cont.)

TABLE 9-2 Estimated Cost of Protection, as a Percentage of National Income

Brazil (1966)	9.5
Turkey (1978)	5.4
Philippines (1978)	5.4
United States (1983)	0.26

Sources: Brazil: Bela Balassa, *The Structure of Protection in Developing Countries* (Baltimore: The Johns Hopkins Press, 1971); Turkey and Philippines: World Bank, *The World Development Report 1987* (Washington, D.C.: World Bank, 1987); United States: David G. Tarr and Morris E. Morkre, *Aggregate Costs to the United States of Tariffs and Quotas on Imports* (Washington, D.C.: Federal Trade Commission, 1984).

The Cases for Free Trade (cont.)

B) A second set of arguments (additional gains):

- free trade allows firms or industry to take advantage of **economies of scale** and generates a reduction in prices **(pro-competitive effect)**
- Increases the **variety** of products available for consumption
- free trade provides **competition and opportunities for innovation**.

These dynamic benefits would not be reflected in static estimates of the elimination of efficiency losses of producers, caused by distorted prices and overproduction.

The Cases for Free Trade (cont.)

Benefits from complete trade liberalization
(reference year 2004, %GDP)

	Competition	
	perfect	imperfect
World	0,54	0,78
Industrialized Countries	0,48	0,86
di cui: EU25	0,57	1,36
Japan	0,81	1,26
United States	0,21	0,23
Less Developed Countries	0,73	0,51

Fonte: DDARN (2007), Simulations with GTAP6

The Cases for Free Trade (cont.)

C) A third argument, called 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 special interests, leading to decreased national welfare.

(see later Collective Action)

The Cases for Free Trade (cont.)

D) **Informational argument**: even in cases where theory would suggest an activist trade policy, rarely the government has the set of information required to implement that policy (for example, externality based argument for activist trade policy)

The Cases Against Free Trade

Sometimes trade policy may increase national welfare. Two major arguments:

a) Terms of trade argument
b) Domestic market failure argument

 9-13

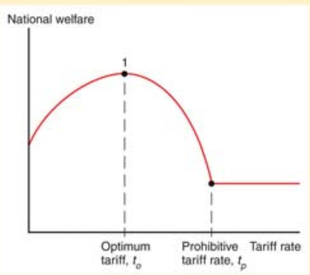
The Cases Against Free Trade: terms of trade argument

- For a "large" country, a tariff or quota lowers the price of imports in world markets and generates a **terms of trade gain**.
  - This benefit may exceed production and consumption distortions.
- In fact, 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.

 9-14

The Cases Against Free Trade (cont.)

Figure 9-2
The Optimum Tariff
For a large country, there is an optimum tariff t_o at which the marginal gain from improved terms of trade just equals the marginal efficiency loss from production and consumption distortion.



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The Cases Against Free Trade (cont.)

- A tariff rate that completely prohibits imports leaves a country worse off, but tariff rate t_0 may exist that maximizes national welfare: an **optimum tariff**.

The Cases Against Free Trade (cont.)

- 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.

Counter-Argument

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

The Cases Against Free Trade: domestic market failure argument

- 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 are functioning efficiently.

The Cases Against Free Trade (cont.)

- Types of market failures include
  - Persistently high under-employment of labor
  - Persistently high under-utilization of capital
  - Technological benefits for society from additional production that are not captured by individual firms
  - Environmental costs for society from additional production that are not paid for by individual firms

The Cases Against Free Trade (cont.)

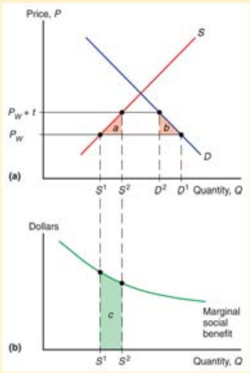
- Economists calculate the **marginal social benefit** to represent the additional benefit to society from additional production.
  - In each of the market failure cases, marginal social benefit is not accurately measured by the producer surplus of private firms, so that economic efficiency loss calculations are misleading.
- It is possible that a tariff raises domestic production, thereby increasing the benefit to domestic society because a market failure.

The Cases Against Free Trade (cont.)

Figure 9-3

The Domestic Market Failure Argument for a Tariff

If production of a good yields extra social benefits (measured in panel (*b*) by area (*c*) not captured as producer surplus), a tariff can increase welfare.



The Cases Against Free Trade (cont.)

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

Counter-Arguments

- Economist 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 under-employment of labor is a problem, then the cost of labor or production of labor-intensive products could be subsidized by the government.
  - These subsidies could avoid the economic efficiency loss for consumers due to a tariff.

Counter-Arguments (cont.)

- Because it is unclear when and to what degree a market failure exists in the real world, it is unclear when and to what degree government policies should respond.
- Government policies to address market failures are likely to be manipulated by politically powerful groups.
- Because it distorts the incentives of producers and consumers, a trade policy may have *unintended consequences* that make a situation worse, not better.

The Cases Against Free Trade: domestic market failure argument

- Some examples :

  1) Infant industry argument

  2) Technological externalities

  3) Oligopolistic sectors with high profit margins (strategic trade policy)

1) The infant industry argument

This argument is utilized to justify government intervention mainly in developing countries. Thus, here we will also discuss different development strategies:

A) Import substituting industrialization

B) Export oriented industrialization

Development strategies

- 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.

Development strategies

TABLE 10-1 Gross Domestic Product Per Capita, 2003 (dollars)

United States	37,610
Japan	34,510
Germany	25,250
Singapore	21,230
South Korea	12,020
Mexico	6,230
China	1,100
India	530

Source: World Bank.

Development strategies

Real Gross Domestic Product per capita (PPP)

Industrialized countries in 60s	**1960**	**2004**	**Δ% 1960-04**
Canada	10577	28399	2,2
France	8605	26169	2,5
Germany (70-)	13546	25610	1,4
Ireland	5380	28958	3,8
Italy	7103	23174	2,7
Japan	4632	24660	3,8
Spain	4965	20973	3,3
Sweden	10955	27077	2,0
Switzerland	15254	29276	1,5
United Kingdom	10353	26762	2,1
United States	13030	36100	2,3
Africa			
Ghana (-03)	372	1440	3,1
Kenya (-03)	1159	1218	0,1
Nigeria	1096	1210	0,2
Senegal (-03)	1797	1407	-0,5

America Latina	**1960**	**2004**	**Δ%**
Argentina	7859	10945	0,7
Brazil (-03)	2670	7204	2,2
Cile	5022	12681	2,1
Colombia (-03)	2806	6095	1,7
Mexico	3695	8168	1,8
Paraguay (-03)	2521	4718	1,4
Peru (-03)	3048	4351	0,8
Venezuela	5968	7068	0,4
Asia			
China	445	5333	5,7
Hong Kong	3264	29644	5,0
India (-03)	870	2990	2,8
South Korea	1544	18421	5,7
Malaysia (-03)	1829	12131	4,3
Singapore	4211	29419	4,4
Taiwan	1491	20872	6,0
Thailand (-03)	1086	7275	4,3

Source: code rgdpl in Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, September 2006

A) Import Substituting Industrialization

- 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.
- It was often accompanied with the belief that poor countries would be exploited by rich countries through international financial markets and trade.

Import Substituting Industrialization (cont.)

TABLE 10-2 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*, 82. (Baltimore: Johns Hopkins Press, 1971).

Import Substituting Industrialization (cont.)

- The principal justification of this policy was/is the *infant industry argument:*
  - Countries may have a potential comparative advantage in some industries, but these industries can not 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

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

1. Imperfect (financial) capital markets
   - Because of poorly working financial laws and markets, new industries are not allowed to borrow as much as they need, which results in restricted economic growth.
   - If creating better functioning laws and markets is not feasible, then high tariffs would be a second-best policy to increase profits for new industries, leading to more rapid growth.

Infant Industries and Market Failures (cont.)

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.
   - The knowledge created when starting an industry may be not 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

- As a strategy to encourage manufacturing industries, import substituting industrialization in Latin American countries worked in the 1950s and 1960s.

Import Substituting Industrialization (cont.)

- But economic development, not encouraging manufacturing per se, was the ultimate goal of the policy.
- Did import substituting industrialization promote economic development?
  - No, countries adopting these policies grew more slowly than rich countries and other countries not adopting them.

Import Substituting Industrialization (cont.)

- 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:
  - They involved complex, time-consuming regulations.
  - They set high tariff rates for consumers, including firms that needed to buy imported inputs for their products.
  - They promoted inefficiently small industries.

Trade Liberalization

- There is some evidence that low and middle income countries which had relatively free trade had higher average economic growth than those that followed import substituting industrialization.
  - But this claim is a matter of debate.
- Regardless, by the mid-1980s many governments had lost faith in import substituting industrialization and began to liberalize trade.

Trade Liberalization (cont.)

TABLE 10-3 Effective Rates of Protection for Manufacturing in India and Brazil

	India	Brazil
Late 1980s	126	77
Late 1990s	40	19

Sources: Marcelo de Paiva Abreu, "Trade Liberalization and the Political Economy of Brazil Since 1987," Working Paper, Inter-American Development Bank, 2004; Dani Rodrik and Arvind Subramanian, "From 'Hindu Growth' to Productivity Surge: The Mystery of the Indian Growth Transition," International Monetary Fund Working Paper, 2002.

Trade Liberalization (cont.)

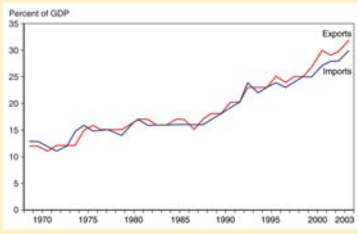


Figure 10-1

The Growth of Developing-Country Trade

Liberalization and developing-country trade: Trade liberalization after 1985 led to a surge in both imports and exports as a percentage of GDP.

Source: World Bank.

Trade Liberalization (cont.)

- As with import substituting industrialization, economic development was the ultimate goal of trade liberalization.
- Has trade liberalization promoted development?
  - The evidence is mixed.
  - Growth rates in Brazil and other Latin American countries have been slower since trade liberalization than the were during import substituting industrialization,

Trade Liberalization (cont.)

- But unstable macroeconomic policies and financial crises contributed to slower growth since the 1980s.
- Other countries like India have grown faster 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, as the Heckscher-Ohlin model predicts.

B) Export Oriented Industrialization

- Instead of import substituting industrialization, 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 are countries that have experienced rapid growth in various export sectors and rapid economic growth in general.
  - These economies or a subset of them are sometimes called "high performance Asian economies".

Export Oriented Industrialization (cont.)

- These high performance Asian economies have generated a high volume of exports and imports relative to total production.
  - By this standard, these economies are "open economies".
- But it is debatable to what degree these economies established "free trade".
  - Although evidence suggests that these economies did have less restricted trade than other low and middle income countries, some trade restrictions were still in effect during different times.

Export Oriented Industrialization (cont.)

TABLE 10-4 Average Rates of Protection, 1985 (percent)

High performance Asian economies	24
Other Asia	42
South America	46
Sub-Saharan Africa	34

Source: World Bank. *The East Asian Miracle: Economic Growth and Public Policy* (Oxford: Oxford University Press, 1993), p. 300.

Export Oriented Industrialization (cont.)

- It is also unclear if the high volume of exports and imports *caused* rapid economic growth or was merely *correlated* with rapid economic growth.
  - Some economists argue that the cause of rapid economic growth was high saving and investment rates, leading to both rapid economic growth in general and rapid economic growth in export sectors.
  - In addition, almost of the high performance Asian economies have experienced rapid growth in education, leading to high literacy and numeracy rates important for a productive labor force.

Industrial Policies in East Asia

- Some East Asian economies have implemented **industrial policies**: policies intended to promote certain industries.
  - Examples of industrial policies include not only tariffs, import restrictions, and export subsidies for import-competing industries and export industries,
  - but also policies like subsidized loans for industries and subsidized research and development.
- But not all high performance Asian economies implemented these policies, and the ones that did had a wide variety of policies.

Industrial Policies in East Asia (cont.)

- There is little evidence that countries with industrial policies had more rapid growth in the targeted industries than those that did not.
- There is some evidence that industrial policies failed: chemicals, steel, automobiles were promoted by the South Korean government in the 1970s,
  - but the polices were later abandoned because they were too expensive and did not produce desired growth.

Development strategies Summary

1. Import substituting industrialization aimed to promote economic growth by restricting imports that competed with domestic products in low and middle income countries.
2. The infant industry argument says that new industries (e.g., in poor countries) need temporary trade protection because of market failures:
   - imperfect capital markets that restrict borrowing
   - problems of appropriating gains from private investment

Summary (cont.)

3. Import substituting industrialization was tried in the 1950s and 1960s but by the mid-1980s it was abandoned for trade liberalization.
4. The precise effect of liberalized trade on national welfare is still being debated.
   - Trade helped growth in some sectors, but saying that trade *caused* higher overall economic growth has attracted some skepticism.
   - Some argue that trade has caused increased income inequality.

Summary (cont.)

5. Several East Asian economies adopted export oriented industrialization instead of import substituting industrialization.
   - High export and import volumes and relatively low trade restrictions were characteristics of this policy.
   - But it is unclear to what degree this policy contributed to overall economic growth.
6. Some East Asian economies used more general industrial policies as well.
   - But it is unclear to what degree this policy contributed to or hindered overall economic growth.

2) Technology and Externalities

- 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 producers surplus.

Technology and Externalities (cont.)

- Governments may want to actively encourage investment in technology when externalities in new technologies create a high marginal social benefit.
- Should the US government subsidize high technology industries?

Technology and Externalities (cont.)

- 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.

Technology and Externalities (cont.)

- Instead of subsidizing specific industries, the US subsidizes research and development through the tax code:
  - research and development expenses can be deducted from corporate taxable income.

Technology and Externalities (cont.)

2. 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.
3. 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.

3) Strategic Trade Policy

- Imperfectly competitive industries are typically dominated by a few firms that generate monopoly profits or **excess profits** (or excess returns).
  - Excess profits refer to profits above what equally risky investments elsewhere in the economy can earn.
- In an imperfectly competitive industry, government subsidies can shift excess profits from a foreign firm to a domestic firm.
- Let's use a simple example to illustrate this point.

Strategic Trade Policy (cont.)

- Example (called the Brander-Spencer analysis):
  - Two firms (Boeing and Airbus) compete in the international market but are located in two different countries (United States and Europe).
  - Both firms are interested in manufacturing airplanes, but each firm's profits depends on the actions of the other.
  - Each firm decides to produce or not depending on profit levels.

Strategic Trade Policy (cont.)

TABLE 11-1 Two-Firm Competition

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

9-61

Strategic Trade Policy (cont.)

- The predicted outcome depends on which firms invests/produces 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.
- But a subsidy of 25 by the European Union can alter the outcome by making it profitable for Airbus to produce *regardless of Boeing's action.*

9-62

Strategic Trade Policy (cont.)

TABLE 11-2 Effects of a Subsidy to Airbus

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

9-63

Strategic Trade Policy (cont.)

- If Boeing expects that the European Union will subsidize Airbus, Boeing will be deterred from entering the industry.
  - Thus, the subsidy of 25 will generate profits of 125 for Airbus.
  - The subsidy raises profits more than the amount of the subsidy itself because of its deterrent effect on foreign competition.

Strategic Trade Policy (cont.)

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

Strategic Trade Policy

- Criticisms of this analysis include:

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 which only it recognizes, so that even if Airbus produces Boeing still finds it profitable to produce.

Strategic Trade Policy (cont.)

TABLE 11-3 Two-Firm Competition: An Alternative Case

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

Strategic Trade Policy (cont.)

TABLE 11-4 Effects of a Subsidy to Airbus

Boeing \ Airbus	*Produce*	*Don't produce*
Produce	5 5	0 125
Don't produce	125 0	0 0

Strategic Trade Policy (cont.)

- The predicted outcome when the European Union subsidies Airbus is now that both firms produce and both earn only 5.
  - The subsidy no longer raises profits by more than the subsidy because it failed to deter foreign competition.
- Thus, it is not at all evident that a subsidy would be worthwhile: it could waste resources that could be used elsewhere in the economy.

Strategic Trade Policy (cont.)

2. Foreign retaliation also could result:
   - if the European Union subsidizes Airbus, the US 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.

Figure 9A-1

Effects of a Tariff on Prices

In a linear model we can calculate the exact effect of a tariff on prices.

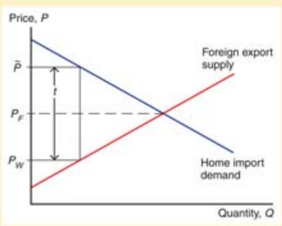


Figure 9A-2

Welfare Effects of a Tariff

The net benefit of a tariff is equal to the area of the colored rectangle minus the area of the two shaded triangles.