Global Economy

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Lecture 8-9

Arguments for Trade Liberalization
Arguments for Trade Protection

Arguments for trade liberalization

- Trade promotes competition that leading to innovative investments and improvements in productivity.
- Trade improves resources allocation and fosters specialization in sectors where countries have comparative advantage.
- Trade enlarges a country’s access to scarce resources and its consumption capacities.

Arguments for trade liberalization

- Trade attracts foreign capital and technology into developing countries.

- Trade accelerates overall economic growth, which raises profits and promotes greater savings and investment and thus further growth.
- It causes long run improvements in living standards.

Arguments for trade liberalization

- Trade provides access to worldwide markets for poor countries.
- Trade generates very needed foreign exchange to pay for debt or imports.
- Trade increases world output.

Arguments against trade liberalization

- The „race to bottom" hypothesis - international trade will put downward pressure on countries' environmental standards and thus damage the environment.
- Domestic regulation raises the costs of production - domestic producers may lose their competitiveness against firms in other countries.

Arguments against trade liberalization

- The pollution haven hypothesis - comparative advantage could be deliberately created by differences in environmental regulation itself.
- A migration of dirty industries to the LDCs (lower pollution costs).
- The poor countries produce and sell the products that require pollution (the rich countries specialize in products that can be produced cleanly).

Arguments against trade liberalization

- Large scale exit of domestic firms.
- Large scale unemployment.
- Increased poverty.

Arguments for protection – optimum tariff argument

- Traditional trade theory suggests a large country can increase its welfare by using an import tariff or export tax to improve its terms of trade.

- Increasing national welfare by improving the terms of trade becomes one possible motive for tariff protection.

Arguments for protection – optimum tariff argument

- A tariff reduces the volume of trade, generating consumption costs.
- The favorable terms-of-trade effect can outweigh the unfavorable consumption costs.
- A moderate tariff can benefit a large country at the expense of the rest of the world.

Arguments for protection – optimum tariff argument

- An increase in the rate of tariff raises the production and consumption costs as it improves the terms of trade.
- Eventually, the costs will predominate because in any case free trade is better than no trade which would result from a high enough tariff.
- The rate that squeezes out as much gains as possible is known as the **optimum tariff**.
- An optimum tariff exists, which maximizes an economy's welfare.

Arguments for protection – optimum tariff argument

- The essence of the optimum tariff is the exploitation of monopsonistic power.
- If a country can influence world prices, the citizens of that country collectively possess monopsonistic power – by restricting import demand they can force the price down.
- The tariff is the instrument by which the country manipulates the market.

Arguments for protection – optimum tariff argument

- The argument assumes foreign economies will not retaliate. A country can gain by levying a tariff, provided that the other country does not retaliate.

- Optimum tariff policy is therefore tempting only to a country that is both sizable and reasonably free of the fear of retaliation. For example, if a large country trades with many small countries, retaliation is unlikely.

- An asymmetric position may arise due to the commodity composition of trade. For example, the home country might be the world's only exporter of a certain good, which many other countries import, while importing an assortment of goods from many countries.

Terms of trade

- The net barter (commodity) terms of trade
- The income terms of trade
- The single factorial terms of trade
- The double factorial terms of trade

The net barter (commodity) terms of trade

The net barter (commodity) terms of trade is the ratio (expressed as a percent) of relative export and import prices when volume is held constant.

$$Tot = \left(\frac{p_{Ex1}}{p_{Ex0}} : \frac{p_{Im1}}{p_{Im0}} \right) \times 100$$

where

p_{Ex1} - price of exports in the current period

p_{Ex0} - price of exports in the base period

p_{Im1} - price of imports in the current period

p_{Im0} - price of imports in the base period

The net barter (commodity) terms of trade

- The net barter terms of trade is a measure of the difference between changes in the price of goods and services which a country exports and changes in the price of goods and services which it imports.

- In the simplified case of two countries and two commodities, terms of trade is defined as the ratio of the price a country receives for its export commodity to the price it pays for its import commodity.

- In this simple case the imports of one country are the exports of the other country. For example, if a country exports 90 euro worth of product in exchange for 100 euro worth of imported product, that country's terms of trade are 90/100 = 0.9.
- The terms of trade for the other country must be the reciprocal (100/90 = 1.11).

- An improvement in a nation's terms of trade is good for a country in the sense that it has to pay less for the products it imports; it has to give up fewer exports for the imports it receives.

- An improvement in the terms of trade makes it possible for an increased volume of goods and services to be purchased by residents out of the incomes generated by a given level of domestic production.

The income terms of trade

The income terms of trade is the ratio (expressed as a percent) of the value of exports to the price of imports

$$Tot_I = \left(\frac{p_{Ex1}}{p_{Ex0}} : \frac{p_{\mathrm{Im}1}}{p_{\mathrm{Im}0}} \right) \times \frac{q_{Ex1}}{q_{Ex0}} \times 100$$

where

q_{Ex1} - quantity of exports in the current period

q_{Ex0} - quantity of exports in the base period

The income terms of trade

- The income terms of trade refer to the ratio between the values of exports to the import prices.
- The income terms of trade indicates nation's capacity to import.
- It measures the volume of imports that a country can obtain with the export earnings.

The income terms of trade

- The income terms of trade indicate only the export-based capacity to import and not the country' total capacity to import.

- The total capacity to import depends upon factors like capital inflow or unilateral payments.

The income terms of trade

- A change in the income terms of trade need not necessarily reflect the real gains from trade.

- Even when export prices fall and import prices remain constant, the income terms of trade will improve, if the physical volume of exports increases more than in proportion to the fall in export prices.

The single factorial terms of trade

The single factorial terms of trade is the net barter terms of trade adjusted for changes in the productivity of exports

$$Tot_S = \left(\frac{p_{Ex1}}{p_{Ex0}} : \frac{p_{\mathrm{Im}\,1}}{p_{\mathrm{Im}\,0}} \right) \times w_{Ex} \times 100$$

where

w_{Ex} - index of labour productivity in export sector

The single factorial terms of trade

- The single factorial terms of trade measures the amount of imports a country gets per unit of domestic factors of production embodied in its exports.

The double factorial terms of trade

The double factorial terms of trade adjusts for both the productivity of exports and the productivity of imports

$$Tot_D = \left(\frac{p_{Ex1}}{p_{Ex0}} : \frac{p_{\mathrm{Im}\,1}}{p_{\mathrm{Im}\,0}} \right) \times \frac{w_{Ex}}{w_{\mathrm{Im}}} \times 100$$

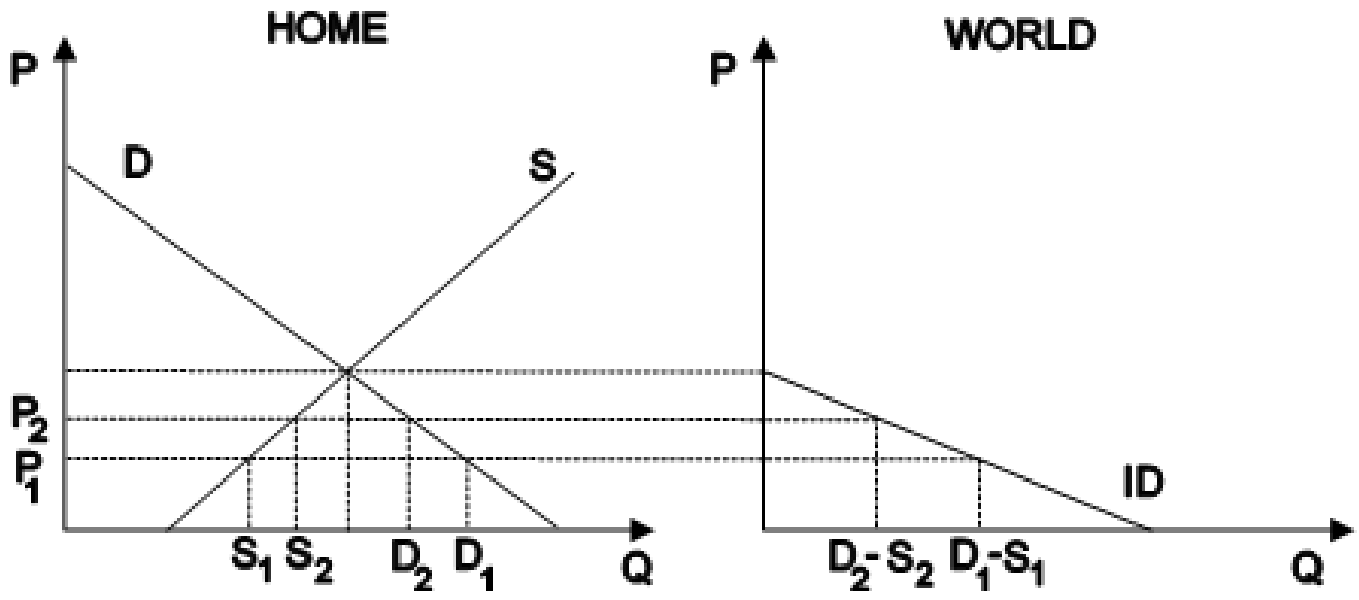
where

w_{Im} - index of labour productivity in import sector of a given country.

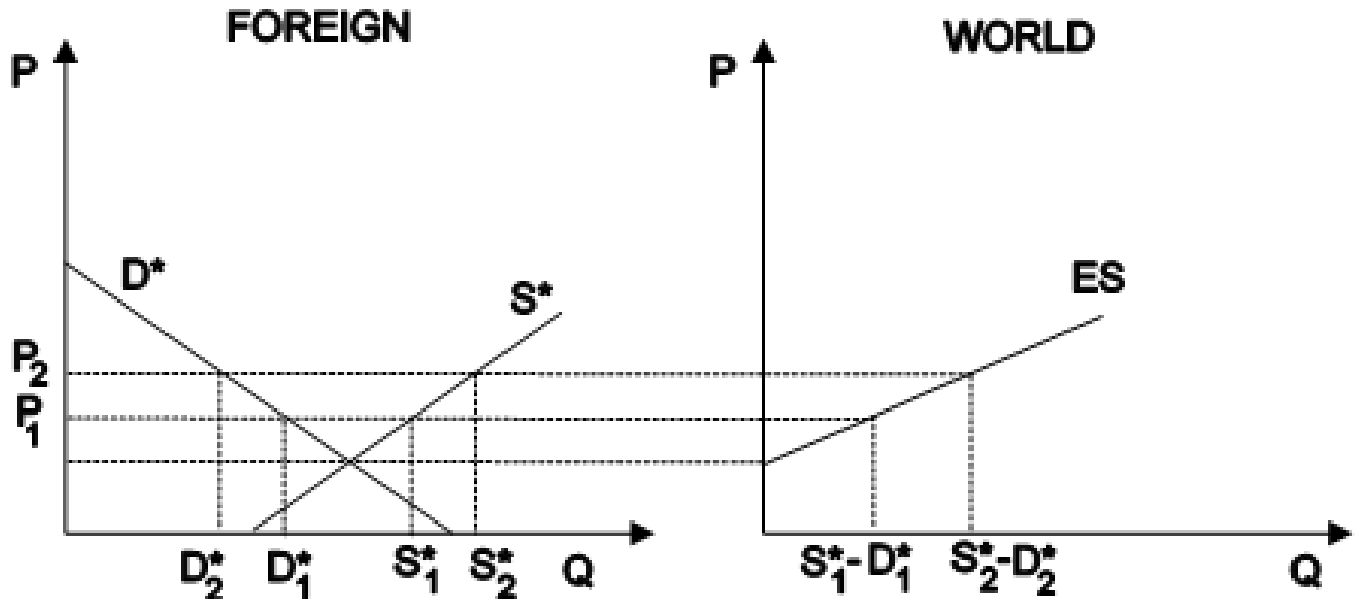
The double factorial terms of trade

- The double factorial terms of trade measures how many units of domestic factors embodied in the country's exports are exchanged per unit of foreign factors embodied in its imports.

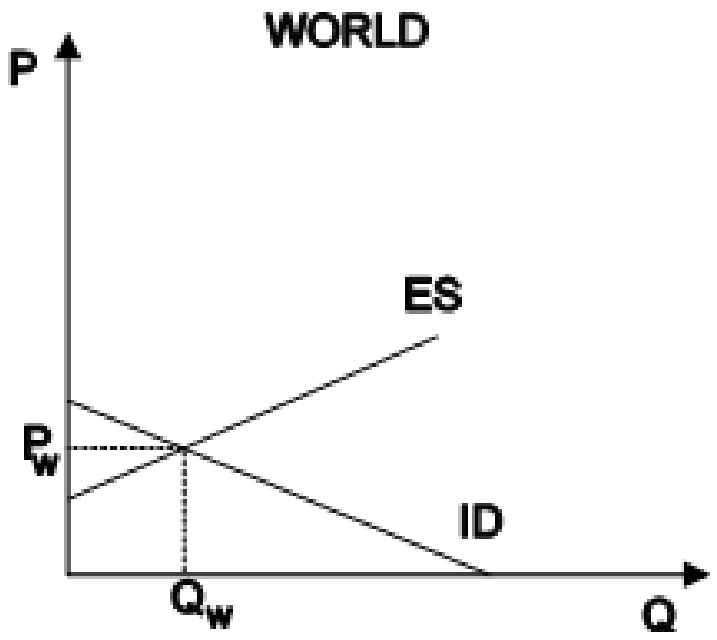
Home's import demand curve



Foreign's export supply curve



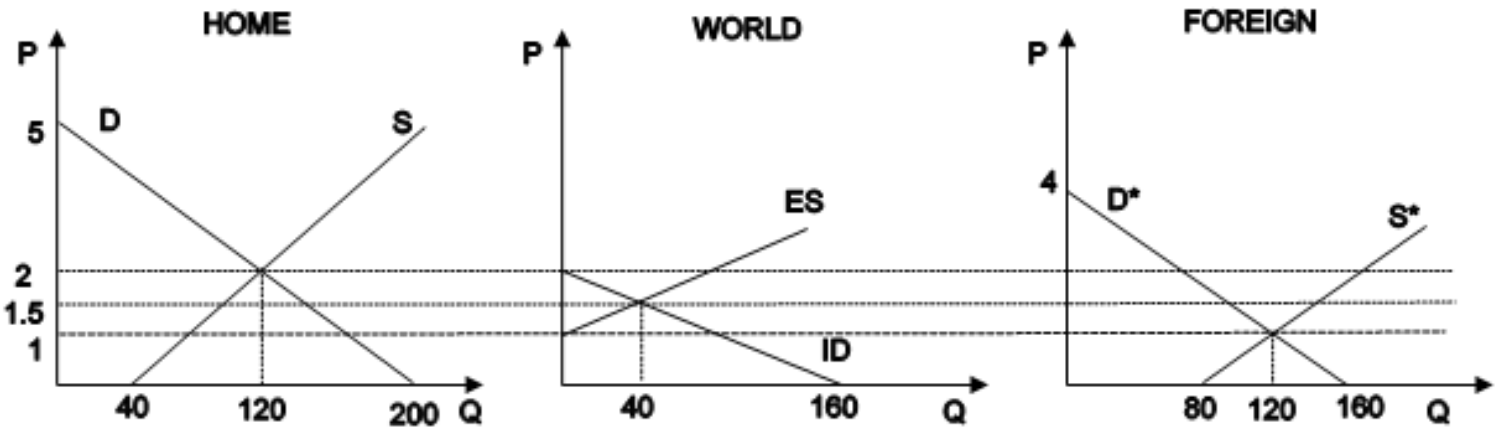
World equilibrium



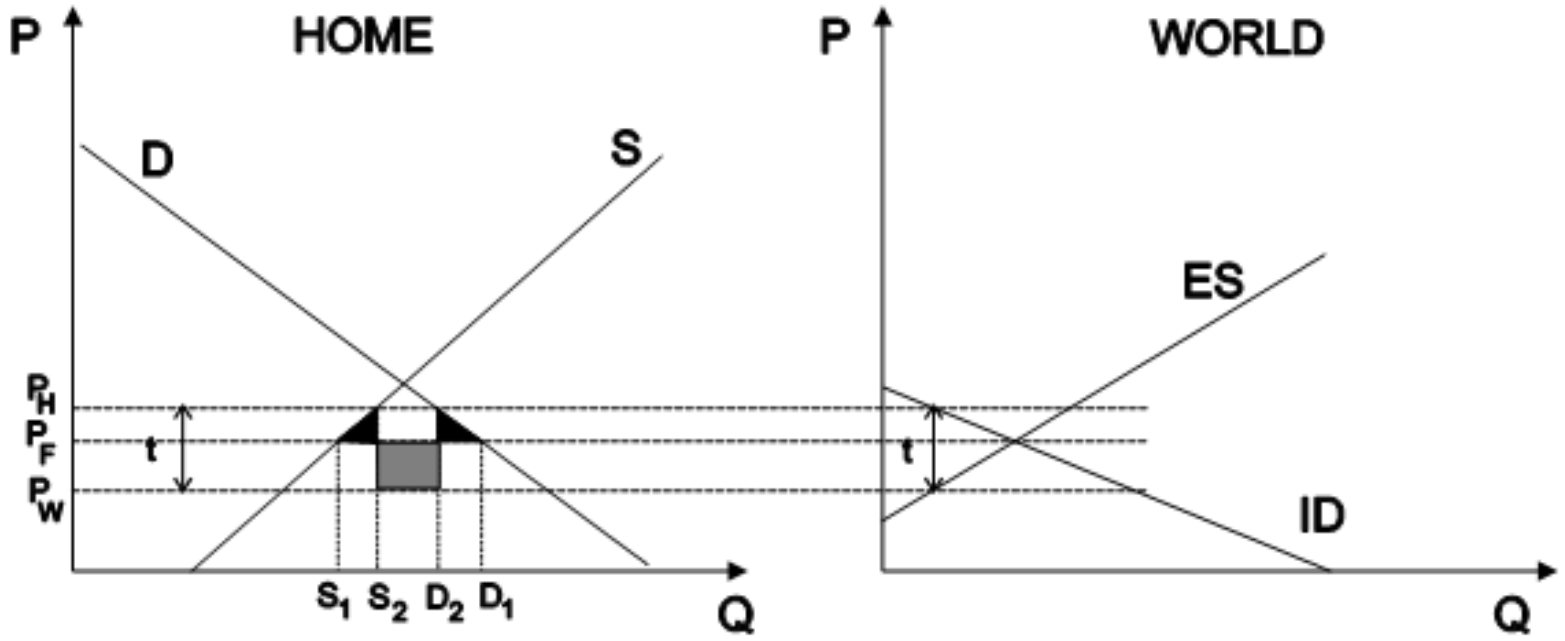
Example

	Home (importer)	Foreign (exporter)
Demand	$D = 200 - 40P$	$D^* = 160 - 40P$
Supply	$S = 40 + 40P$	$S^* = 80 + 40P$
Autarky equilibrium price (Demand = Supply)	2	1
Autarky equilibrium quantity	120	120
Import demand	$ID = D - S$ $= 160 - 80P$	
Export supply		$ES = S^* - D^*$ $= -80 + 80P$
World price ($ID = ES$)	1.5	1.5
Demand after trade	140	100
Supply after trade	100	140
Trade quantity	40	40

Graphical illustration



Optimum tariff formula



$$D = a - b \cdot P, \qquad S = c + d \cdot P,$$

$$ID = (a - c) - (b + d)P, \qquad ES = f + g \cdot P,$$

$$P_H - P_W = t$$

$$P_F = \frac{a - c - f}{b + d + g} \qquad (ID = ES)$$

$$P_W = P_F - \frac{b + d}{b + d + g} t \quad \text{from} \quad (a - c) - (b + d)P_H = f + gP_W$$

$$P_H = P_F + \frac{g}{b + d + g} t$$

Loss:

$$W_L = \frac{1}{2}(S_2 - S_1)(P_H - P_F) + \frac{1}{2}(D_1 - D_2)(P_H - P_F)$$

$$W_L = At^2$$

where:

$$A = \frac{(b+d)g^2}{2(b+d+g)^2}$$

$$D_1 - S_1 = (a-c) - (b+d)P_F \qquad D_2 - S_2 = (a-c) - (b+d)P_H$$

$$W_L = \frac{1}{2}(S_2 - D_2 + D_1 - S_1)(P_H - P_F) = \frac{1}{2}(b+d)(P_H - P_F)^2 = \frac{(b+d)g^2}{2(b+d+g)^2}t^2$$

Advantage:

$$W_A = (D_2 - S_2)(P_F - P_W)$$

$$W_A = Bt - Ct^2$$

where:

$$B = \frac{(a - c - (b+d)P_F)(b+d)}{b+d+g}, \qquad C = \frac{(b+d)^2 g}{(b+d+g)^2}$$

$$W_A = (a - c - (b+d)\cdot P_H)\frac{b+d}{b+d+g}t = \left(a - c - (b+d)\left(P_F + \frac{g}{b+d+g}t\right)\right)\frac{b+d}{b+d+g}t$$

Net welfare effect:

$$W = W_A - W_L = Bt - (A + C)t^2$$

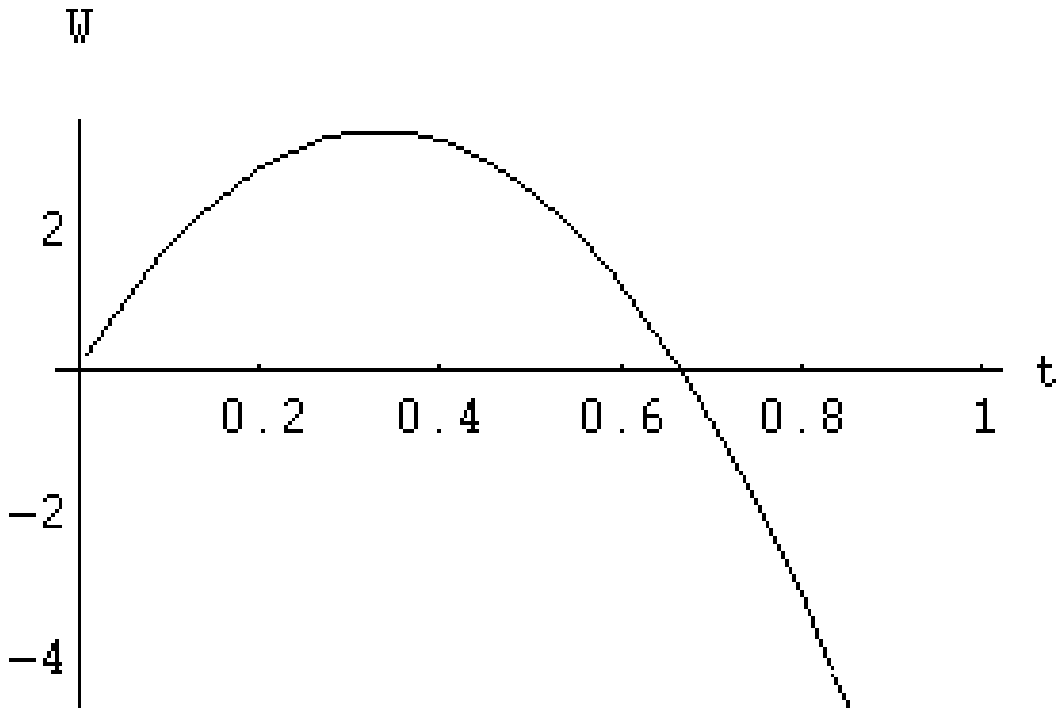
Optimum tariff:

$$t_{opt} = \frac{B}{2(A + C)} \qquad P_F < \frac{a - c}{b + d}$$

Example (Optimum tariff: a large country)

Demand	$D = 200 - 40P$
Supply	$S = 40 + 40P$
Import demand	$ID = 160 - 80P$
Export supply	$ES = -80 + 80P$
World price before tariff (P_F)	1.5
Optimum tariff	0.33
Home price (P_H)	1.66
World price after tariff (P_W)	1.33
Deadweight loss	1.11
Terms of trade welfare effect	4.44
Net welfare effect	**3.33**
Net welfare formula	$W = 20t - 30t^2$
Tariff for which net welfare effect is zero	0.66

Graphical illustration – Welfare effect in a large country



Further traditional arguments for protection

Trade policy as a part of broader social policy objectives for a nation

- Tariff as a source of government revenue (revenue argument).
- Tariff to improve the balance of trade.
- Tariff to reduce aggregate unemployment.
- Tariff to increase employment in a particular industry.

Further traditional arguments for protection

Trade policy as a part of broader social policy objectives for a nation

- Tariff to benefit a scarce factor of production.
- National defense argument for a tariff.
- To “encourage better policy” abroad.

Further traditional arguments for protection

Trade policy as a part of broader social policy objectives for a nation

- **To "encourage better policy" abroad.** On March 27, 2006 Russia stopped wine imports from Moldova and Georgia (reason – low quality and harmful). The Russian sanctions - a response to Chisinau's new border regime with Transnistria.

- The Russian sanctions came only a few weeks after Moldova and Ukraine imposed a new customs regime at the Transnistrian border. The breakaway republic could only export its goods to or through Ukraine with Moldovan customs approval.

Further traditional arguments for protection

Trade policy as a part of broader social policy objectives for a nation

- Chisinau lost about 21 million U.S. dollars in the first five months of 2006. Moldova delivered about 80 percent of its wines (at a value of about 250 million dollars in 2005) to Russia before the embargo. Up to the date of the embargo, about 130 companies delivered alcoholic drinks to Russia (36 companies in 2008).
- 2007 Russian inspectors came to Moldova – five companies, all of whom had Russian capital, received the right to export to Russia.

Further traditional arguments for protection

Trade policy as a part of broader social policy objectives for a nation

- According to various estimates, Moldovan producers in 2009 had a 10-15-percent market share on the Russian market compared to 60-70 percent they had before 2006.

- 2011 - 40 percent of Moldova's wine production was exported to Russia

Protection as a response to international policy distortions

- Tariff to offset foreign dumping.
- Tariff to offset a foreign subsidy.

Protection to offset market imperfections

- Tariff to extract foreign monopoly profit.
- The use of an export tax to redistribute profit from a domestic monopolist.

Infant industry argument

- Argument that a tariff is needed to protect an industry in its early stage of development.

- Nascent industries often do not have the economies of scale that their older competitors from other countries may have, and thus need to be protected until they can attain similar economies of scale.

Infant industry argument

- Firms may face initial losses in an industry. Tariffs allows those domestic industries to grow and become self sufficient within the international economy once they reach a reasonable size.
- Protectionism allows an industry to develop until it is able to compete in international trade.

- Infant industries are by definition those that are not strong enough to survive open competition - they are dependent on government protectionism in order to survive.

Infant industry argument

- It was first used by Alexander Hamilton in 1790 and later by Friedrich List, in 1841, to support protection for German manufacturing against British industry.

- History provides numerous examples of the benefits of protecting infant industries.
- In the 1830's the average tariff in the US was 40%, the highest in the world, allowing the development of manufacturing industries until World War II when the manufacturing supremacy of the States was absolute.

- In 1939 Japan kicked out General Motors to protect Toyota which at the time was uncompetitive in the global market.

Infant industry argument

- The infant industry argument is often criticized.

- Firstly it is hard for government to know which industries will ultimately turn out to have growth potential.
- A lack of unforeseen emergence of foreign rivals may, in fact, prohibit industries from becoming competitive in the long run.
- It is often the case that rather than developing or innovating, the protected industry becomes complacent, due to a lack of competition from the international market.

Infant industry argument

- Secondly, since countries that put up barriers to imports will often face retaliatory barriers to exports, protectionism could hurt certain infant industries because the size of their potential market would be smaller.

Strategic trade policy

- Consideration of strategic trade policy is a relatively recent addition to the trade policy debate, having started in the early 1980s.

- **Spencer, B. and Brander, J.** (1983), *International R&D rivalry and industrial strategy*, Review of Economic Studies 50, 707–22.
- **Brander, J. and Spencer, B**. (1985), *Export subsidies and international market share rivalry*, Journal of International Economics 18, 83-100.

Strategic trade policy

- Strategic trade policy refers to trade policy that affects the outcome of strategic interactions between firms in an actual or potential international oligopoly.

- The term “strategic” arises from consideration of the strategic interaction between firms.

Strategic trade policy

- Strategic interaction requires that firms recognize that their payoffs in terms of profit or other objectives are directly affected by the decisions of rivals or potential rivals.

- As a result, firms recognize that their own choices concerning such variables as output, price and investment depend on the decisions of other firms.

Strategic trade policy

- The requirement that the oligopoly be “international” implies that production is actually or potentially carried out in two or more countries. Trade policy instruments set by one country then tend to affect the strategic choices of firms located in that country differently from firms located abroad.

- A well-known application is the strategic use of export subsidies, but import tariffs as well as subsidies to R&D or investment for firms facing global competition can also have strategic effects.

- **A main idea is that trade policies can raise domestic welfare by shifting profits from foreign to domestic firms.**

Numerical example

Krugman, P. (1987), *Is Free Trade Passé?* Journal of Economic Perspectives, 1(2), 131–44.

- Two firms, Boeing, an American firm, and Airbus, a European firm, are capable of producing a certain type of passenger aircraft. The aircraft are all exported to a third country.

- The profit earned by each country's firm minus the cost of any subsidy is then the appropriate measure of each country's national benefit.

- The third-country market is profitable if there is only one producer, but both firms would make losses if they both enter and must share the market.

The European government is considering whether to subsidize the entry of Airbus.

Table 1. Intervention by Europe

Non-intervention

		Airbus: Enter	Airbus: Not enter
Boeing	Enter	(-5;-5)	(100;0)
	Not enter	(0;100)	(0;0)

Subsidize entry by 25

		Airbus: Enter	Airbus: Not enter
Boeing	Enter	(-5;20)	(100;0)
	Not enter	(0;125)	(0;0)

Alternative case – subsidy as a wrong idea

Table 2. Intervention by Europe

Non-intervention

		Airbus: Enter	Airbus: Not enter
Boeing	Enter	(5;-20)	(125;0)
	Not enter	(0;100)	(0;0)

Subsidize entry by 25

		Airbus: Enter	Airbus: Not enter
Boeing	Enter	(5;5)	(125;0)
	Not enter	(0;125)	(0;0)