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- trade protection:
in general economists advocate international trade

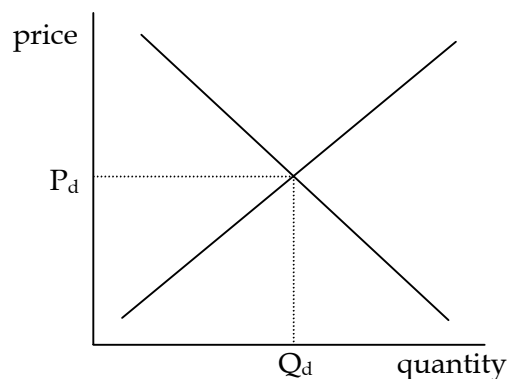
encouraging exports has been more successful than limiting imports at encouraging growth of the industrial sector; protecting domestic industry will be harmful if the country is not large enough for firms to be at the MES; in contrast, if a country is outward-oriented, then it will produce at a large, efficient scale, even if it does not consume much of what it produces domestically

if a government protects domestic industry, then producers will have a monopoly because they do not face competitive pressures and consumers will receive inferior goods; however, exporting to developed countries requires producers in developing countries to achieve the product standards of developed countries; unless these firms lower their costs and reach the standards of developed countries, they will be unable to sell in international markets

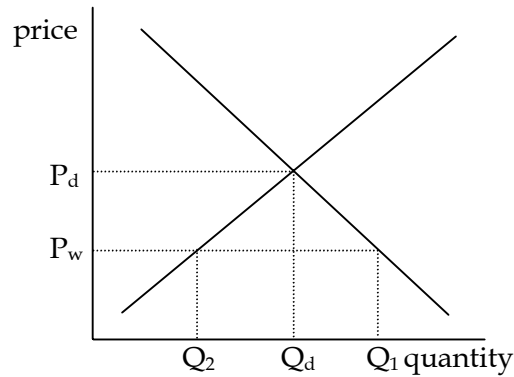
although developing countries could be expected to have lower costs than developed countries because of the relative abundance of labor, labor is not the only determining factor of cost

- ISI and the infant industry argument:
the infant industry argument has been used to support ISI as a strategy for industrialization and development; according to the infant industry argument, newly developing countries are unable to compete in international markets with developed countries because they need time to learn how to produce at high quality and low cost

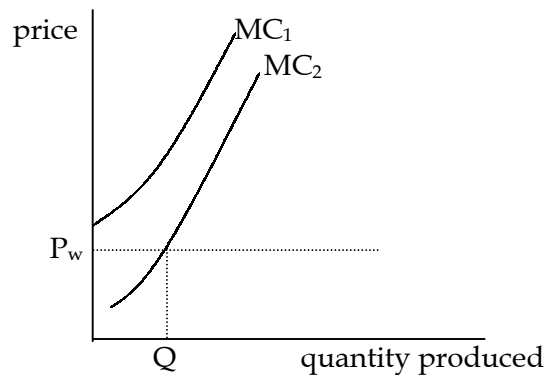
if a country is consuming a manufactured consumer good supplied by a competitive domestic industry, it will consume at quantity Q_d and price P_d (assuming autarky):



if the country could import the good at a world price (P_w) less than the equilibrium domestic price (P_d), then the domestic price will settle to P_w (without government intervention); the quantity demanded by domestic consumers will increase to Q_1 and domestic suppliers will reduce the quantity they produce to Q_2 ; the difference between the quantity demanded by domestic consumers and the quantity supplied by domestic producers is made up by imports – the total quantity of imports is $Q_1 - Q_2$:



according to the infant industry argument, an industry might not be able to develop because it has not yet learned how to produce competitively at world prices; for instance, if the industry is competing at world prices, the position of its marginal cost curve might allow it to produce very little (amount Q with marginal cost curve MC_2) or none at all (MC_1):

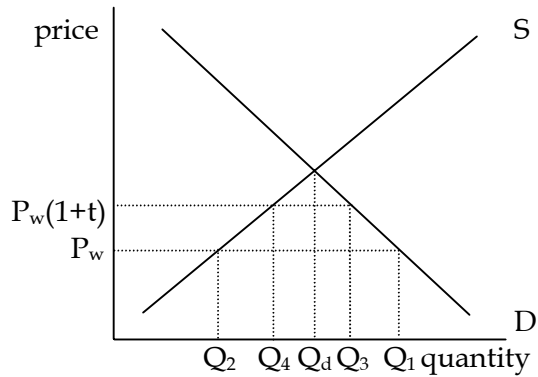


to foster the development of domestic industry, the government can protect domestic industry by implementing a tariff, a subsidy, or quantitative restrictions; this protection is intended to be temporary - just long enough to allow firms to learn how to produce efficiently and with high quality; in practice, protection has lasted longer than intended because producers lobby to maintain protection because it is profitable for them; and so long as producers believe the government will maintain protection, they will not be pressured to reduce cost and compete at world prices

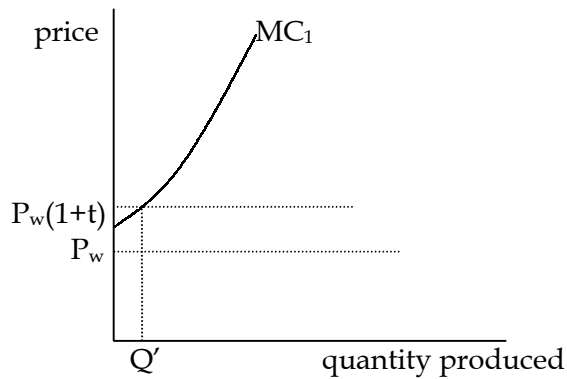
thus, ISI will only work if firms learn how to produce more cheaply and with higher quality over time and if the schedule of protection is reduced over time

- tariff protection:
 - in order to help domestic industry compete with world prices, the government could impose a tariff on imports, raising the domestic price from P_w to $P_w(1+t)$, where t is the tariff rate; as a result of the tariff, the amount produced domestically rises from Q_2 to Q_4 ; domestic consumption decreases from Q_1 to Q_3 :

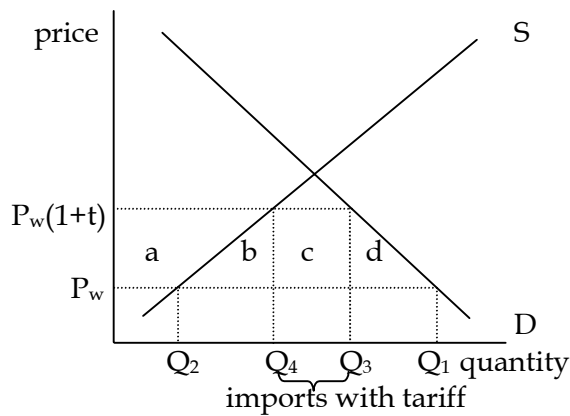
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if domestic industry had been unable to produce any quantity at the world price before in a free market situation, the tariff protection might enable it to produce at Q' :



- page 684, figure 18-1 - the excess burden due to tariff protection:



because of the tariff, the domestic price rises to $P_w(1+t)$ and the quantity demanded by domestic consumers drops from Q_1 to Q_3 ; the loss in consumer surplus equals area $a+b+c+d$

the government earns revenue from the tariff equal to the tariff, t , multiplied by the amount imported, $Q_3 - Q_4$; this is equal to area c

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after the tariff is imposed, domestic producers sell at price $P_w(1+t)$ (versus P_w before the tariff) and produce at Q_4 (versus Q_2 before the tariff); the increase in producer surplus is equal to area a

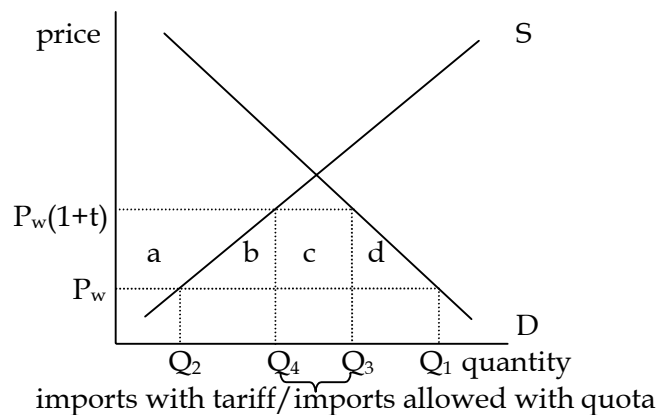
thus, the loss to consumers is area $a+b+c+d$, but government captures area c as tax revenue, and producers gain area a as producer surplus; the excess burden (deadweight loss) to society is area $b+d$, which is utility lost by consumers and not gained by either government or producers

thus, in this static picture the tariff imposes an inefficiency to the economy; however, the tariff can increase efficiency over time if it helps domestic industry to become more competitive

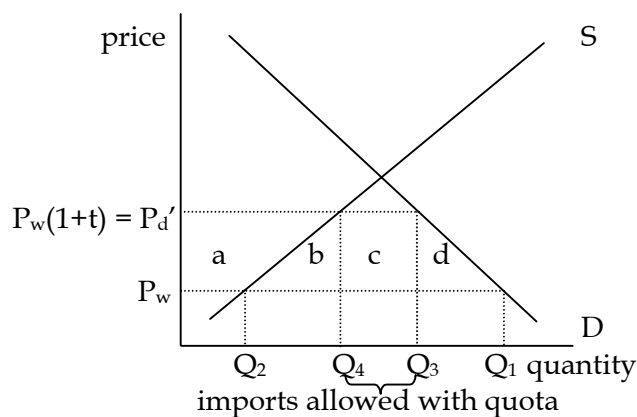
- quantitative restrictions (QRs):

the government could restrict the amount of a good that is imported by imposing a quantitative restriction (a.k.a. import quota) on the quantity that can be imported

there is a tariff level at which the tariff and import quota limit the quantity imported to the same amount; t is the tariff and Q_3-Q_4 is the import quota:



however, the welfare consequences of a quota are different from those of a tariff because the government does not earn import tax revenue when a quantitative restriction is imposed:



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the loss in consumer surplus is area $a+b+c+d$; the gain in producer surplus is area a ; the increase in government tax revenue = 0; thus, the deadweight loss to society is area $b+c+d$; a quantitative restriction creates a greater efficiency loss to society than a tariff (assuming they both target the same level of imports)

digging a little deeper, we can notice that if the importers get the Q_3-Q_4 units at the world price and sell them at the higher domestic price, they earn windfall profits equal to area c ; some of these profits might end up in the pockets of government officials who demand bribes before awarding an import license; either way, area c is earned by importers or corrupt officials, so the dead weight loss can be as little as $b+d$ again

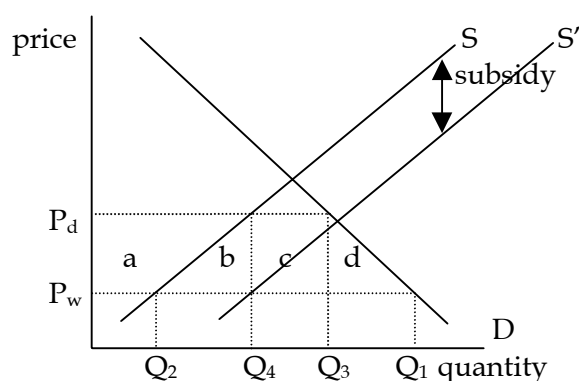
however, an important difference between a tariff and a quota is that a quota often leads to monopolistic behavior by domestic producers. If there are few of them, or in the limit only one, they may cut output to secure an even higher price than $P_w(1+t)$. In this case, there is a further loss of consumer surplus, which provides another reason why dead weight loss is likely to be higher with a quota than with a tariff

- subsidies:

a government could increase domestic production of a good by subsidizing domestic producers; for a given tariff level, there is some subsidy that is "equivalent" to the tariff, in that it increases domestic production and decreases imports by the same amount

just like a tariff and import quota, a subsidy allows domestic producers to increase production from Q_2 to Q_4 ; however, unlike a tariff and import quota, a subsidy does not reduce the quantity demanded by domestic consumers - thus, domestic consumers continue consuming at Q_1 and there is no loss of consumer surplus due to the subsidy; however, there is still an inefficiency imposed on the economy by the subsidy because producers will be producing at a quantity beyond where their marginal cost curve intersects the world price line

the government bears the cost of the subsidy, equal to area $a+b$ below:



overall, there is no loss in consumer surplus; the gain in producer surplus is area a ; the amount paid by government for the subsidy is area $a+b$; thus, the deadweight loss to the society is area b ; the deadweight loss due a subsidy is less than the deadweight loss due to either a tariff or quantitative restriction when they all target the same quantity of domestic production

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with a tariff in place, both government and producers are better off (government earns tax revenue and producers earn a greater producer surplus) and only consumers are worse off – thus, tariffs could become perpetual if consumers do not have political power; economists prefer subsidies to tariffs and import quotas because 1) the deadweight loss is less and 2) the government will want to reduce the subsidy over time because it has to pay for it (whereas, on the contrary, a tariff brings the government revenue)

- the effective rate of protection and the effective rate of subsidy:
 - a tariff on imports of a good can understate how much the government is protecting the domestic industries that produce that good; if the tariff on the good produced by a domestic industry is higher than the tariffs on the inputs to that industry, then the effective rate of protection on the good will be higher than is suggested by the tariff on the good; for example, if the tariff on products is 20% and the tariff on inputs is 10%, the effective rate of protection is 35%, which is greater than the 20% protection indicated by the tariff

page 690, equation 18-1 – this equation gives the effective rate of protection (ERP) on a good:

$$ERP = (\text{value added at domestic prices} - \text{value added at world prices}) / (\text{value added at world prices})$$

page 690, equation 18-2 – this equation can be used to calculate the ERP:

$$ERP = \frac{(P_d - C_d) - (P_w - C_w)}{P_w - C_w}$$

ERP = effective rate of protection

P_d = domestic price

C_d = cost at domestic prices

P_w = world price

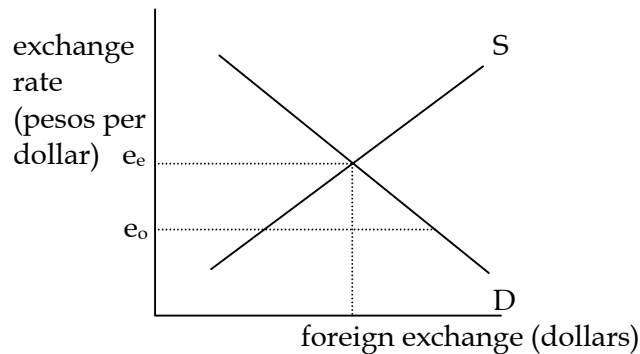
C_w = cost at world prices

- the effective rate of subsidy (ERS) considers the tariff on inputs, the tariff on the final product, and the subsidy when calculating the full rate of protection
- overvalued exchange rates:

the government can fix the exchange rate at e_o , the below the equilibrium exchange rate, e_e ; in this case it is said to be overvalued because less domestic currency is necessary to purchase the foreign currency than at the equilibrium exchange rate (for example, fewer pesos will be needed to buy a dollar at e_o than at e_e in figure 18-3 below)

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page 696, figure 18-3 - overvalued exchange rates:



if the exchange rate is overvalued, the demand for foreign exchange will be greater than the supply of foreign exchange; the demand for foreign exchange will be high because foreign goods will appear to be cheaper because it takes less of the domestic currency to purchase them; the supply for foreign exchange will be comparatively low because domestic goods are relatively expensive to foreigners; thus, an overvalued exchange rate encourages imports and discourages exports

an overvalued exchange rate is not sustainable because there will be a shortage of foreign exchange; the government could ration the foreign exchange available through permits, etc.; alternately, without government rationing the available foreign exchange, a black market (a.k.a. parallel market) could develop

- import substitution strategy (ISI):
 - a country protecting its domestic industry will not want an overvalued exchange rate because it discourages exports; however, under the ISI strategy, many countries ended up with overvalued exchange rates nonetheless; because these countries' policies led to inflation levels that exceeded world inflation, the countries needed to devalue their currency in order for their exports to remain competitive in world markets, but frequently they failed to devalue, so the exchange rates remained overvalued; developing country governments resisted devaluation in part because this would have hurt elite urban consumers who could not afford as many imported consumer goods after devaluation

to achieve a given level of protection of the industries it decides to protect, a government will need higher tariffs if the exchange rate is overvalued than if the exchange rate were at its equilibrium level because imports are cheaper when the exchange rate is overvalued

under ISI, countries did not become more self-reliant; although they did increase production of some manufactured consumer goods, these countries needed to import inputs to production (like steel, oil, machinery, etc.), so they did not become less dependent - instead they shifted away from importing consumer goods to importing producer goods

because some developing countries' exchange rates were overvalued rendering their exports artificially expensive, the foreign currency earned by some developing countries

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from exports was insufficient to pay for imports; these countries borrowed from foreign governments or development banks to help pay for their imports; as a result, ISI led to these countries increasing their debt

- pages 700-705 cover material on ISI that we did not have a chance to cover in class, but that you should study nonetheless:
 - 1) graphs describing the effects of ISI over long periods of time
 - 2) in one case ISI policies successfully expanded the production of an importable good, although at the expense of consumption in the short-run
- outward-looking trade strategy:

economists generally believe that countries that promoted export-oriented industries did better economically than countries that relied on ISI; an outward-looking trade strategy has the benefits of 1) encouraging economies of scale, and 2) requiring domestic firms to produce efficiently so they can compete internationally

under an outward-looking trade strategy, the government tends not to be involved heavily in the economy, although it could offer short-term subsidies
- world trading arrangements:

considers whether developing countries could benefit by trading with each other instead of with developed countries; developing countries can arrange local trade agreements in the form of free-trade areas, customs unions, and common markets; please read about the different types of arrangements such as customs unions, and try to understand the explanation of the pros and cons of local trade groups with respect to “trade creation” and “trade diversion”