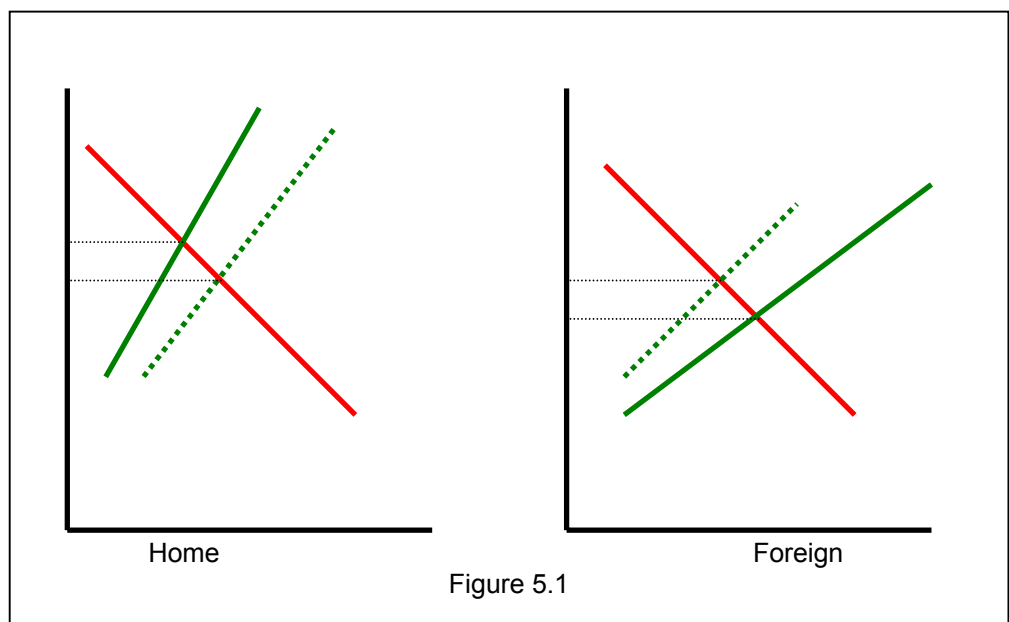


Lecture 5 Instruments of Trade Policy

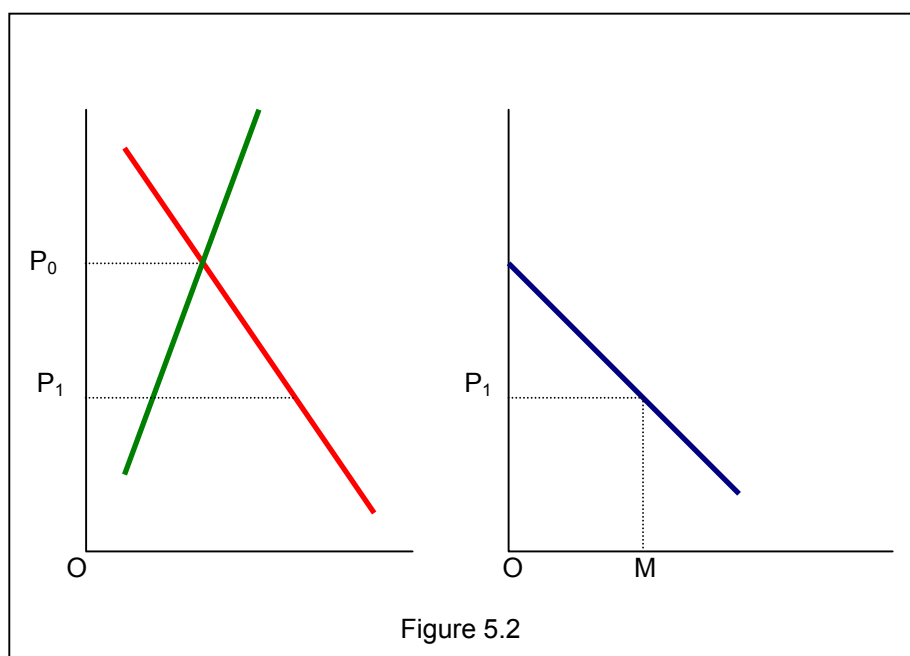
1. Tariffs

There are two types of tariffs: **specific** tariffs are a fixed charge per unit of good imported (\$3 per barrel of oil); **ad valorem** tariffs are a percentage of the imported value (tariff of 10% on steel imports).

In both cases the purpose of the tariff is to raise the cost of the imported good and, thereby, both reduce its demand and raise revenue for the government



In Figure 5.1, pre-trade price of commodity X is higher in H than in F: attracted by the higher price in H, F exports commodity X to H. This causes supply curves to shift in both countries, eliminating price differences.



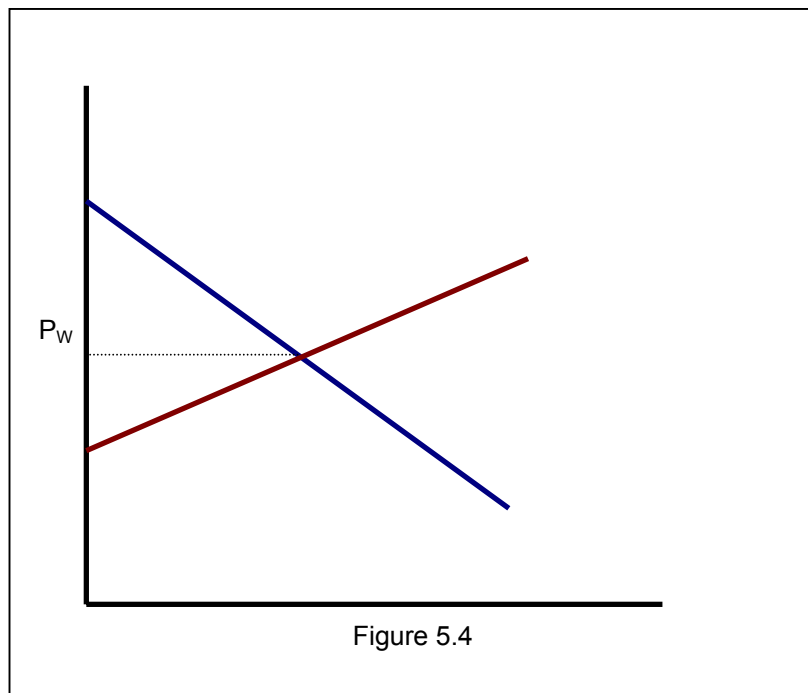
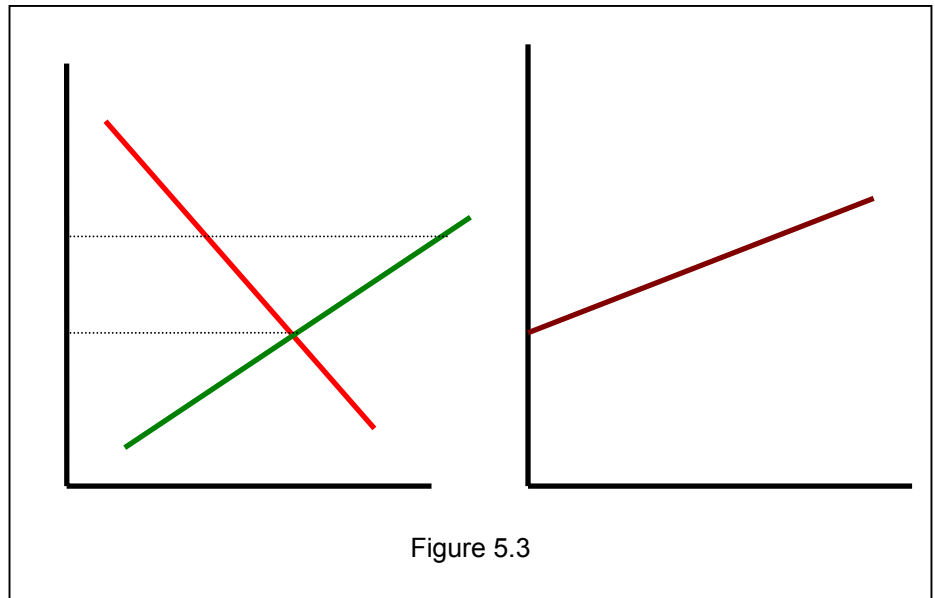
H's **import demand** curve is shown in Figure 5.2 and F's **export supply** curve is shown in Figure 5.3. **Trade equilibrium** occurs when H's imports = F's exports:

$$(\text{Home demand} - \text{Home supply}) = (\text{Foreign supply} - \text{Foreign demand}) \Rightarrow$$

$$(\text{Home demand} + \text{Foreign Demand}) = (\text{Home supply} + \text{Foreign supply}) \Rightarrow$$

$$\text{World demand} = \text{World supply}$$

This is shown in Figure 5.4.

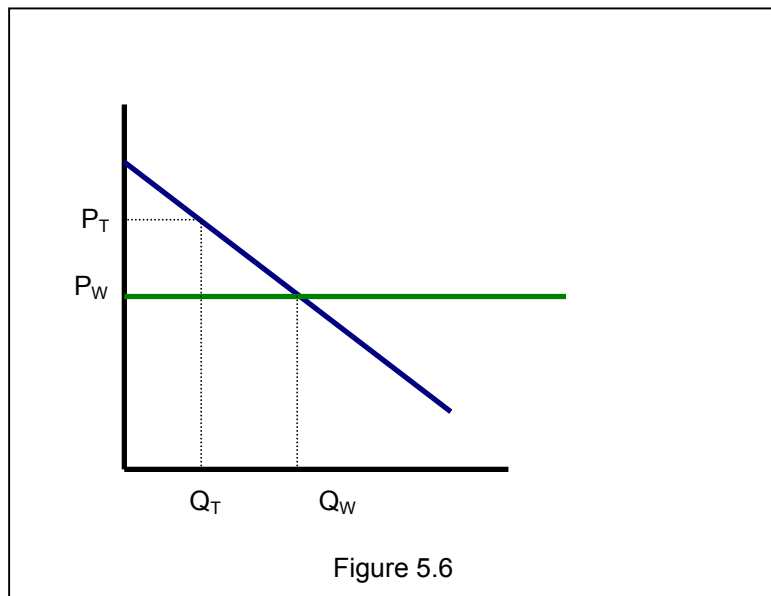
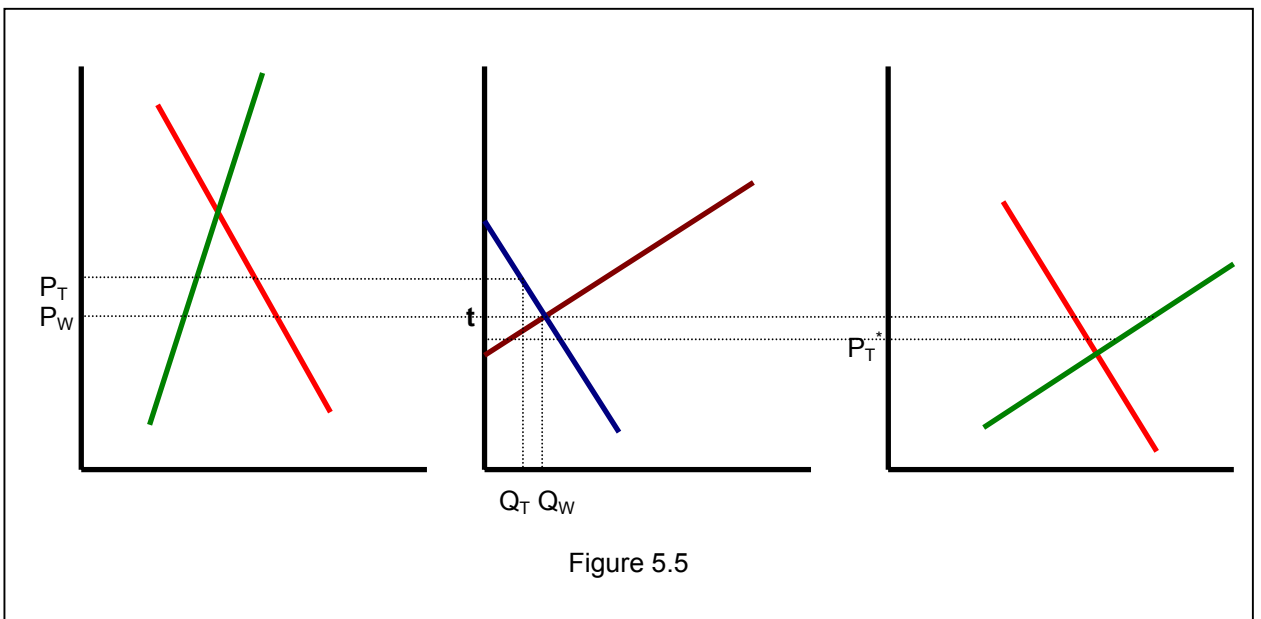


Effects of a Tariff

In Figure 5.5, the world price is P_W . This is the price that would exist in the absence of tariff. Now H imposes a **specific tariff** of $\$t$ per unit of X that is imported. **So it will only be worth exporting X from F to H if: $P - P^* \geq t$** As a consequence of the tariff, price of X in H rises to P_T : domestic producers supply more, domestic consumers demand less, so imports of X fall from Q_W to Q_T .

But this must mean that, in F, exports of X must also fall from Q_W to Q_T . For this, price of X in F falls to P_T^* where: $P_T - P_T^* = t$.

The effects of a tariff fall on *both* the importing and the exporting country: in H price rises from P_W to P_T and in F price falls from P_W to P_T^* . In general, the smaller the country, the more elastic will be the export supply curve and the smaller will be the effect on P_T^* . If the export supply curve is perfectly elastic, domestic price will rise by the full amount of the tariff (Figure 5.6).



The Effective Rate of Protection

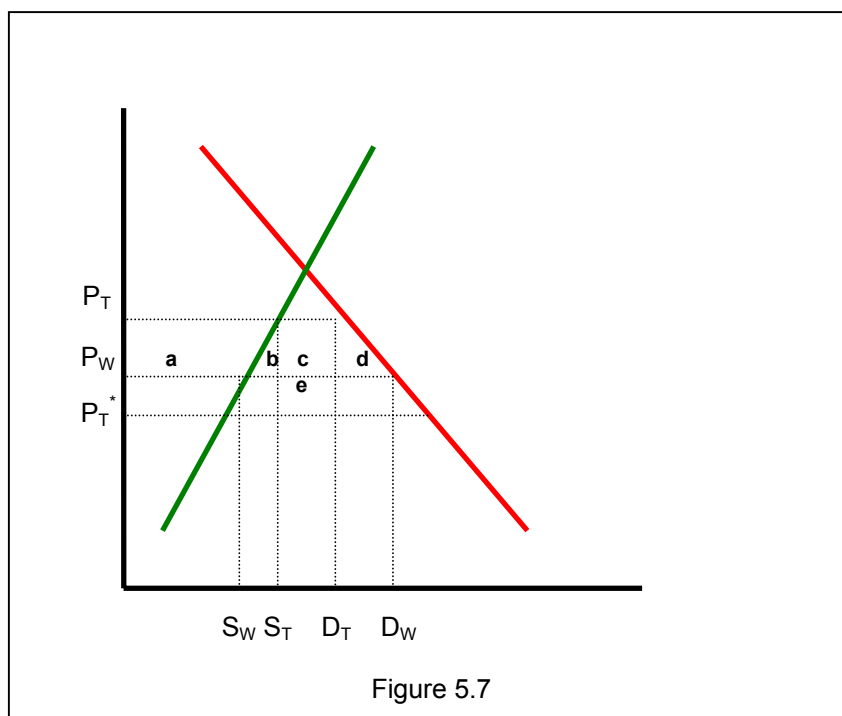
The purpose of a tariff is to give domestic producers protection from foreign competition. But the degree of protection depends on where it is provided. Cars sell for \$8,000 on the world market and the parts for \$6,000. So, \$2,000 is the 'assembly price'.

A country wants to encourage its car assembly industry and it imposes a 25% tariff on imported cars: domestic car makers can now charge \$10,000 instead of \$8,000. Before the tariff, domestic assembly was profitable only if it could be done for \$2,000 or less. Now, it is profitable if it can be done for \$4,000 or less: **an effective rate of protection of 100%**.

Another country wants to encourage its car-component manufacturing industries. So it imposes a tariff of 10% on imported car parts and domestic car-parts manufacturers can charge \$6,600 instead of the pre-tariff \$6,000. But since the price of foreign cars is unchanged at \$8,000, domestic assembly will only be profitable if it can be done for \$1,400 or less. So the tariff provides **negative effective protection of 30%** (600/2000) to the domestic car assembly industry.

Costs and Benefits of a Tariff

The tariff raises the domestic price to P_T but lowers the foreign price to P_T^* . Domestic supply increases to S_T from S_W and domestic demand falls to D_T from D_W .



The **gain** in producers' surplus after the tariff is **a**. The **loss** in consumers' surplus after the tariff is: **a+b+c+d**. The increase in revenue to the government from the tariff is **c+e**. So the net loss from the tariff is: **consumer loss - (producer + government gain) = b+d-e**

The gain (**e**) depends on the country's ability to pass on part of the tariff effect to the exporting country in the form of a "terms-of-trade gain". For a small

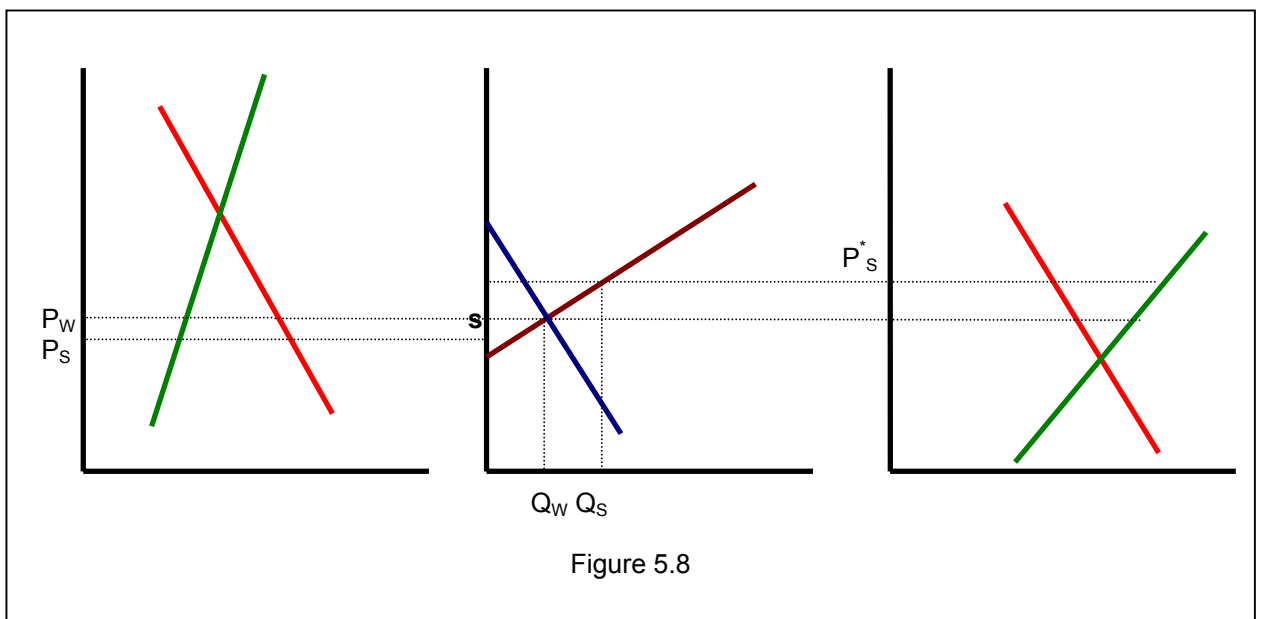
country, $e=0$ and tariffs are unambiguously bad for the imposing country. This is because market prices are distorted by the tariff and this causes efficiency losses: consumers buy “too little” and firms produce “too much”. In Figure 5.7, **b** represents the loss from production distortion and **d** represents the loss from consumption distortion: **b+d** is the total efficiency loss.

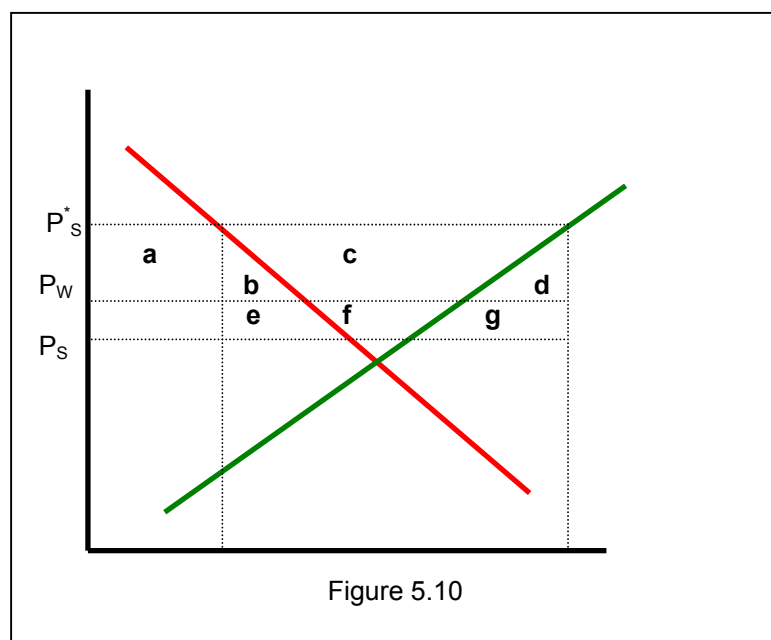
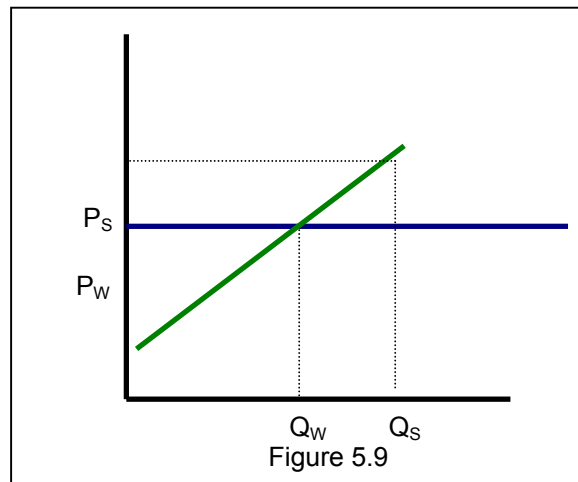
2. Export Subsidies

An export subsidy has exactly the opposite effect to an import tariff. Suppose country F gives a subsidy of \$s on every unit of X exported. **So it will be worth exporting X from F to H, even if H’s price for X is lower than F’s provided that: $P^* - P \leq s$.**

As a consequence of the subsidy, price of X in F rises to P_S : F producers supply more, F consumers demand less, so exports of X rise from Q_W to Q_S .

A subsidy affects *both* the importing and the exporting country: in H (the importing country) price falls from P_W to P_S and in F (the exporting country) price rises from P_W to P_S^* . In general, the smaller the importing country, the more elastic will be the import demand curve and the smaller will be the effect on P. If the import demand curve is perfectly elastic, price in the exporting country will rise by the full amount of the subsidy (Figure 5.9).





In the exporting country (F):

Fall in consumers' surplus as a consequence of subsidy is **a+b**

Gain in producers' surplus as a consequence of subsidy is **a+b+c**

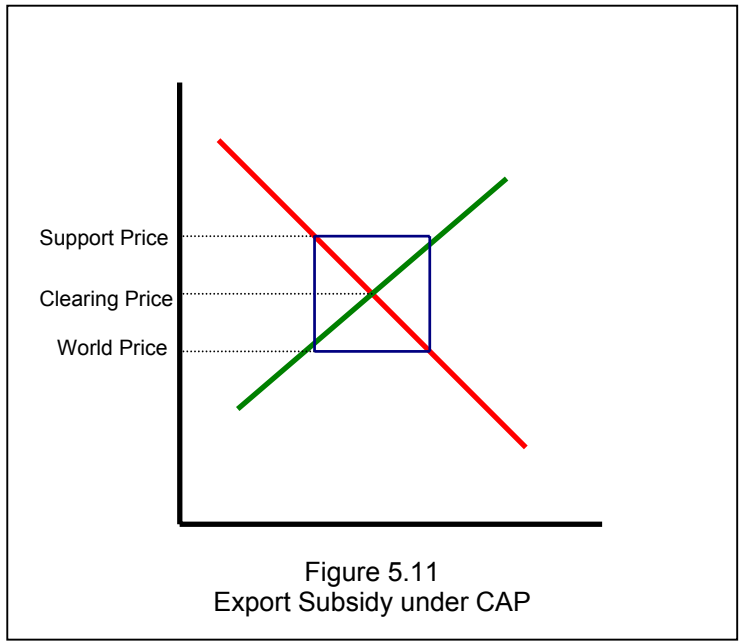
Loss in revenue to government from subsidy payment is **b+e+c+f+d+g**

So **net loss** from subsidy is **b+d+e+f+g**

b and **d** represent the losses from, respectively, "consumption distortion" (consuming "too little") and "production distortion" (producing "too much").

The area **e+f+g** represents the losses from "terms-of-trade deterioration" – the price of exports has fallen in the importing country. But under the small

importing country assumption (Figure 9), $e+f+g=0$ and the only losses are the efficiency losses: $b+d$.



3. Import Quotas

An **import quota** is a direct restriction on the quantity imported, usually enforced by issuing *import licences* to selected importers. In Figure 5.12, the quota is AB and the implied price is P_Q .

Gain in producers' surplus is **a**. Gain to holders of import licences is **c**. Loss in consumers' surplus is **a+b+c+d**. So net loss is **b+d**.

