Instruments of trade policy - tariffs

- **Tariffs** - source of government income
  - aimed to protect domestic sectors from competition
    - Corn law
    - 19th century tariff on manufactured goods, Germany
  - **Specific tariff** - levied as a fixed charge for each unit of goods imported
  - **Ad valorem tariff** - taxes levied as a fraction of the value of IM goods
- **Tariffs** nowadays substituted by **nontariff barriers**, such as **import quotas** and **export restraints, export subsidies, voluntary exports restraints, local content requirements, import deposits**
- **Tariff rate quota –** oilseeds, tuna imports
- **Tariff escalation**
- **Bound tariff**

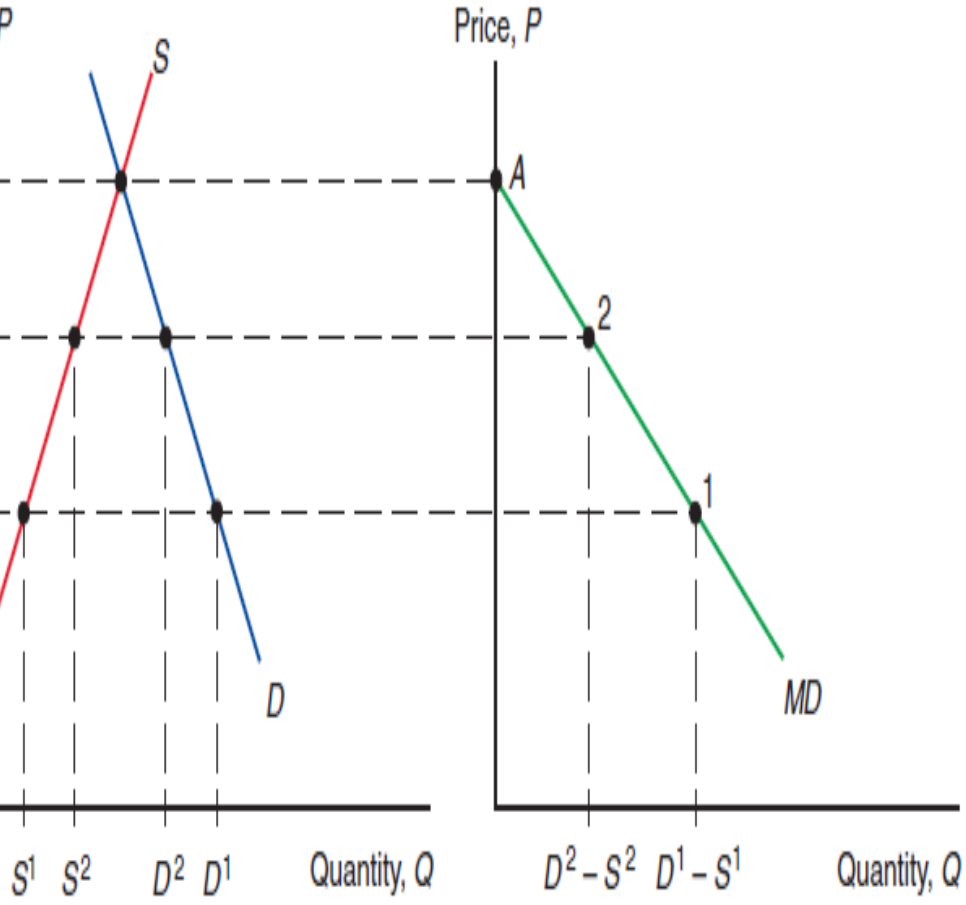
Import demand and export supply

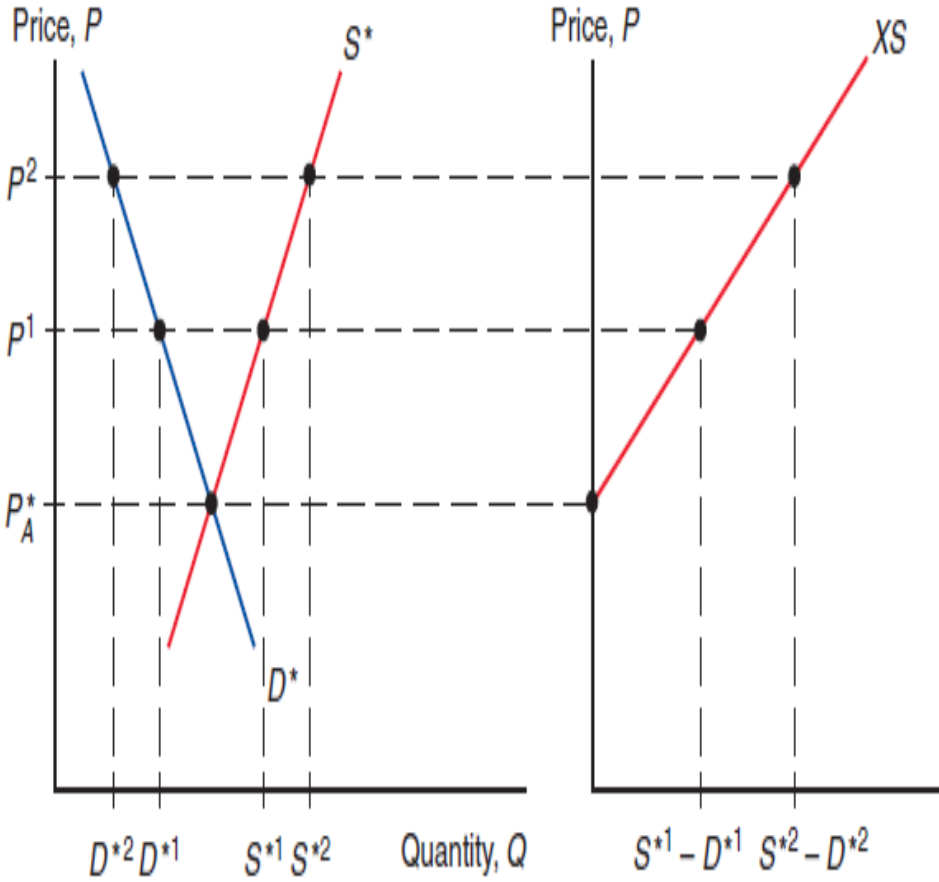
Trade continues until the difference in P has been eliminated.

MD_H is the excess of what H consumers demand over H producers supply.

MD_H is downward sloping because as P increases, Q of IM demanded declines.

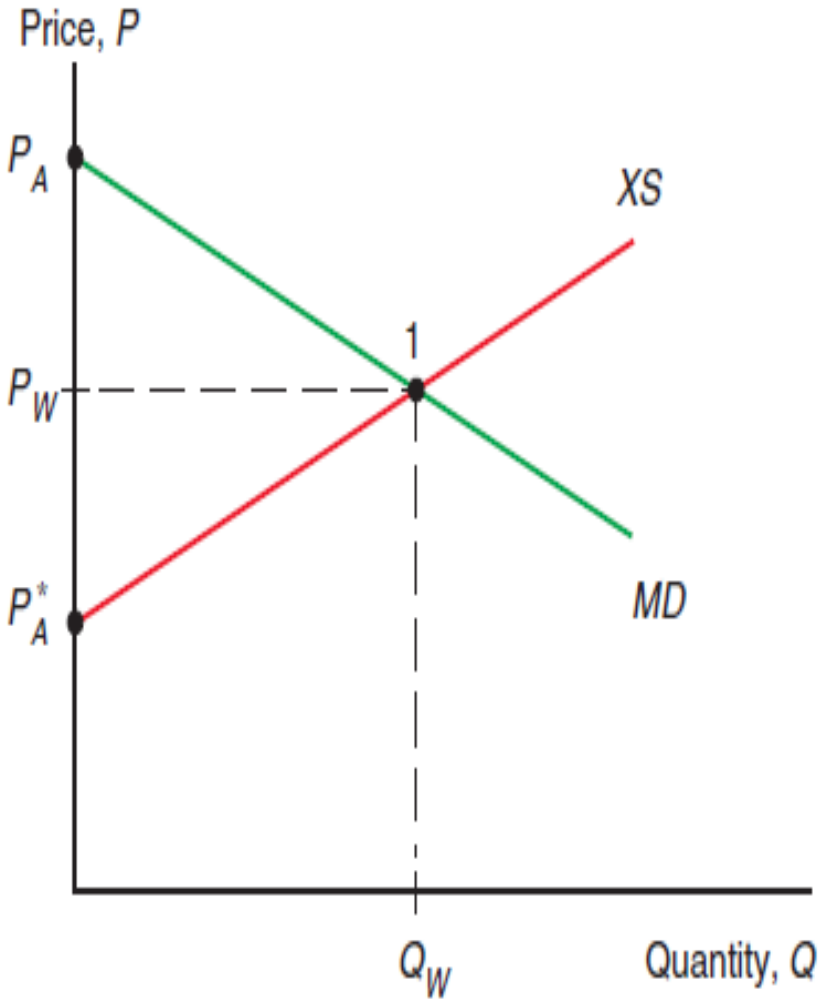
As the S of goods available for X rises as P rises, the XS_F curve is upward sloping.



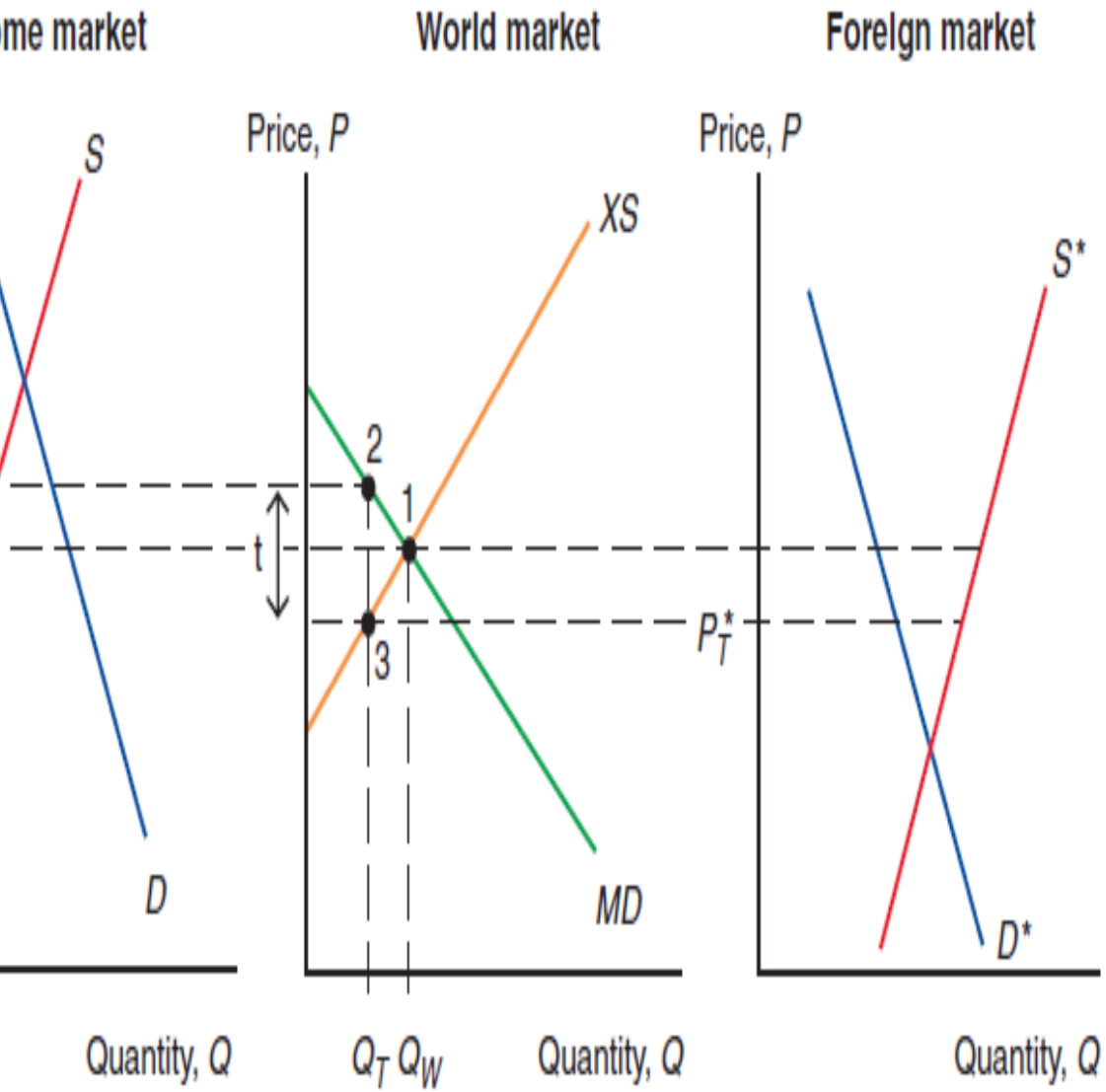


World equilibrium

- H demand-H supply = F supply-F demand
- A tariff = a cost of transport... If H imposes a tax of $2 on every bushel of wheat imported, shippers will be unwilling to move the wheat unless the P difference between the two markets is at least $2.



Effects of a Tariff



The T raises the P_H and lowers the P_F to

$P^*_T = P_T - t.$

The increase in the P_H is less than the amount of the T, because part of the T is reflected in a decline in F export P.

"small country" case -T raises the P of imported good to $P_W + t$.

Effective rate of protection

- T may have very different effects on different stages of production

  - P_W is \$8,000, parts sell for \$6,000. The country places a 25% T on imported cars. With the T, H assembly takes place if it could be done for \$4,000 (instead of \$2,000 before T) That is, the 25% T provides assemblers with an **effective rate of protection** of 100%.

  - To encourage H *parts industry*, the country imposes a 10% T on imported parts. Local assembly takes place only if it can be done for \$1,400 . The T on parts provides negative **effective protection** to car assembly at the rate of -30%.

Effective rate of protection II

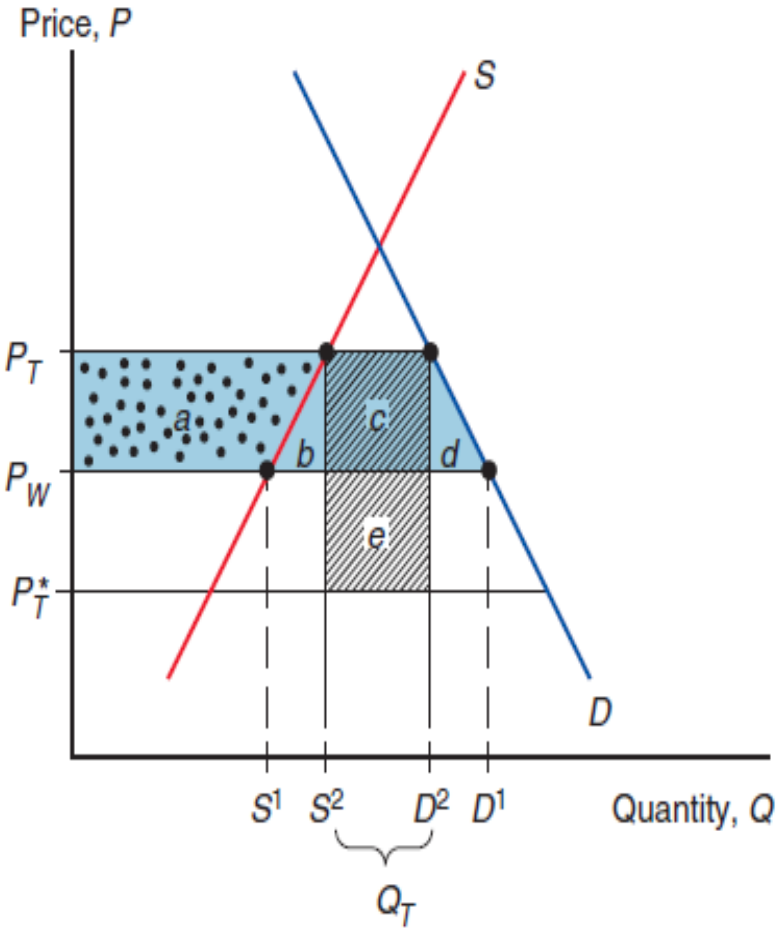
$g = (t - a^*.t^*)/(1 - a^*)$

t = T on final commodity

t* = T on the imported input

a* = ratio of cost of imported input to the final commodity in absence of tariffs

Costs and Benefits of a Tariff – „big“ country



= consumer loss ($a + b + c + d$)

= producer gain (a)

= government revenue gain ($c + e$)

T raises the P in the IM country and lowers it in the EX country.

b+d - **efficiency loss**

e - **terms of trade gain** that arise because T lowers EX P_F.

b - **production distortion loss**

d - **consumption distortion loss**

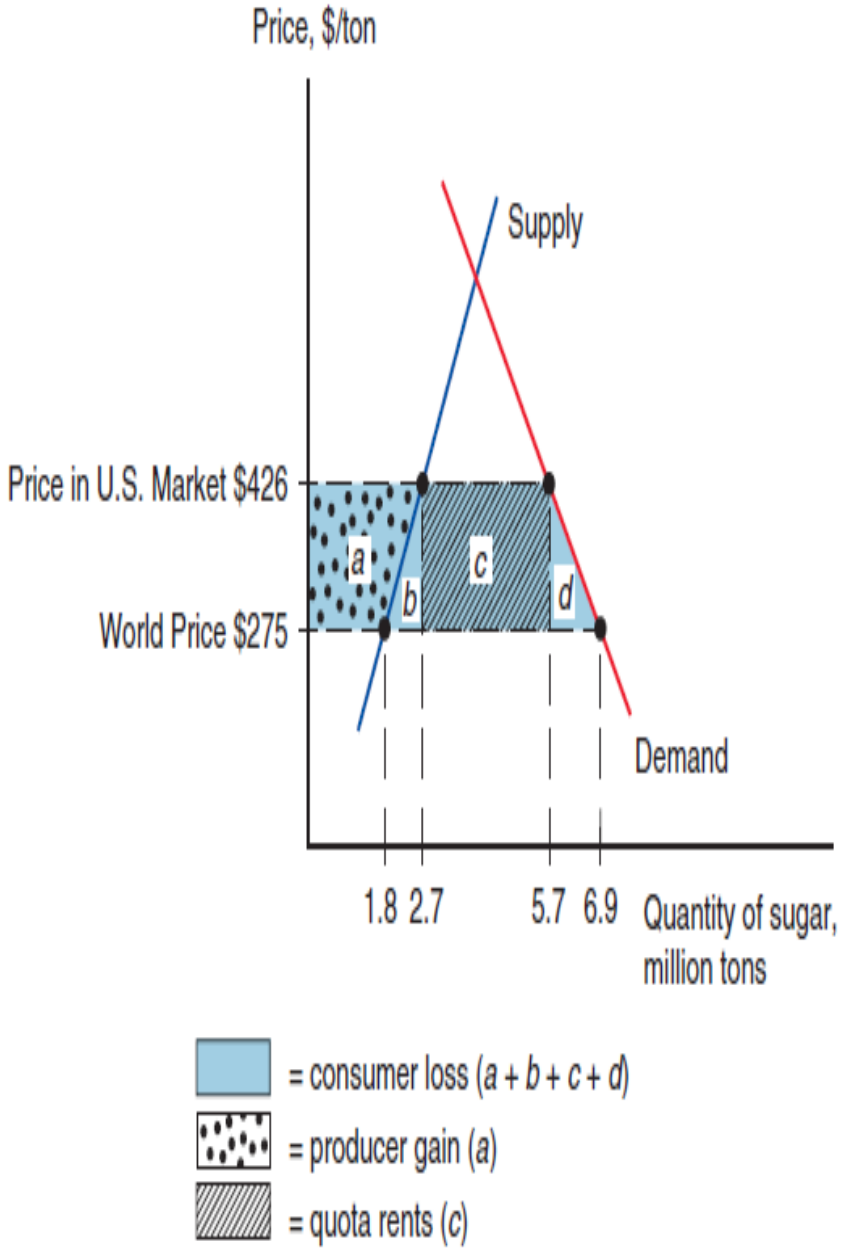
The gain depends on the ability of the T-imposing country to drive down EX P_F. In the „small country“ case T reduces welfare.

Indirect costs of Tariff

- Reciprocal tariffs - difficult to remove
- Large tariffs can induce producers to behave in creative—though ultimately wasteful—ways in order to avoid them
  - Ford – commercial trucks vs passenger vehicles

Import quotas

- IQ - direct restriction on the quantity imported, usually enforced by issuing licenses.
- IQ raise P_H by the same amount as a T that limits IM to the same level, but rent is collected by whoever receives the IM licence.
- US - sugar, EU CAP…
- Net loss (b+c+d) - consumers -little effective opposition x producers are very efectively mobilized.
- IQ costs may be magnified by **rent seeking** (eg. Indian companies overinvested)



Problems and questions

1. Home's demand curve for wheat is D = 100 - 20P. Its supply curve is S = 20 + 20P.

a) Derive and graph Home's import demand schedule.

b) What would the price of wheat be in the absence of trade?

2. Now add Foreign, which has a demand curve D* = 80 - 20P and a supply curve S* = 40 + 20P.

a) Derive and graph Foreign's export supply curve and find the price of wheat that would prevail in Foreign in the absence of trade.

b) Now allow Foreign and Home to trade with each other, at zero transportation cost. Find and graph the equilibrium under free trade. What is the world price? What is the volume of trade?

3. Home imposes a specific tariff of 0.5 on wheat imports.

a) Determine and graph the effects of the tariff on the following:

(1) the price of wheat in each country;

(2) the quantity of wheat supplied and demanded in each country;

(3) the volume of trade.

b. Determine the effect of the tariff on the welfare of each of the following groups:

(1) Home import-competing producers;

(2) Home consumers;

(3) the Home government.

c. Show graphically and calculate the terms of trade gain, the efficiency loss, and the total effect on welfare of the tariff.

Problem continued

4) Suppose that Foreign had been a much larger country, with domestic demand: D*=800-200P and supply S*=400+200P.

(Notice that this implies that Pf in absence of IT would be the same as in problem 2).

Recalculate the free trade equilibrium and the effects of a 0,5 specific T by Home.

Relate the difference in results to the discussion of the small country case.

Problems and questions

The nation of Acirema is “small” and unable to affect world prices. It imports peanuts at the price of $10 per bag. The demand curve is D = 400 - 10P.

The supply curve is S = 50 + 5P.

Determine the zero trade and free trade equilibrium. Then calculate and graph the following effects of an import quota that limits imports to 50 bags.

a. The increase in the domestic price.

b. The quota rents.

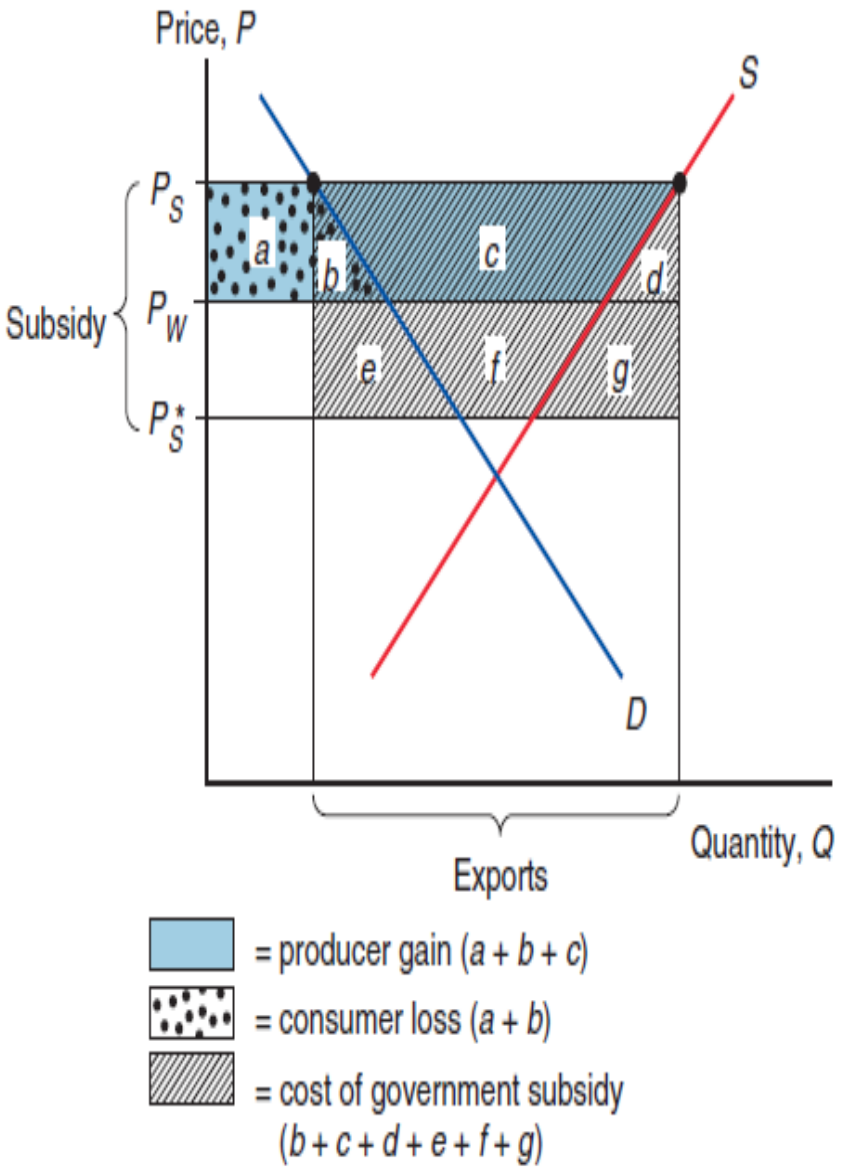
c. The consumption distortion loss.

d. The production distortion loss.

Problems and questions

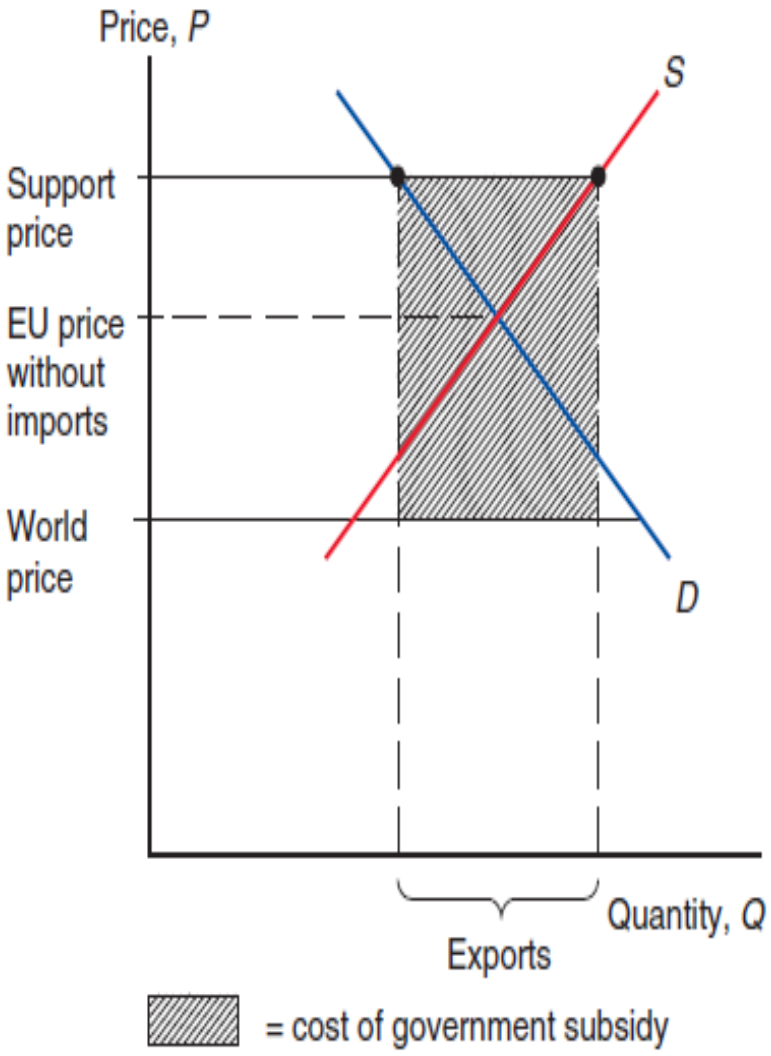
- The argument of „terms of trade change“ results ……. (in favor/against) free trade. Tariffs, in fact, ……. (worsen/improve) terms of trade.
- A tariff which results in complete elimination of trade is called:…….
- A tariff will …… (increase/decrease) the CS and ……. producers´ surplus
- In case of IM quota, the H government receives ……. (positive/negative/zero) rent.

Export subsidy



- EX subsidy = payment to a firm or individual that ships a good abroad.
  - specific
  - ad valorem.
- P in the EX country rises from P_W to P_S, but because the P in the IM country falls from P_W to P_S*, the P increase is less than the subsidy.
- EX subsidy worsens the terms of trade, terms of trade loss is e+f+g
- In EX country, consumers are hurt, producers gain, and the G must expend money on the subsidy. Net welfare loss is b+d+e+f+g.

Europe's Common Agricultural Policy



- CAP - effort to guarantee high P to EU farmers , initially backed by tariffs that offset the difference between EU and world agricultural prices.
- Support prices have turned out to be so high that EU—was producing more than consumers were willing to buy. To avoid unlimited growth in stockpiles, the EU turned to a policy of subsidizing EX to dispose of surplus production.
- The subsidized exports themselves tend to depress the P_W, increasing the required subsidy.
- Recent effort -reduce the distortion of incentives caused by P support, direct payments that aren't tied to how much they produce.

Problem

5) Use equations of problem 2 (demand curve D* = 80 - 20P and a supply curve S* = 40 + 20P).

Starting from free trade, assume that Foreign offers exporters a subsidy ad valorem of 50%. Calculate the effects on the price in each country and on welfare in borh countries.

Voluntary Export Restraints = Voluntary Restraint Agreement (VRA)

- is a quota on trade imposed from the EX country's side instead of the importer's.
- generally imposed at the request of the importer and are agreed to by the exporter to forestall other trade restrictions.
  - limitation on auto exports to the US enforced by Jap. after 1981.
- VRA impact on welfare is exactly like the IQ, always more costly that T. Total costs related to VRA consist primarily in transfers to EX rather than efficiency losses.

Local content requirements

- A regulation that requires some specified fraction of a final good to be produced domestically.
- May be specified in physical units or in value terms
- Does not place a strict limit on imports. Instead, it allows firms to import more, provided that they also buy more domestically
- Does not produce either government revenue or quota rents. Instead, the difference between the prices of imports and domestic goods in effect gets averaged in the final price and is passed on to consumers.
- An interesting innovation in LCR has been to allow firms to satisfy their local content requirement by exporting instead of using parts domestically.
- The buy American Act (1933), the Buy Czech movement

Other trade policy instruments

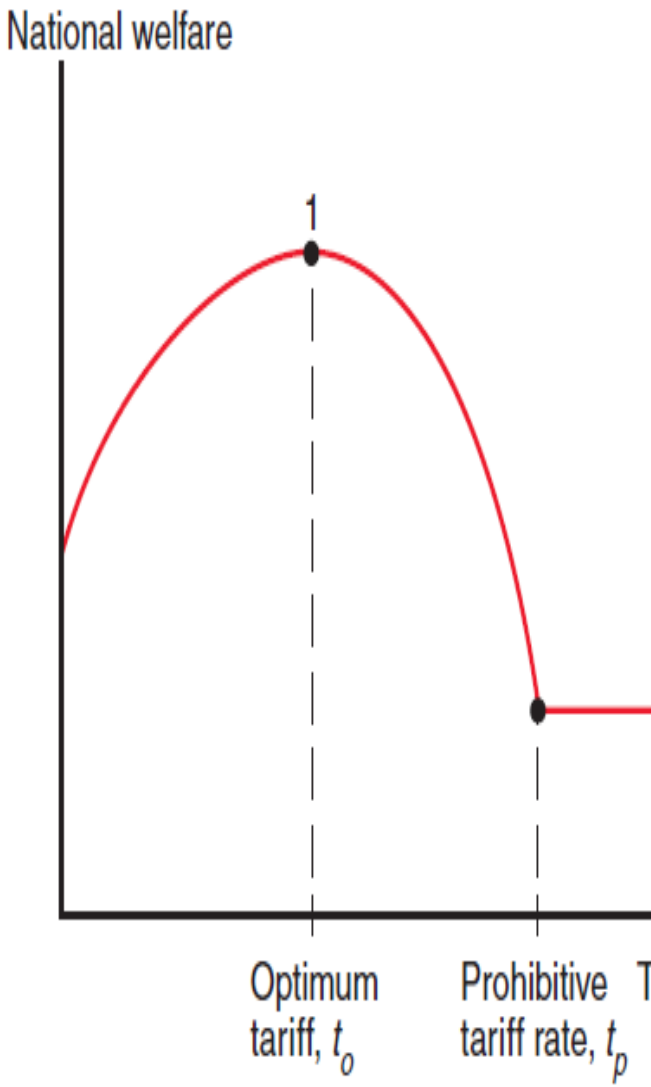
- **Export credit subsidies**: like an EX subsidy except that it takes the form of a subsidized loan to the buyer (Export-Import Bank, insurance of EX –EGAP)
- **National procurement**: purchases by the G or strongly regulated firms can be directed toward domestically produced goods (e.g. European telecommunication industry).
- **Red-tape barriers:** G restrict IM without doing so formally (health regulations, safety and customs procedures in order to place substantial obstacles in the way of trade).
    - French decree in 1982 that all Japanese videocassette recorders had to pass through the tiny customs house at Poitiers—effectively limiting the actual IM
    - refineries US x Venezuela

Cases for and against IT

- Trade policy is often not based on cost benefit analysis. Political forces often motivate trade policy in practice.
- Economists advocate free trade for the following reasons:
    - **Efficiency**
    - **Economices of scale** (Argentina automobile industry – need to deter excessive entry)
    - **Learning and innovation**
    - More **productive firms** engage in export
    - Even if, on purely economic grounds, selective set of T and EX subsidies could increase national welfare, governments would probably be captured by **interest groups** and redistribude income to politically influential sectors.

Arguments against free trade

- The terms of trade argument
  - Large country is able to affect P_W, for sufficiently small T, the terms of trade benefits outweigh the costs of T (b+d). As T growths, costs grow more rapidly than benefits – **national welfare curve**.
  - Under **optimum T** the NW is maximized
  - For export sectors the ToT argument would dictate a negative subsidy (tax), because EX subsidy worsend ToT and reduces NW. (Saudi Arabia tax on oil)
  - Little practical importance for small countries
  - This policy would be done at other countries expense
- Domestic market failure argument

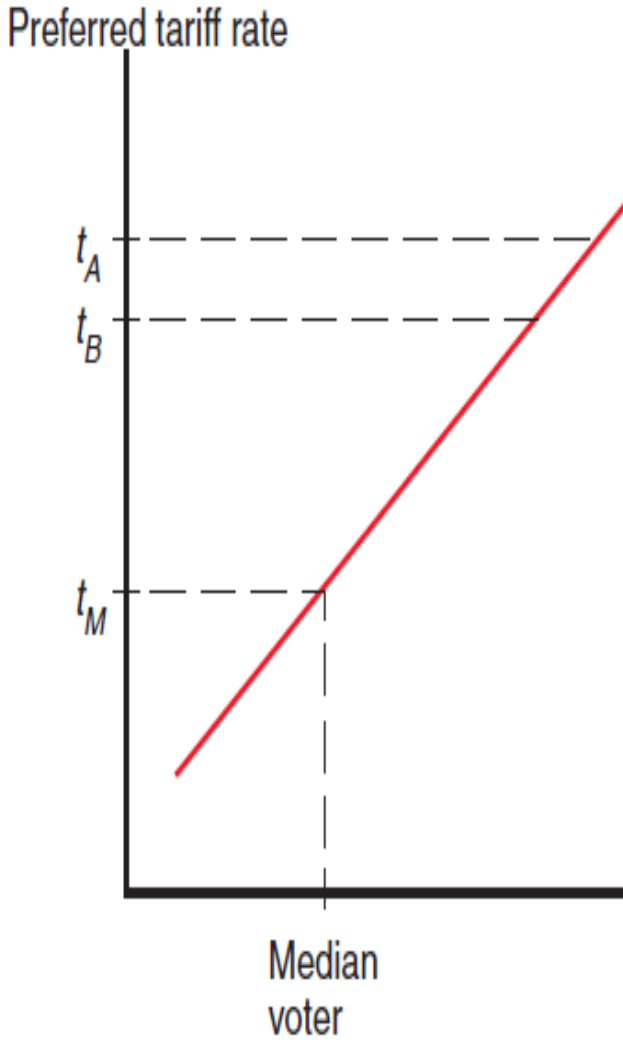


Arguments against free trade, cont.

- **Domestic market failure argument**–PS not properly measures benefits of product.
    - L used in a sector would otherwise be unemployed
    - defects in the K or L markets that prevent resources from being transferred
    - technological spillovers (**social benefit**)
- DMF argument is a particular case of **theory of the second best**
    - E.g. subsidizing labor-intensive industries is the second best solution if L market can not be fixed, for some reason, by making wages more flexible.
- Any proposed trade policy should always be compared with a purely domestic policy aimed at correcting the same problem,
    - A political problem arises with domestic direct policies, as their costs are more visible (even if lower) than T or IQ costs.

Political competition and trade policy

- Desires of individuals get reflected in the objectives of G.
- Maximize political success x national welfare.
- Political competition drives both parties to propose T close to the T preferred by a **median voter**.
- Problem of **collective action**
  - can be overcome when a group is small and/or well organized. Politicians may be willing to **trade off** some reduction in the welfare of voters in return for a larger campaign fund.
- Case study: Sugar and Diary production



Who gets protected?

- Developing countries traditionally protect a wide range of manufacturing (import substituting industrialization).
- In advanced economies much protectionism is concentrated in:
    - Agriculture: farmers are not many but well organized and politically powerful
        - Japan - rice
        - EU, US subsidies
    - Clothing: low-wage nations have a strong CA, traditionally a well organized sector

Trade **creation** and trade **diversion**– preferential trading agreements

- Preferential trade agreements: T that nationas apply to eachother are lower than the rates on the same goods coming from other countries. Legal only if the outcome is 0 T (**free trade area** or **customs union)**
- FTA (NAFTA) – countries implement their own barriers against non members
    - Trade distortion – goods are channeled in via the lowest T country and distributed from there in FTA
- Customs Union – common external T
    - Trade diversion – country is importing from less efficient producer

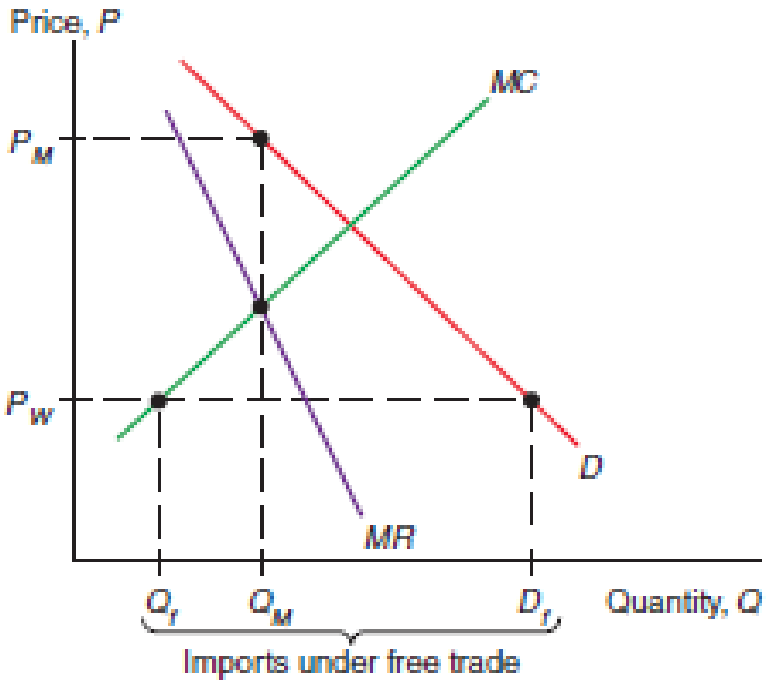
Trade distortion – welfare analysis

- T reduction should raise economic efficiency. Yes, but only if trade is **created**, not **diverted.**
    - French wheat imports to UK replaces trade with countries outside custom union (US) – trade diversion
- Mercosur-new trade among members came at the expense of trade with the rest of the world. (Brazil inefficient auto industry displaced auto imports in Argentina)

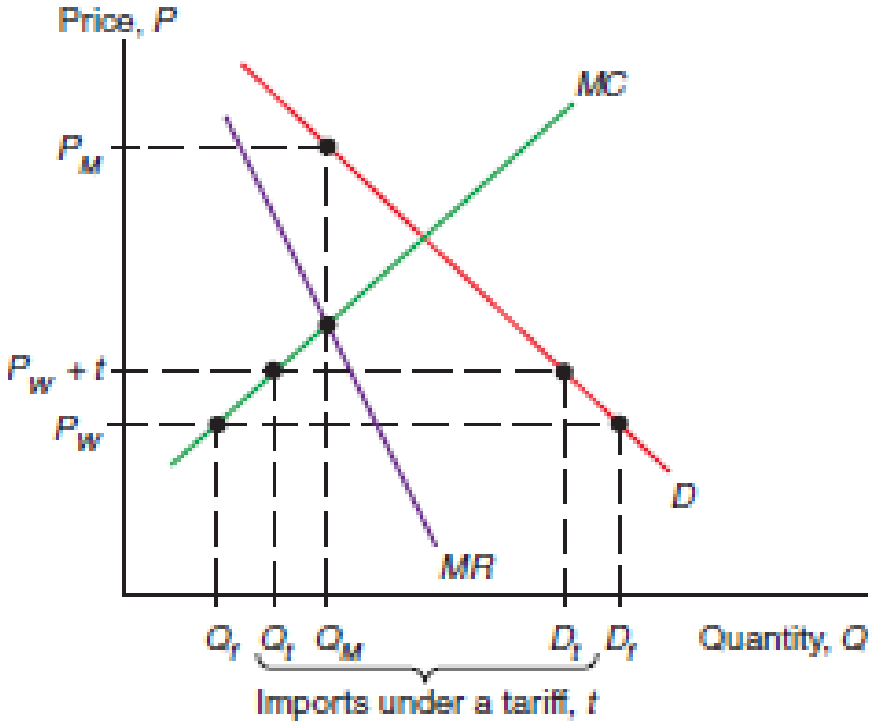
T and IQ in the presence of Monopoly

IT limits monopoly power/impediments to trade increase monopoly power

Under IM competition the monopoly behaves like a perfectly competitive industry.



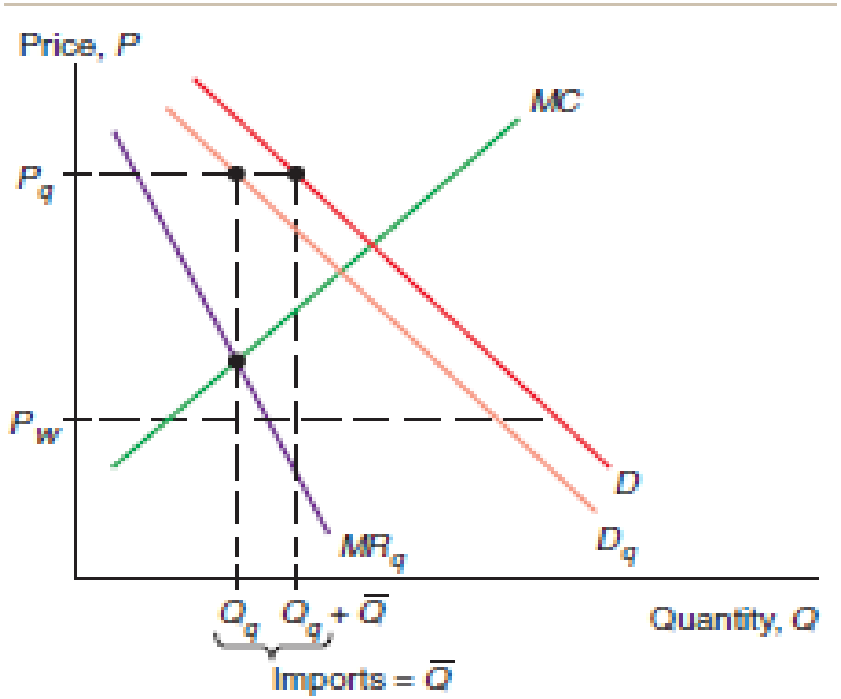
Monopolist protected by a T will charge Pw+t



Monopolist protected by IQ

Monopolist is free to raise P – will not lose all its sales

Licence yeald = Pq-Pw



Comparing T and IQ leading to the same level of IM.

IQ leads to higher domestic P and lower Q.