trade policy instruments

- There are **several** policy instruments.

- Most important instruments of trade policy include tariff and nontariff barriers such as

- *specific tariffs:* taxes levied as a fixed charge for each unit of a good imported;

- *ad valorem tariffs:* levied as a fraction of the value of the imported good;

- *export subsidies*, which are payments given to a firm or industry that ships a good abroad,

- *import quotas*, which are direct restrictions on the quantity of some good that may be imported,

- *voluntary export restraints*, which are quotas imposed by the exporting country on exports - instead of the importing country,

trade policy instruments

- ***local content requirements,*** which are regulations that require that some specified fraction of a good is produced domestically.

- ***Embargos,*** commercial and financial penalties imposed by a country or countries against another country, or group of countries.

- ***Currency devaluations*** that make imports more expensive to domestic consumers and exports cheaper to foreigners.

Instruments of trade policy: tariffs

- Partial equilibrium analysis focusing on one market rather than general equilibrium approach
- *tariffs*

- supply and demand of a specific product:
- **D-S>0**: excess demand: demand for imports (DM), under free international trade.
- **D-S<0**: excess supply : supply of exports   (XM)
- ***Effects of a tariff:***
- The domestic price rises
- **Production** increases
- **Consumptions** decreases
- **Imports** are reduced
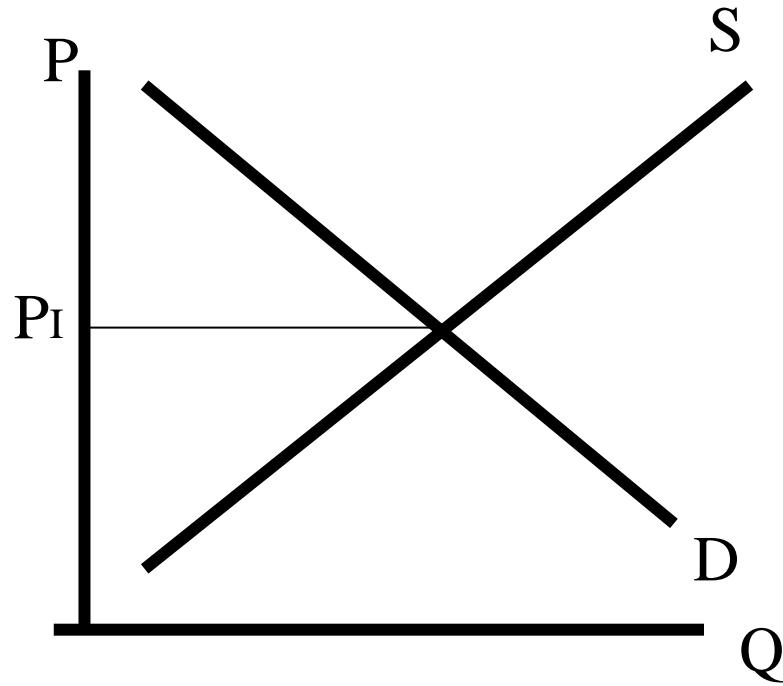- **International price decreases** if the country **is "large".**

Assumption: closed economies
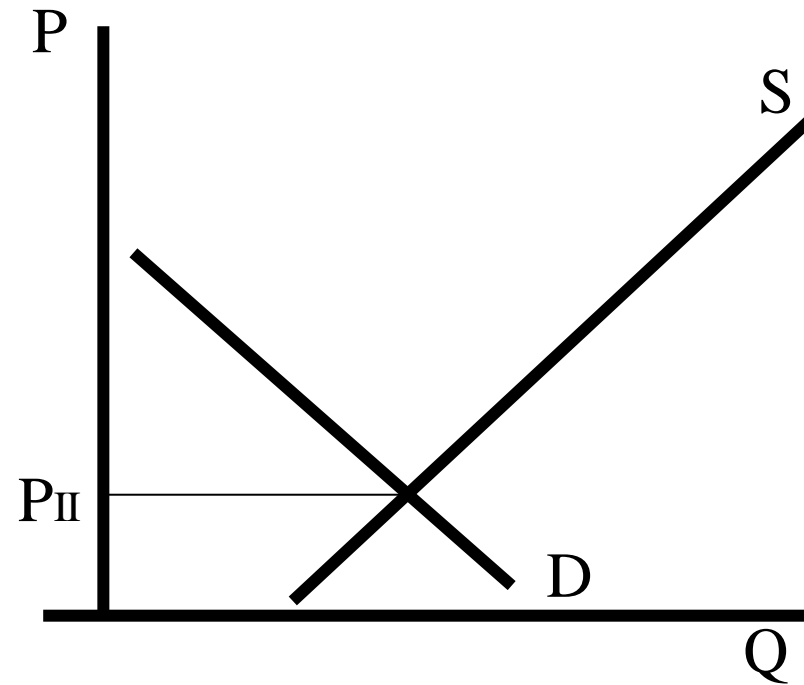market of a specific product
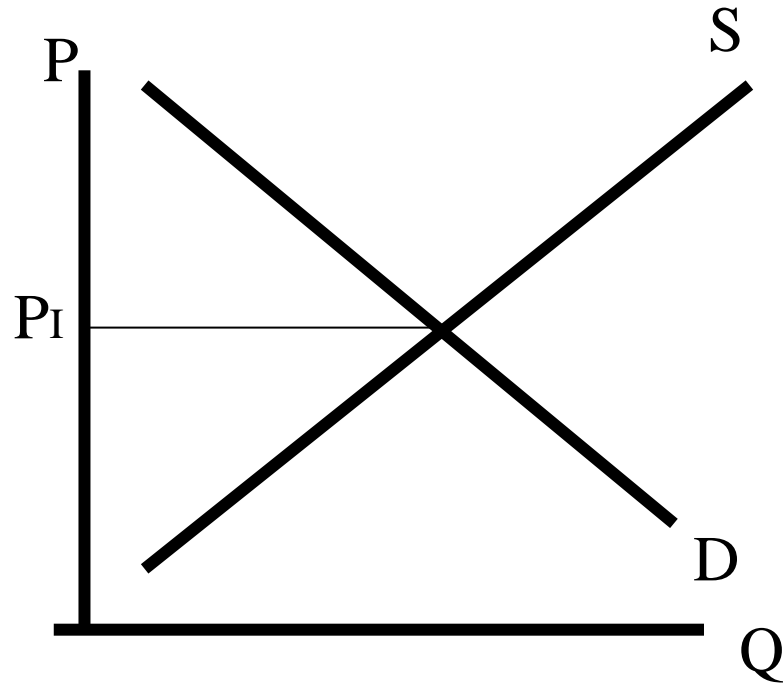
country I

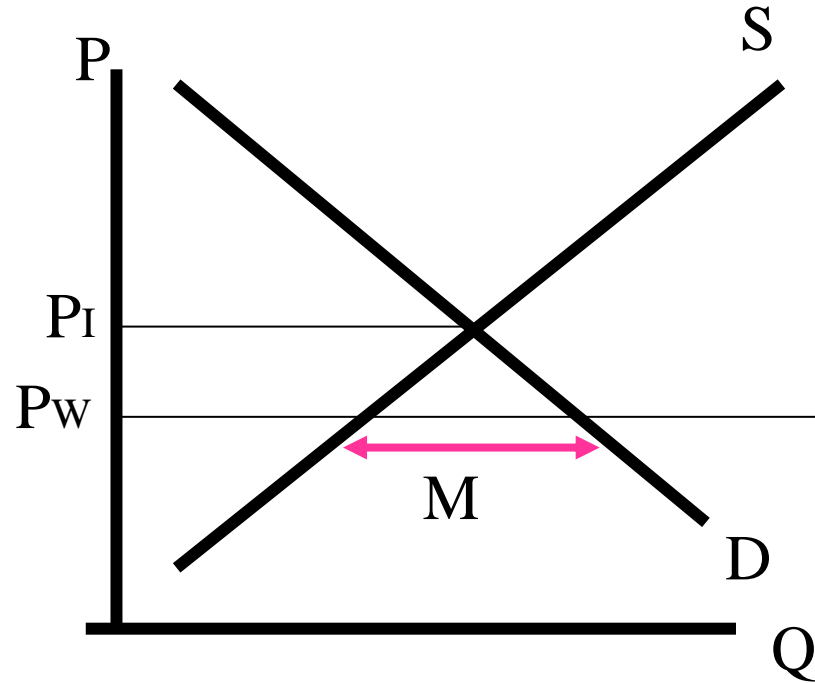Assumption: closed economies
market of a specific product
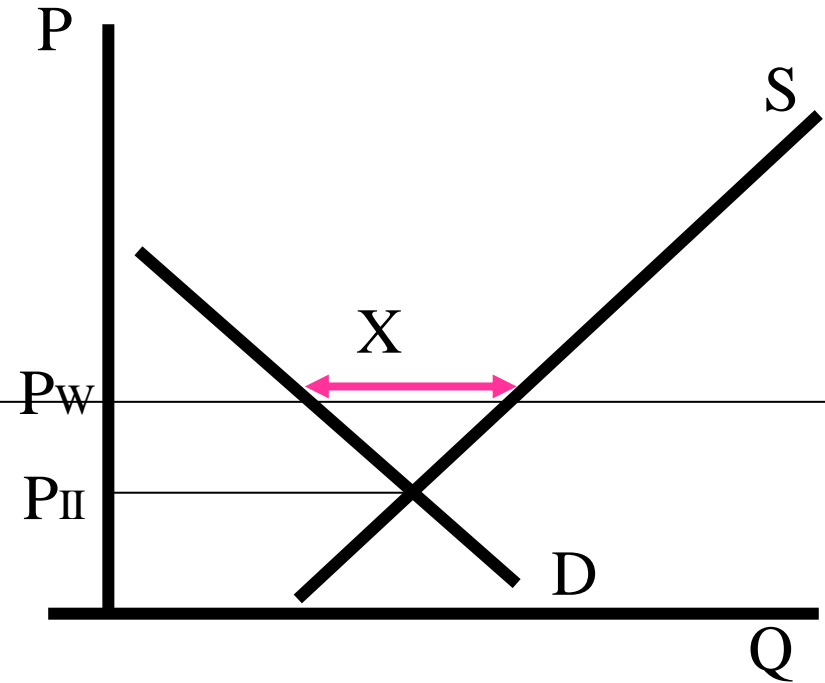
country I

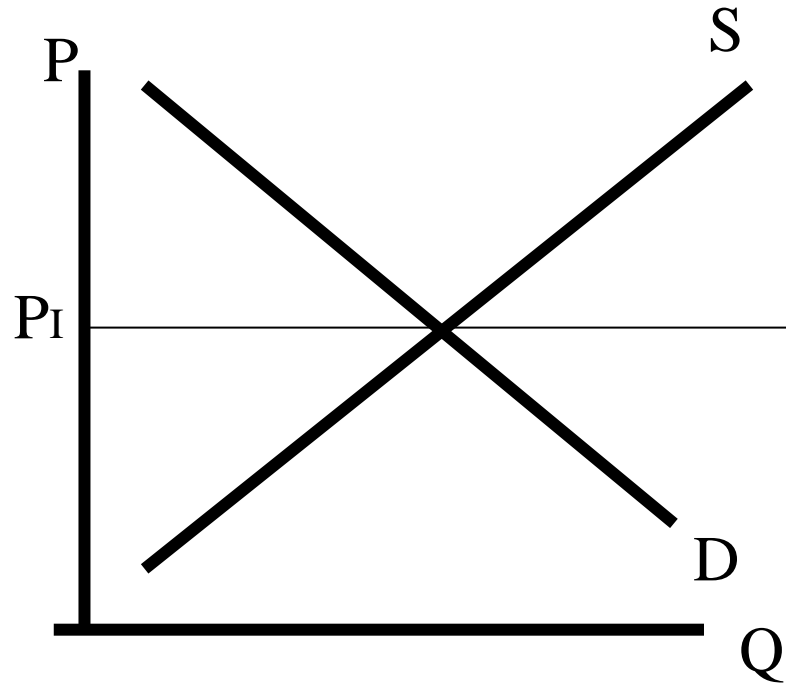**Country II**
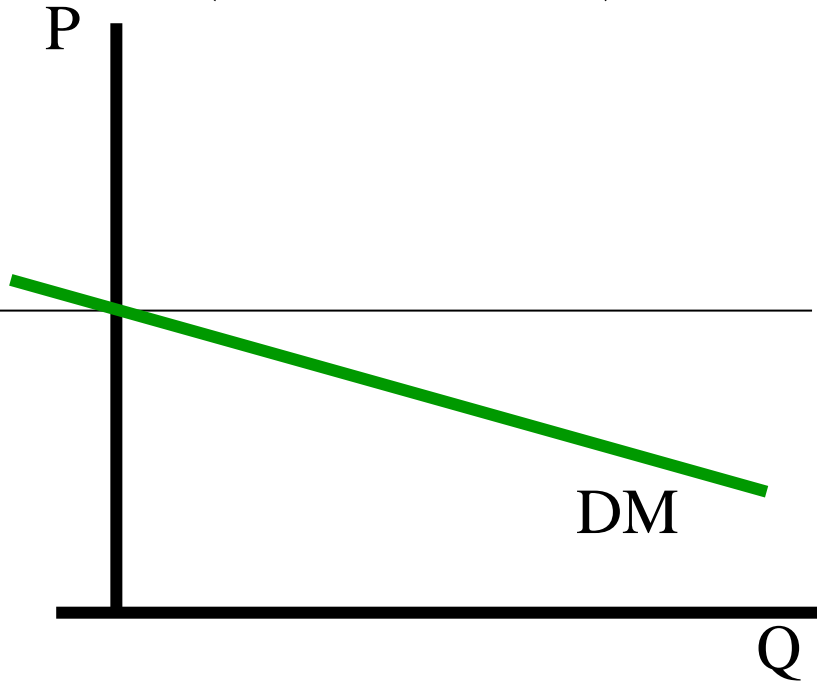
Under free trade: X=M
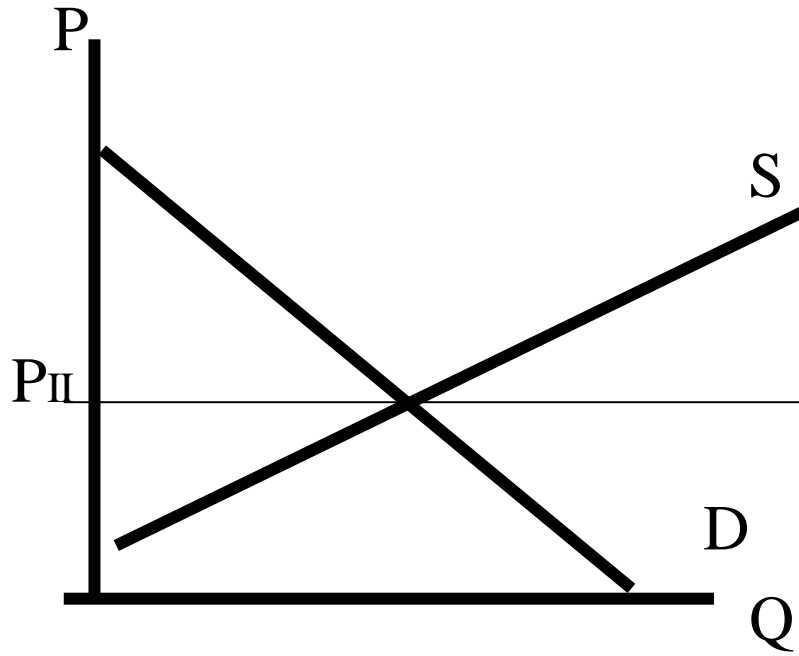
International price: Pw

Country I

Country II

Country I

Demand for imports of good Q (excess demand)

P

S

P_I

D

Q

P

DM

Q

Country II
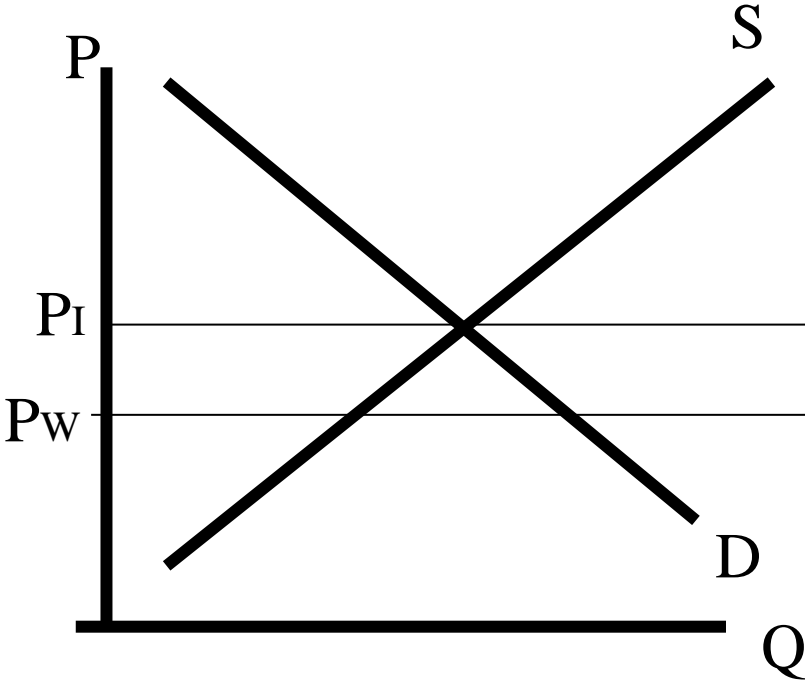
Supply of exports of good Q
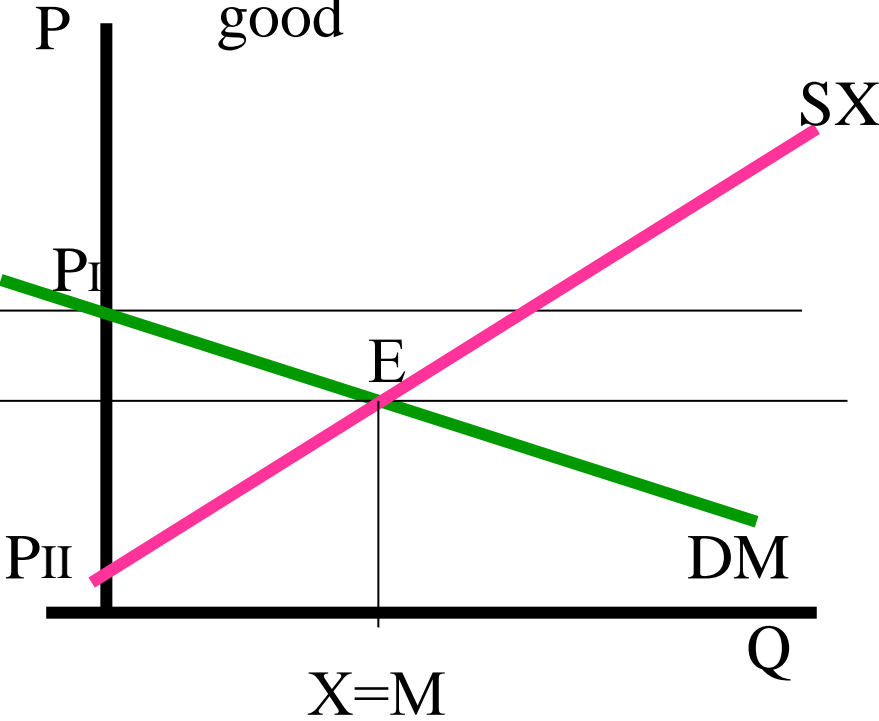
P

S

P_{II}

D

Q

P

SX

P_{II}

Q

9
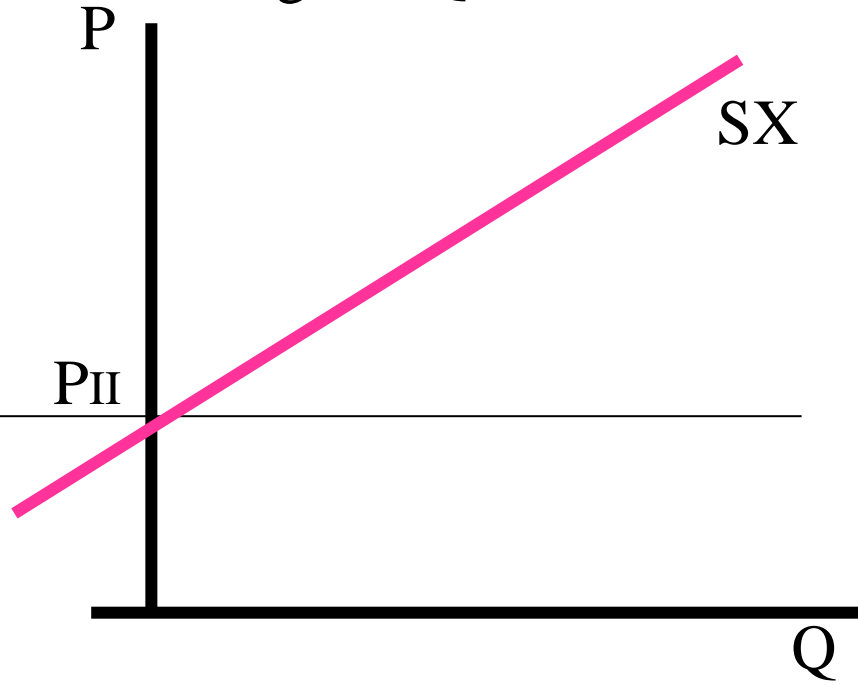
Suppose Pw is the price of the good under free trade

Country I

demand for imports
demand for exports of
good

With free trade country I imports good Q (and country II exports it)

Country I
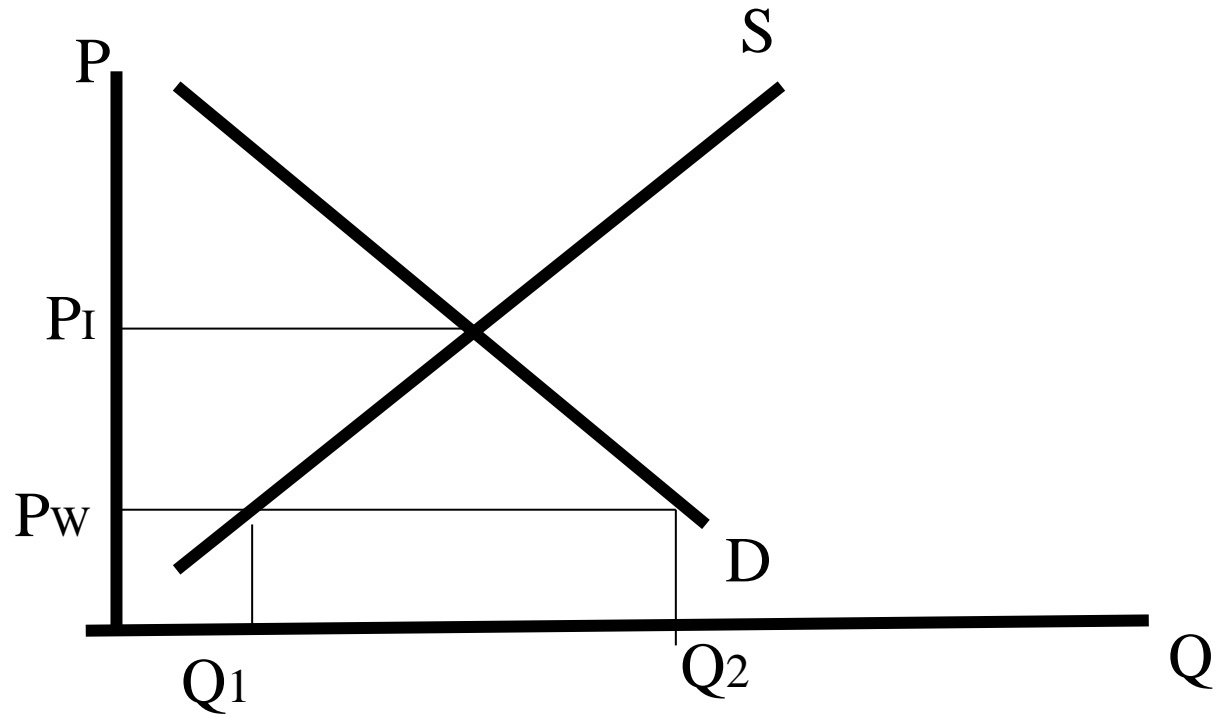
Suppose a specific tariff, δ, is imposed on imports of country I
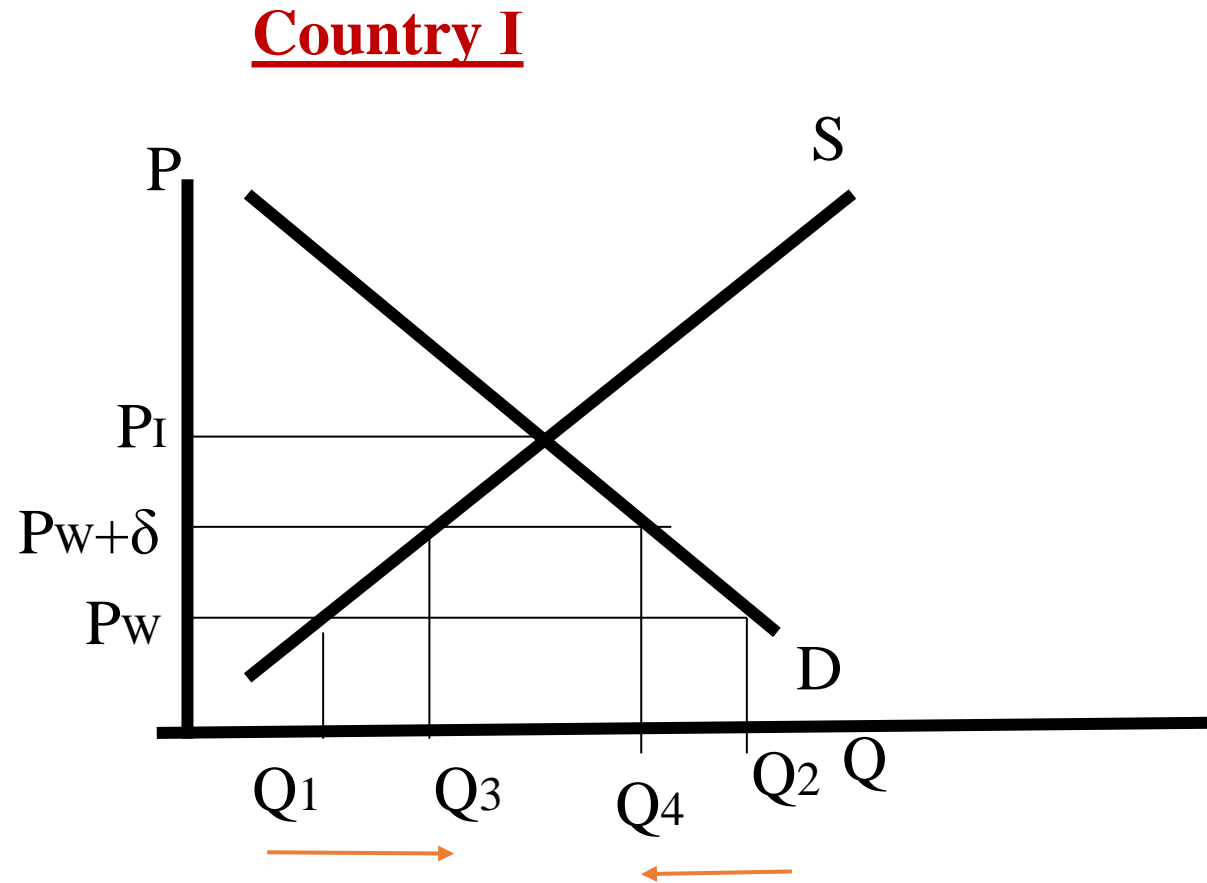
Country I

Effects of a tariff :

- Internal price rises

- Production expands

- Consumption decreases

- Imports are reduced

- International price decreases, if the country is "large".

- *The terms of trade improve for the country that imposes a tariff, only if the country is ' large '.*

Demand for imports -   Supply of exports of good Q

Assumption: free trade
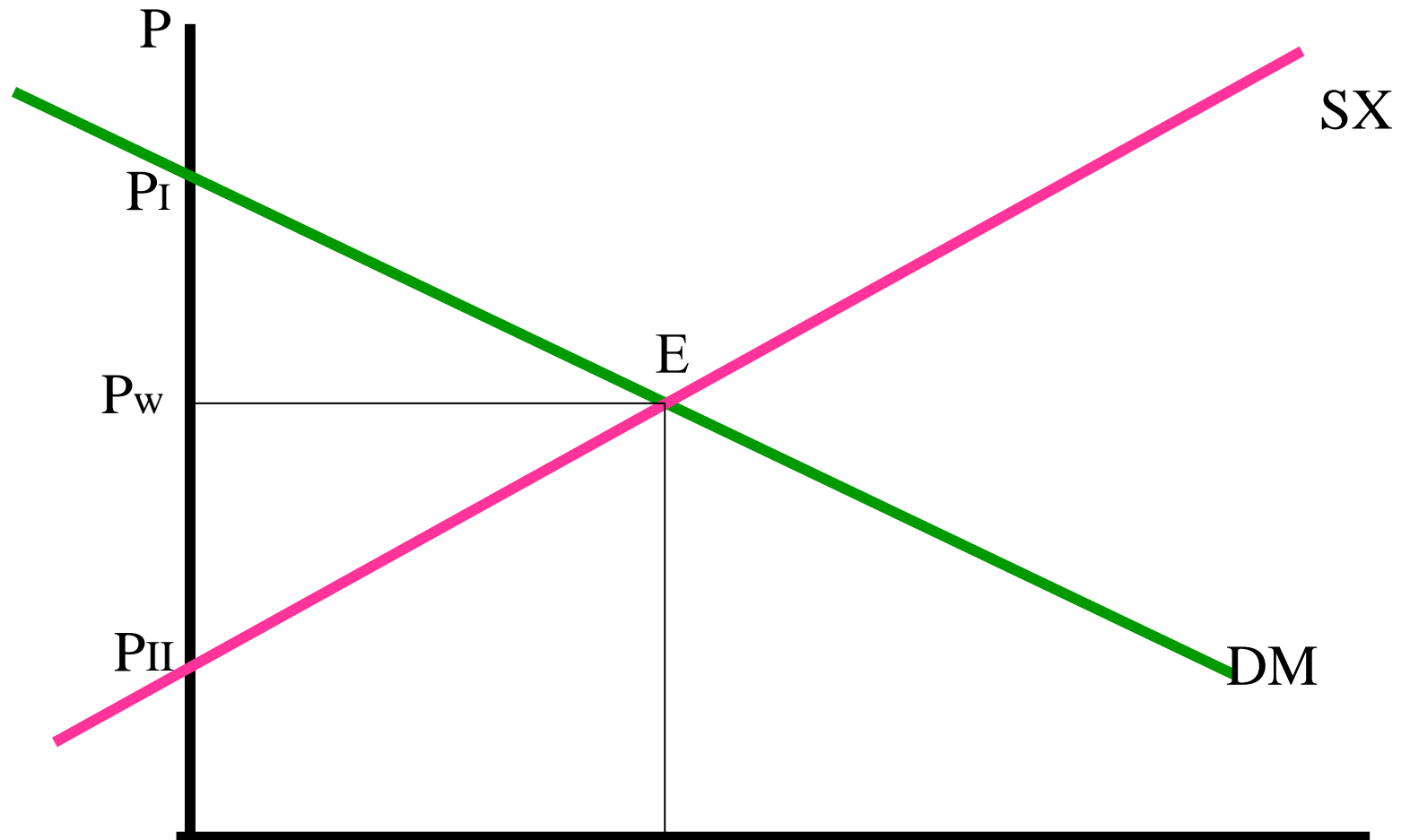
Demand for imports - Supply of exports of good Q

Assumption: Tariff on the imports of country I (large country)
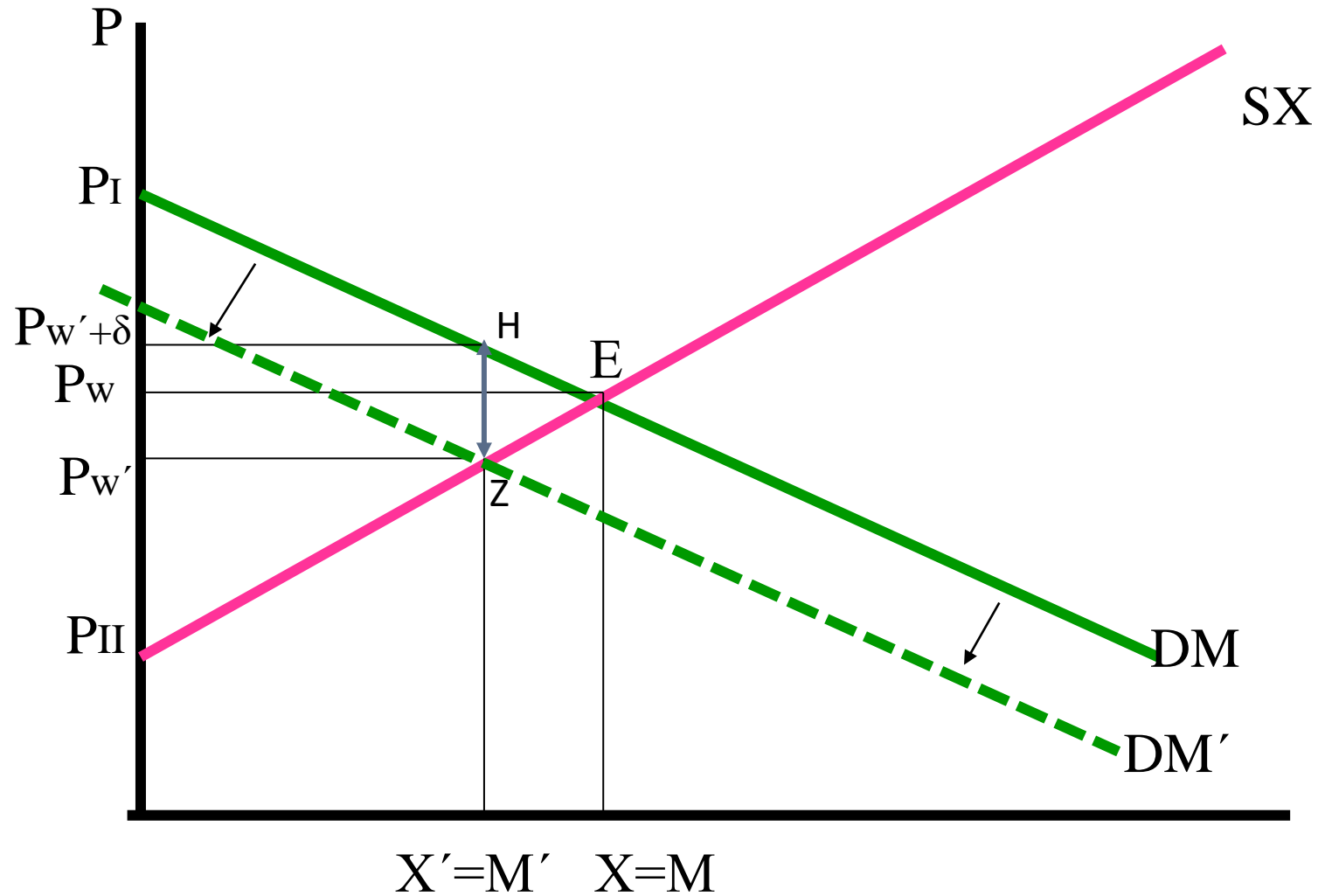
The costs and benefits of a tariff

- *studied with tools of welfare analysis*
- *Producer surplus*
- *Consumer surplus*
- We shall explore 2 cases:
- The case of a *small* country: the international price remains constant after the tariff.
- The case of a *large* country: the international price is reduced after the tariff.

Consumer surplus:

- Consumer surplus on each unit sold is defined as the **difference** between the *actual price* the consumer pays for each unit of the good he buys and *the amount that he would be willing to pay* for each unit of the good he buys.

- *Geometrically,* the consumer surplus is equal to the area under the demand curve and above the price of the good.

Producer surplus:

- Producer surplus is defined the *difference* between the *minimum price* for which a producer is willing to sell his product and the price that he receives.

- *Geometrically,* producer surplus is equal to the area above the supply curve and below the price line.

Assumption: small country, with free imports
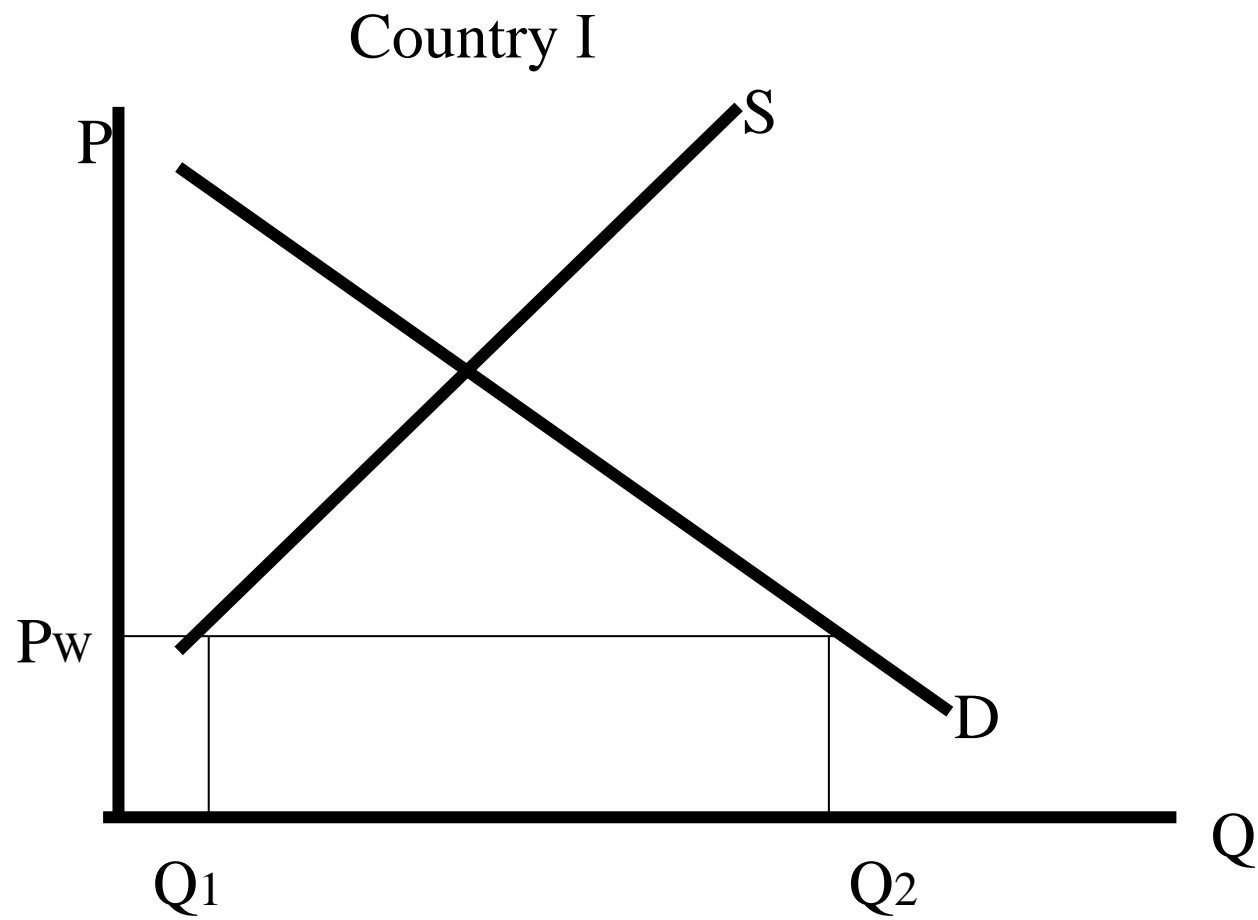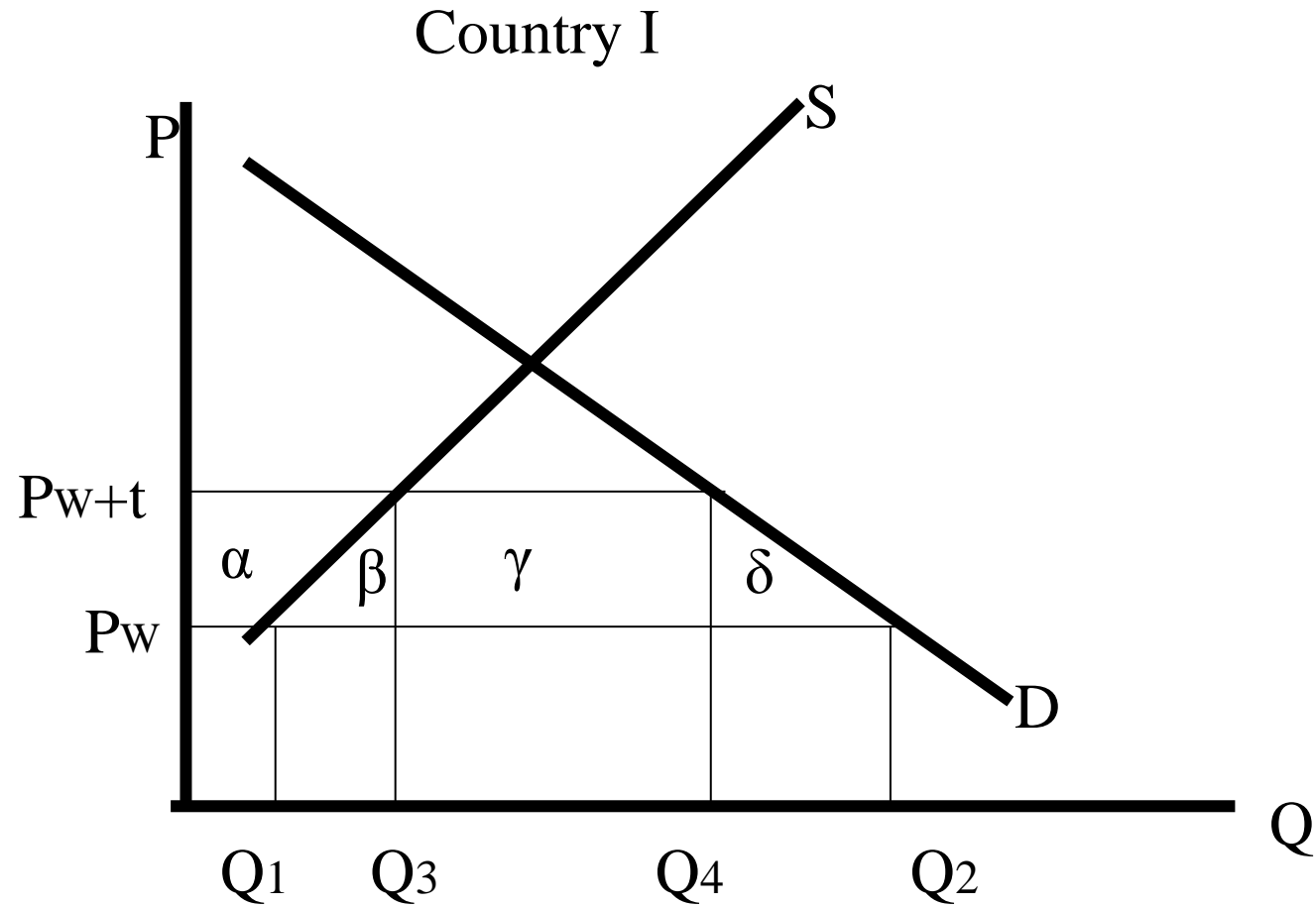

Country I

Suppose a specific tariff, t, is imposed on imports of country I

Assumption: small country

Country I

The cost of a tariff under the assumption of "small" country

- Consumer loss : **-(α+β+γ+δ)**
- gains of the producer : **+α**
- revenue of the government : **+γ**
- *net loss* from the imposition of the tariff:
- **-(α+β+γ+δ)+α+γ = -(β + δ)**
- **β**: loss of welfare coming from the supply side (efficiency distortions because there is misallocation of resources)
- **δ**: loss of welfare from the demand side, as consumers pay a higher price for a smaller quantity.

Suppose a specific tariff, t, is imposed on imports of country I

Assumption: <u>large country</u> ⇒ the international price is reduced

Country I
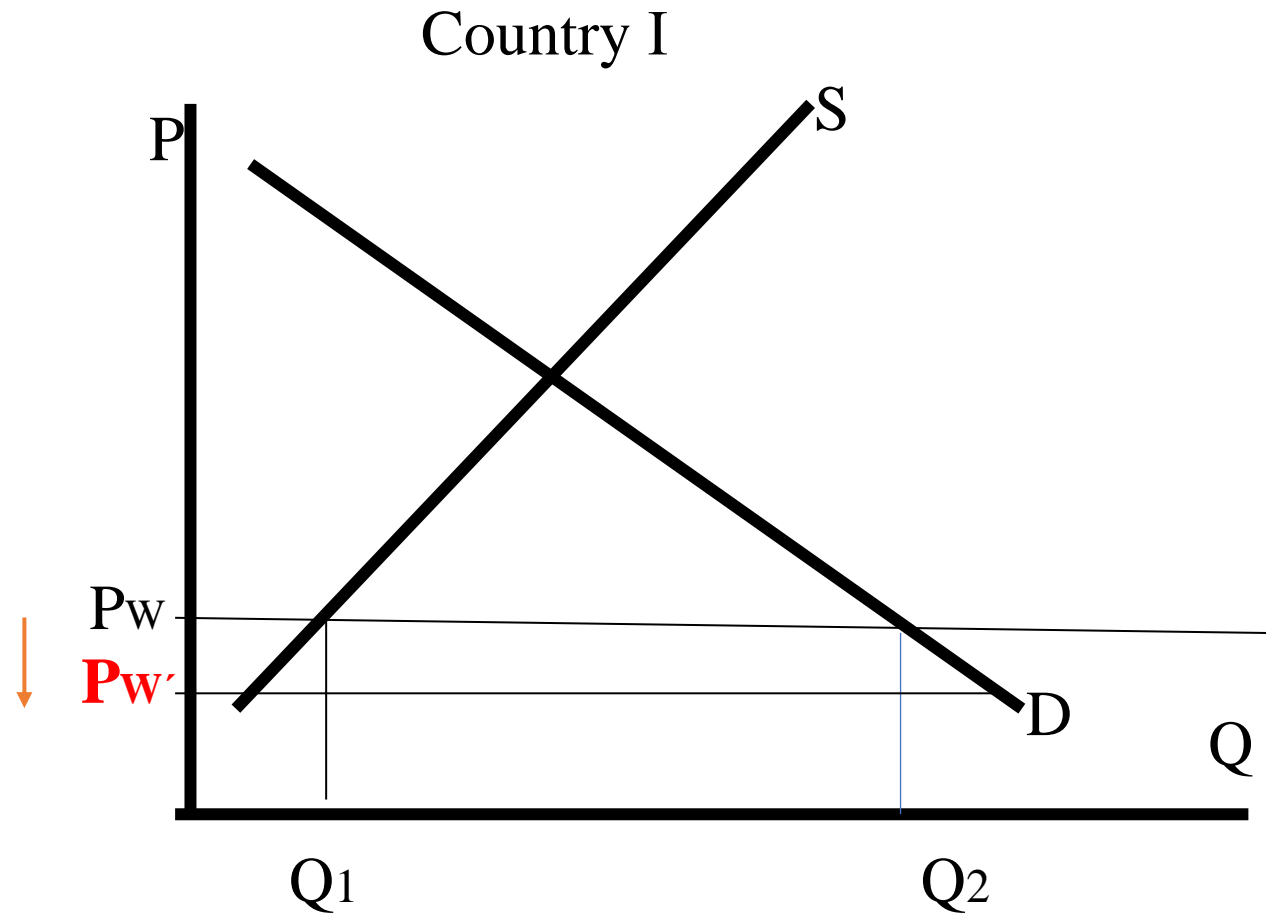
Suppose a specific tariff, t, is imposed on imports of country I

Assumption: <u>large country</u> ⇒ the international price is reduced

Country I

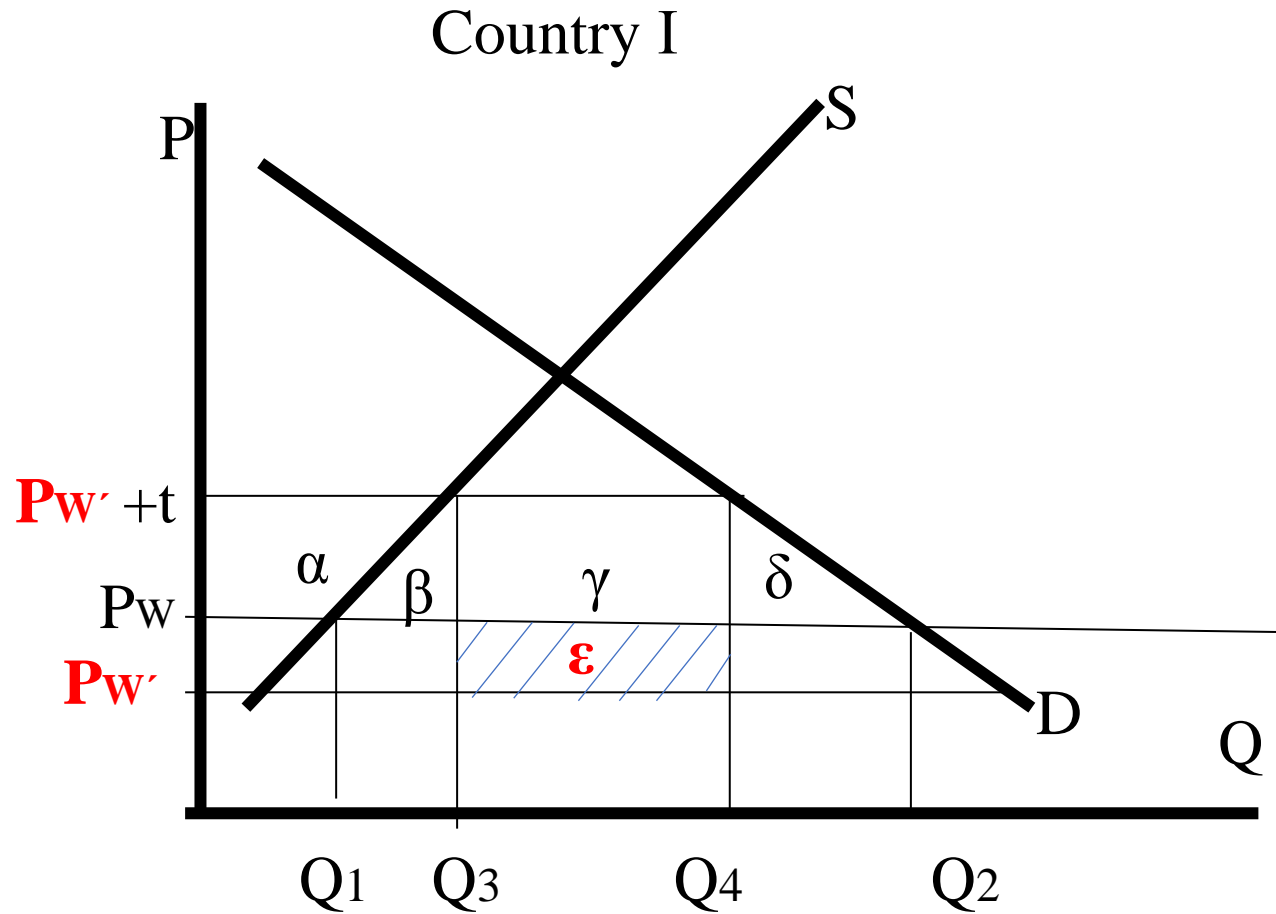# The cost of a tariff under the assumption of a "large" country

- Consumer loss : -($α+β+γ+δ$)
- gain of the producer : $α$
- Revenue of the government: $γ + ε$
- net loss from the tariff
- -($α+β+γ+δ$)+$α+γ$ +$ε$ = - $β$ - $δ$ + $ε$
- $β$: loss coming from the supply side (efficiency distortion as the tariff induces a misallocation of resources).
- $δ$: loss from the demand side, since consumers pay a higher price for a smaller quantity (consumption distortion).
- $ε$: additional revenue for the government.
- $⇒$ the cost of the tariff is smaller than the cost of the tariff in case of a "small" country.

the effective rate of protection

- The *actual protection* provided by a tariff may not equal the tariff, if imported intermediate goods are used in the production of the protected good. The proper measurement is *the effective rate of protection*.

- What matters is the protection on the *value added of production.*

- **Value added** is the difference between the value of the final product and the value of inputs (intermediate factors of productions).

- The effective protection is larger the smaller is the value added of production.

- A policy of the government aiming at encouraging *final production* should consider *actual or effective protection* of production-not just the nominal protection.

- Similarly, a policy aiming at encouraging domestic production of inputs should consider *protection with tariffs and other means of imported inputs*.

2.Export subsidy

- Financial payment to an exporting firm or industry.

- results:

- Production increases, domestically

- Exports increase

- Internal price is raised

- if the country is "large" the international price is reduced, after the tariff.

- Under the assumption of a large country the export subsidy leads to a definite welfare loss.

Suppose an export subsidy is given to the exporters of good q, in country I
Assumption" small country
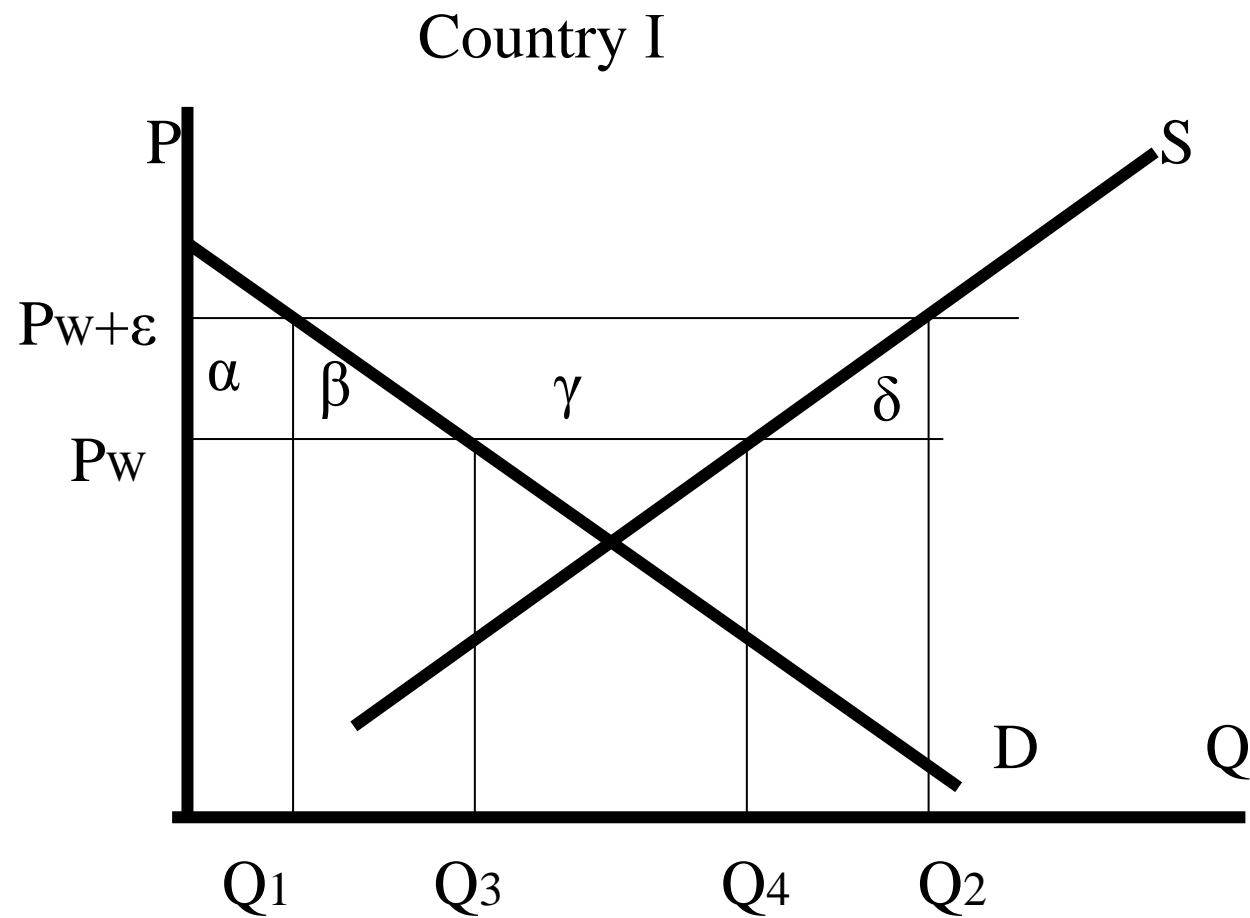
Country I

# Cost of a subsidy on exported good Q, under the assumption of "small" Country

- Consumer loss : - (α+β)

- gain of the producer :   α+β+γ

- Government expenditure : -(β+γ+δ)

- Net loss from the imposition of a subsidy:

- -(α+β)+(α+β+γ)-(β+γ+δ) **=- β - δ**

- β: consumption cost.

- δ: production loss.

Cost of a subsidy on exported good Q, under the assumption of a "large" country

- The loss of welfare due to the subsidy is greater if the country is large because
  - The international price of the commodity exported falls, as international supply of the good increases.
  - the terms of trade of the exporting country deteriorate.
  - The Government increases its spending to finance these export subsidies.

A subsidy is imposed on the exports good Q in country I.

Country I is "large"
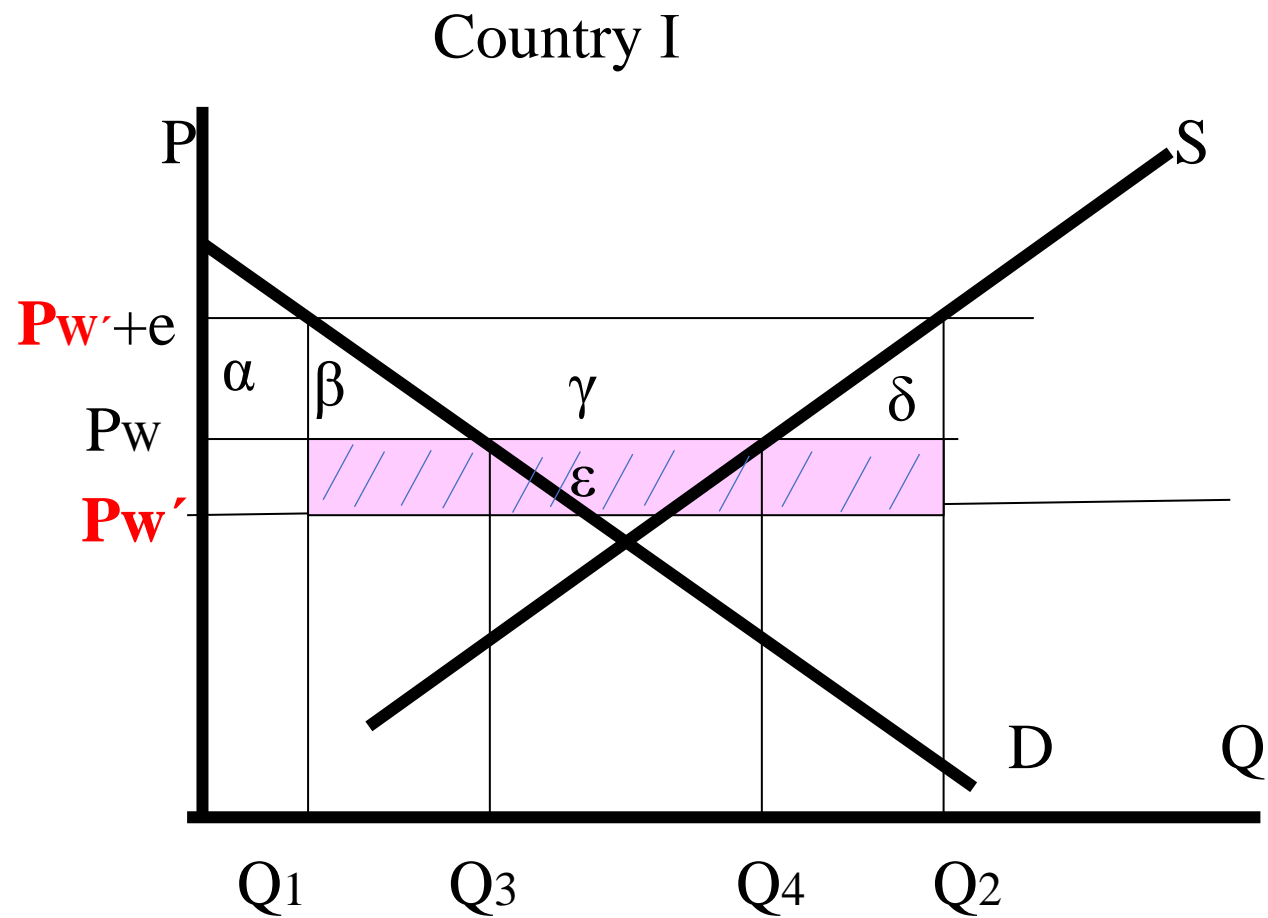
Country I

# The cost of a subsidy, under the assumption of a "large" country:

- Consumer loss : - (α+β)
- gains of the producer : α+β+γ
- Government expenditure : -(β+γ+δ+ε)
- Net loss from the subsidy:
- -(α+β)+(α+β+γ)-(β+γ+δ+ε) **= - β – δ - ε**
- β: consumption cost
- δ: production loss.
- ε: additional loss in welfare because of the subsidy and the fact that the country is "large". The country's international terms of trade deteriorate.

3. Quotas on imports

- Restriction on the quantity imported, of a specific good.
- The effects on the domestic economy are similar to the effects of a tariff.
- Difference from the case of the tariff:
- the country loses revenue.
- The question is who gains this extra loss of the government. (Is it traders, producers or corrupt civil servants...?)
- Under certain conditions (suppose that national income increases through time), the tariff cannot restrict imports.
- Quotas are more effective in restricting imports, compared to tariffs.

Suppose a quota is imposed on imports of country I

Assumption: small country

Country I
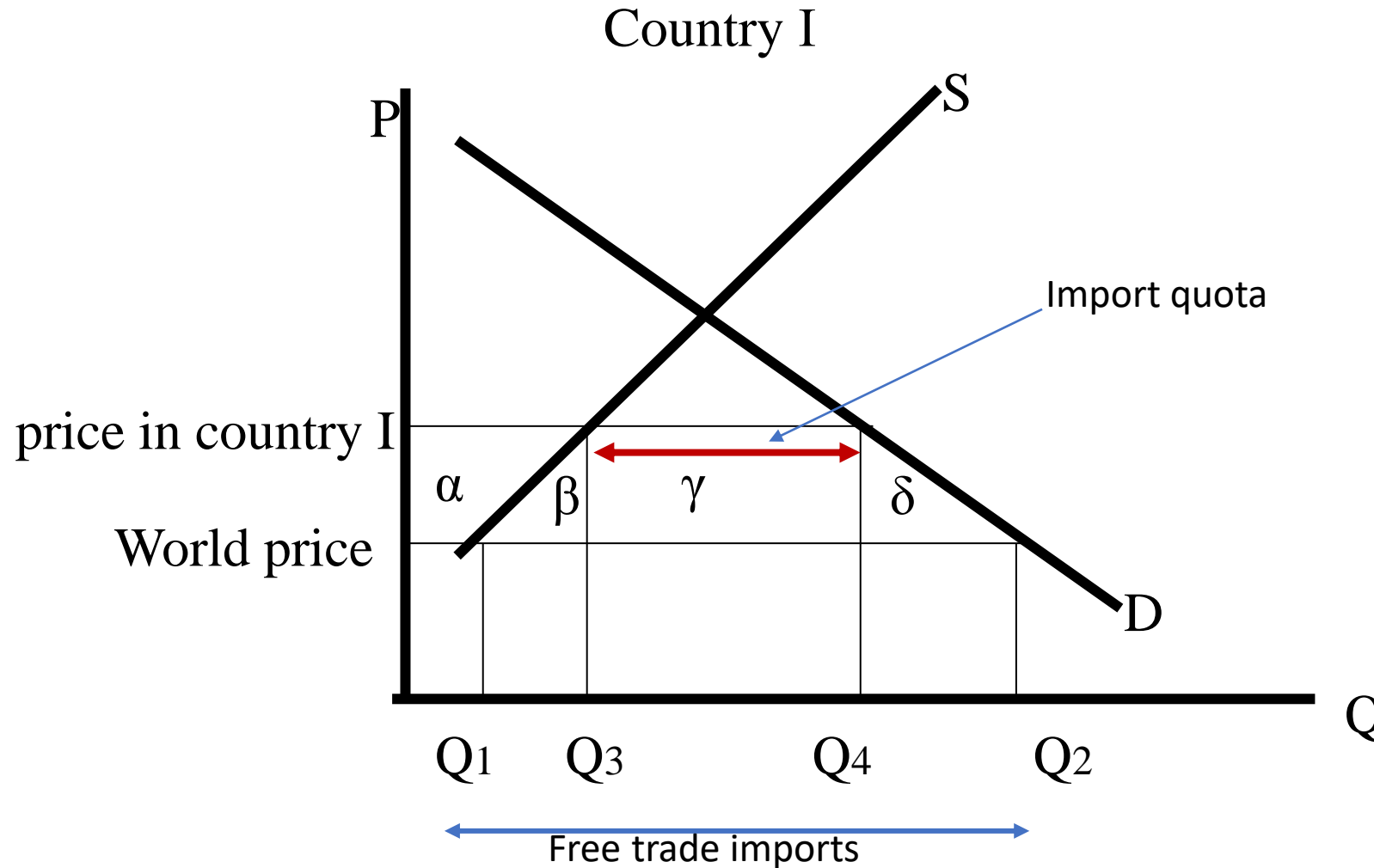
Q1 Q2: imports with free trade
Q3 Q4: imports after the quota
α: producer gain
α+β+γ+δ: consumer loss
γ: quota rents
β+ γ: cost of the quota
       (efficiency loss)