INTERNATIONAL TRADE AND WELFARE ANALYSIS

Tariffs

INTERNATIONAL TRADE AND WELFARE ANALYSIS

➡ **free trade maximizes welfare of domestic citizens as well as global welfare.**

Reasons for trade policy:

➡ a **large country** that can improve the welfare of its citizens by **imposing import tariffs**

➡ the **protection of infant industries**

➡ a **redistribution of income**

TARIFFS

STRUCTURE OF PRESENTATION

- ▶ **1. Tariffs**

   The Impact of a Tariff – The Small Country Case

   The Impact of a Tariff – The Large Country Case

   The Optimal Tariff

   The Effective Rate of Protection

   Protection of Infant Industries

TARIFFS (1/8)

<u>TARIFF</u> **= a tax on imported goods** (not domestic production)

1. <u>specific tariffs</u> = levied per unit of imported product
2. <u>ad valorem tariffs</u> = paid according to the value of imports (% of value)
3. <u>combinations of specific and ad valorem tariffs</u>

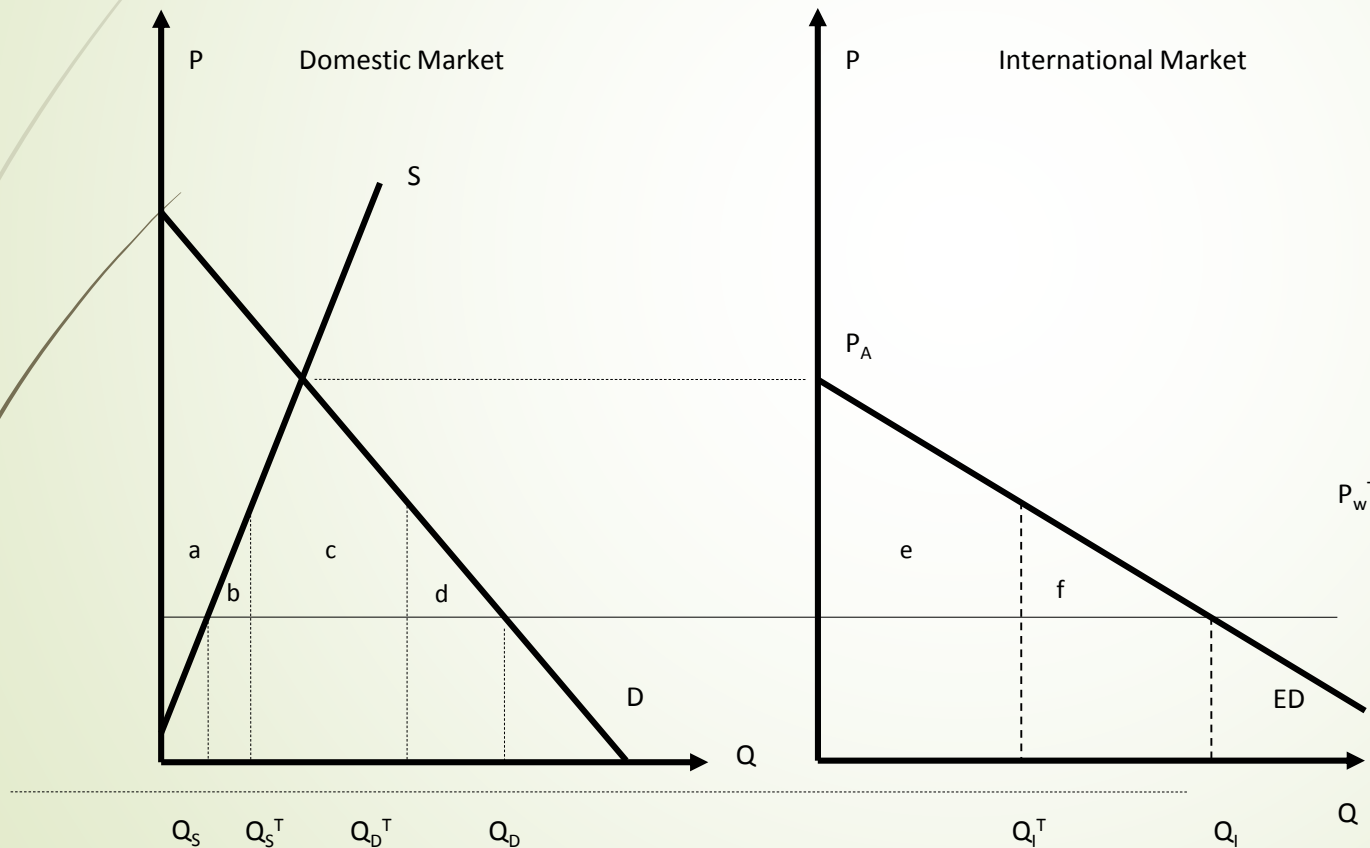*<u>The Impact of a Tariff – the Small Country Case</u>*

P_A is sometimes referred to as an **autarky price** where autarky means a no-trade situation (often referred to as "**isolation**")
Traders conduct arbitrage, i.e. buying at cheap places and selling at expensive places, and in so doing they equalize the prices at different places.

The Impact of a Tariff – the Small Country Case

- P_A = autarky price,
- P_W = the world price,
- P_W^T = price in the domestic market after the imposition of a tariff (P_W plus the specific
- tariff)
- Q_S and Q_D = domestic supply and domestic demand at the world price Pw,
- Q_S^T and Q_D^T = domestic supply and domestic demand at the tariff price P_W^T,
- Q_I = imported quantity, and
- ED = import demand curve (excess demand)

The Impact of a Tariff – the Small Country Case

TARIFF: $t = P_W^T - P_W$

W = PS + CS + G
W = societal welfare
PS = producer surplus
CS = consumer surplus
G = government budget expenditures or revenues

Change in consumer surplus (**ΔCS**):   - (a + b + c + d)
Change in producer surplus (**ΔPS**):   + a
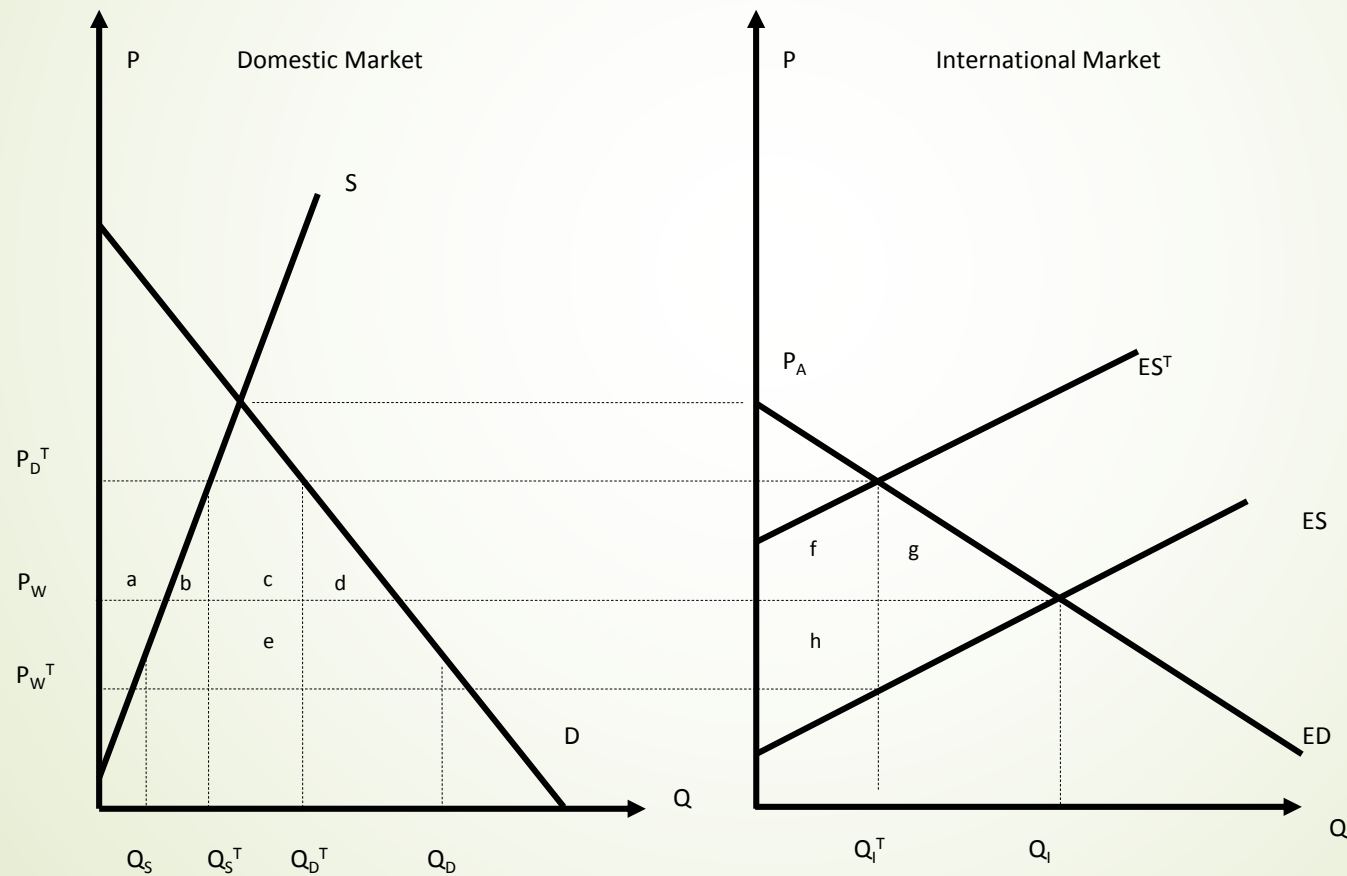Change in taxpayers' welfare (**ΔG**):   + c
Change in societal welfare (**ΔW**):   - (d + b)

There is a **redistribution of income** within society and **reduction of** overall economic **welfare**. In the long run it leads to a **misallocation of resources** and **reduces the efficiency** of domestic producers.

The Impact of a Tariff – the Large Country Case

Domestic Market

P

S

P_D^T

P_W a   b   c   d

e

P_W^T

D

Q

Q_S Q_S^T Q_D^T Q_D

International Market

P

P_A ES^T

f   g

ES

h

ED

Q_I^T Q_I Q_I

Tariff imposed by a large country = a **decline in the world price**

TARIFF:
$T = P_D^T - P_W^T$

The Impact of a Tariff – the Large Country Case

Producer surplus change   + a
Consumer surplus change: - (a + b + c + d)
Budget (taxpayers) change: + c + e
Total welfare change: + e – (b + d)
deadweight cost caused by tariff: b + d

The biggest difference between the **large country** case and the small country case is that when a large country **reduces the world price through** imposition of a **tariff**, then **part of the tariff revenue is financed by foreigners.**

By **reducing imports** it **reduces the price at which it buys** the goods on world markets. This could in some cases lead to an **increase in welfare in the large country**. Obviously the welfare gain is at the expense of trading partners. This outcome is often referred to as a "**beggar thy neighbour**" **policy**. Domestic protection has a negative impact on trading partners. A **tariff makes exporting their goods more difficult**, which negatively affects production and welfare of the trading partners. Their natural political reaction is to **impose retaliatory tariffs** on our products.

The Optimal Tariff

MONOPSONIST = a large country in international trade = a **single buyer**

MO = **Marginal outlay curve** measures the marginal change in expenditure for imported good when one additional unit is imported.

$$t = P_1 - P_2$$

The optimal tariff = import quantity where the **marginal outlay curve** (MO) **intersects the excess demand curve**.

By imposing the optimal tariff a **large importing country maximizes its welfare**, but **global trade** and global welfare would **decline**.
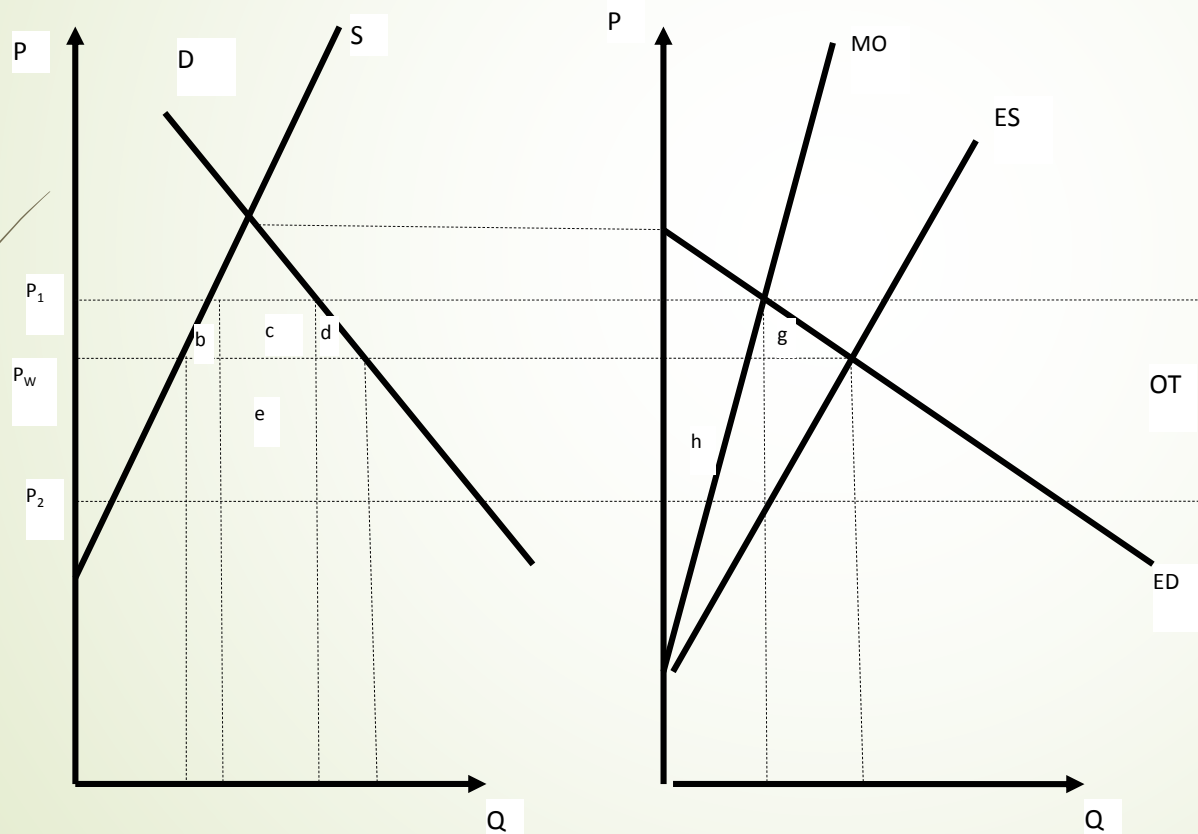
<u>The Effective Rate of Protection</u> = **percentage** by which the **industry value added is increased with the application of the whole tariff** structure in the country.

ERP = (VAT - VA)/VA

ERP = effective rate of protection
VAT = the value added per unit of production with the application of the whole tariff structure
VA = the value added per unit of production without the application of tariffs

Effective rate of protection = **Nominal rate of protection**, when tariff on the import is equal to the tariff on the final product
Effective rate of protection > Nominal rate of protection, when the tariff on the imported input is less than the tariff on the final product
Effective rate of production < Nominal rate of protection, when the tariff on the imported input is greater than the tariff on the final product. This can hurt domestic producers and it results in results in a <u>production tax instead of tariff protection</u>.

Protection of Infant Industries = **protection of an industry** that is **threatened by tough foreign competition**

This is effective if the tariff helps :
1. the industry to increase its **current production**,
2. lowering its **per-unit costs,**
3. increasing **the quality** of its products in the future.

The infant industry argument implicitly assumes that the protected industry must achieve a profit in each stage of its development in order to survive.

Sources

https://www.wto.org/english/tratop_e/tariffs_e/tariffs_e.htm
https://www.youtube.com/watch?v=AvDcRrWqBog
http://internationalecon.com/Trade/Tch90/T90-11.php
https://www.youtube.com/watch?v=huwYEUm6yrc
http://faculty.washington.edu/danby/bls324/trade/tariff.html
https://www.youtube.com/watch?v=-yMrs3k6qOI
http://terpconnect.umd.edu/~limao/Optimal_Tariffs_wp_update.pdf
http://www.mruniversity.com/courses/international-trade/effective-rate-protection

Next lesson

- **INTERNATIONAL TRADE AND WELFARE ANALYSIS**

  Non-tariff barriers

  Policies affecting exporters

THANK YOU FOR YOUR ATTENTION!