Measuring the amount of protection

- ERP (Effective Rate of Protection)
  - measures how much protection a tariff/ other trade policies actually provides domestic producers.
- ERP measures the protection by a tariff offered to domestic value added (VA)
  - Represents the change in value that an industry adds to the production process when trade policy changes (value added).
  - The change in value that an industry provides depends on the change in prices when trade policies change.

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Measuring the amount of protection (cont.)

$$ERP = \frac{V_t - V_w}{V_w}$$

- ERP: Effective Rate of Protection
- V_t: Value added in presence of tariff
- V_w: Value added in free trade

Measuring the amount of protection (cont.)

$$ERP = \frac{t - a_i t_i}{1 - a_i} (1)$$

ERP: Effective of protection to producers of the final commodity

t : The nominal tariff on consumers of the final commodity

a_i: The ratio of the cost of the imported inputs to the price of the final commodity in the absence of tariffs

t_i: The nominal tariff rate on the imported input

Measuring the amount of protection (cont.)

- Example:
  - World price of a car: $8,000
  - Parts $6,000
- Compare two nations:
  - Nation 1: wants to develop an auto assembly industry
  - Nation 2: (already has an assembly industry) and wants to develop a parts industry.

Measuring the amount of protection (cont.)

- Nation 1: wants to develop an auto assembly industry
  - World price of a car: $8,000
  - Parts $6,000
  - Value added at world price (V_w) $2,000
  - A tariff of 25% on cars imported and no tariff on parts
  - Price of car post 25% tariff $10,000
  - Parts $ 6,000
  - Value added post-tariff (V_T) $ 4,000
  - ERP = 100%

  => The protection offered by the nominal tariff for cars industry is only 25%, but the ERP is 100%.

Measuring the amount of protection (cont.)

- Nation 2: wants to develop a parts industry
  - World price of a car: $8,000
  - Parts $6,000
  - Value added at world price (V_w) $2,000
  - A tariff of 25% on imported parts but 0% on cars imported
  - Price of car $8,000
  - Price of Parts after 10% tariff $6,600
  - Value added post-tariff (V_T) $1,400
- Negative ERP reveals that it would be cheaper to import cars rather than assemble cars domestically. => whilst providing protection to domestic manufacturers of parts, discourages the domestic car assembly industry by providing a negative ERP of -30% :

Measuring the amount of protection (cont.)

- If a tariff imposed on final car > a tariff imposed on parts => positive ERP and ERP > t
- If a tariff imposed on final car < a tariff imposed on parts => negative ERP and ERP < t
- If a tariff imposed on final car = a tariff imposed on parts => ERP = t (nominal tariff)
- Escalation tariff => positive ERP and ERP > t

Measuring the amount of protection (cont.)

ERP with many inputs

	A pair of shoes	Leather	Embroider
Price in free trade (USD)	100	60	10
Import tariff (%)	20	20	30
Price with tariff (USD)	120	72	13

- Value added of a pair of shoes in free trade: *30 USD*
- Value added of a pair of shoes with tariff: *35 USD*
- Nominal tariff on a pair of shoes is *20%*
- ERP for a pair of shoes: *16.67% = (35-30)/30*

EXPORT SUBSIDIES

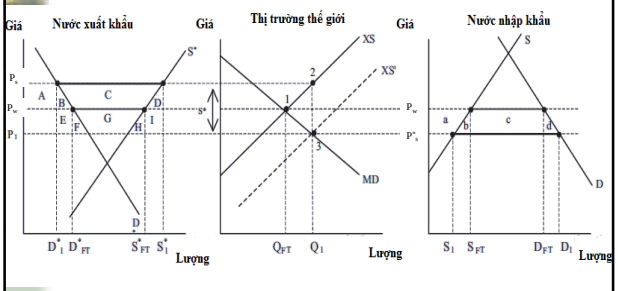
Concept of Export Subsidies

- An export subsidy: a payment to a firm or individual that ships a good abroad.
- An export subsidy can also be *specific* or *ad valorem*
  - A specific subsidy is a payment per unit exported.
  - An ad valorem subsidy is a payment as a proportion of the value exported.
- US: subsidize agricultural products.
- Vietnam: has to abolish export subsidies

Effects of Export Subsidies

- The effects of an export subsidy are the reverse of those of a tariff.
- Shipper will export the good up to the point where the domestic price exceeds the foreign price by the amount of subsidy.
  - The difference between the domestic price in the exporting countries and the foreign price is exactly the subsidy
- Examine effects of export subsidies in two cases
  - Small exporting country case
  - Large exporting country case

Effects of Export Subsidies in a large country case



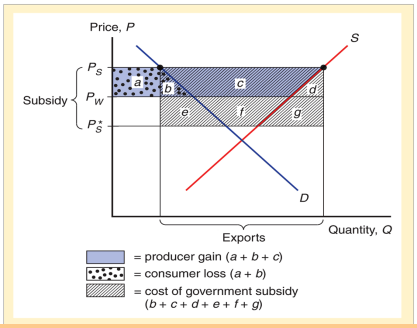
Effects of Export Subsidies in a large country case (cont.)

- In the exporting country: an export subsidy
  - Raises the domestic price of a good in the exporting country from P_W to P_S
  - Makes its consumer surplus decrease
  - Makes its producer surplus increase
  - Government loses because it must spend money on the subsidy.

Effects of Export Subsidies in a large country case (cont.)

- In the importing country:
  - An export subsidy raises the price of a good in the exporting country, while lowering it in foreign countries from P_W to $P_{S'}$.
- The price rise in the exporting country is less than the subsidy per unit of product.
- In contrast to a tariff, an export subsidy worsens the terms of trade by lowering the price of domestic products in world markets.

Costs and benefit of Export Subsidies in a large country case



Cost of a subsidy = - (b+d) – (e+f+g)

Costs and Benefits of Export Subsidies in a large country case (cont.)

- In the (large) exporting country: an export subsidy
  - Loss in consumer surplus = (a+b)
  - Gain in producer surplus = (a+b+c)
  - Cost of government subsidy = (b+c+d+e+f+g)

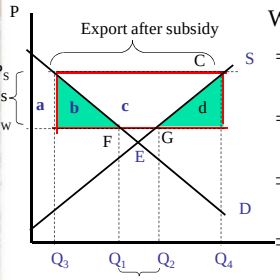
  ⇒Loss in national welfare: = (b+d+e+f+g)

  ⇒An export subsidy unambiguously produces a negative effect on national welfare.

Effects of Export Subsidies in a large country case (cont.)

- The triangles *b* and *d* represent the **efficiency loss**.
  - The tariff distorts production and consumption decisions: producers produce too much and consumers consume too little compared to the market outcome.
- The area *b* + *c* + *d* + *f* + *g* represents the **cost of government subsidy**.
  - In addition, the terms of trade *decreases*, because the price of exports falls in foreign markets from P_W to P^*_S.

The effects of export subsidies in a small country case



When a country is "small"

=> Has no effect on the foreign (world) price.

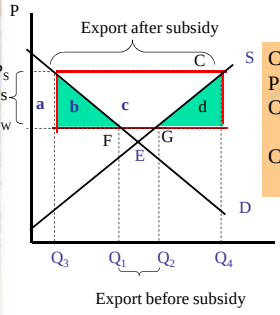
=> Foreign price will not fall, but will remain at P_w

⇒ Home price will rise to $P_s = P_w + s$

⇒ *Does not lead to change in terms of trade*

⇒ *Difference between Home and Foreign pirce is still subsidy*

The effects of export subsidies in a small country case



Consumer loss = a + b
Producer gain = a + b + c
Cost of government subsidy = b + c + d
Cost of a export subsidy = (b+d)

IMPORT QUOTAS

Concept of an import quota

- An import quota:
  - A direct restriction on the quantity of a good that may be imported.
  - The role of quota decreases (WTO, FTAs)
  - Usually enforced by issuing licenses to domestic firms that import, or in some cases to foreign governments of exporting countries.

Effects of an import quota (cont.)

- Import quota always raises the domestic price of imported good because at the initial price, the quantity demanded will exceed the quantity supplied by domestic producers and from imports.
- Raise the domestic price by the same amount as a tariff that limits imports to the same level (equivalent tariff).

=> Impacts of quota is similar to impacts of an equivalent tariff.

Effects of an import quota (cont.)

- The difference between a tariff and a quota is the government receives no revenue
  - Instead, the revenue from selling imports at high prices goes to **quota license holders** (either domestic firms or foreign governments).
  - License holders import goods and resell them at higher prices.
  - The profits received by the holders of import license are called **quota rents**.

Effects of an import quota (cont.)

- Costs and benefits of an import quota depends on who gets the rent.
  - If license holders are domestic firms, an import quota have the similar effects as a tariff that limits imports to the same level (an equivalent tariff)
    - Cost of an import quota is (b+d)
  - If license holders are governments of exporting countries => the costs of an import quota is higher than those of the equivalent tariff.
    - Cost of an import quota is (b+d+c)

US Import Quota on Sugar

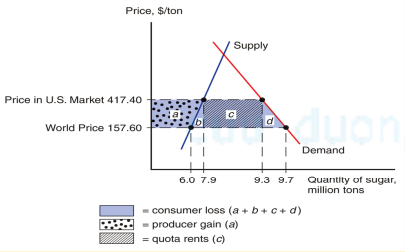


Figure 8-13

Effects of the U.S. Import Quota on Sugar

The sugar import quota holds imports to about half the level that would occur under free trade. The result is that the price of sugar is $417.40 per ton, versus the $157.60 price on world markets. This produces a gain for U.S. sugar producers, but a much larger loss for U.S. consumers. There is no offsetting gain in revenue because the quota rents are collected by foreign governments.

TARIFF RATE QUOTA (TRQ)

Tariff rate quota

- Combination of tariff and quota
  - Low tariff for imports below quota
  - High tariff for imports above quota
  - Common in agricultural trade

Example of TRQ

- Vietnam started to use TRQ in 2003 for 3 commodities: salt, cotton, material tobacco

Commodities	Number of tariff lines	In-quota tariff (%)	Out-of-quota tariff (%)
Material tobacco	12	28.7	98.3
Salt	7	0	60
Cotton	5	0	16

- In 2004, TRQ were applicable to 4 additional commodities: **maize, egg, condensed milk, and uncondensed milk**

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Example of TRQ (cont.)

- In 2011: Circular 45/2010/TT-BCT dated 31/12/2010, came into effect in 1/1/2011 regarding TRQ
  - Commodities subject to TRQ includes egg, material tobacco, salt, raw and refined sugar
- In 2012: Circular 111/2012/TT-BTC dated 4/7/2012, came into effect in 18/8/2012 regarding TRQ for 2012
  - Commodities subject to TRQ includes egg, material tobacco, salt, raw and refined sugar

Voluntary Export Restraint (VER)

Voluntary Export Restraint (VER)

- VER: a quota on trade imposed from the exporting country's side instead of the importer's.
- VER: works like an import quota, except that the quota is imposed by the exporting country rather than the importing country.
- These restraints are usually requested by the importing country
- The profits or rents from this policy are earned by foreign governments or foreign producers.
  - Foreigners sell a restricted quantity at an increased price.
  - VER: **is always more costly to the importing country than the equivalent tariff** (VER is exactly like a quota where the licences are assigned to foreign governments)

Voluntary Export Restraint (VER) (cont.)

- Examples of VER or Orderly Marketing Arrangements (OMA) are:
  - Japan automobile exports to USA (1981)
  - The Multi-fibre agreement which restricted garment imports from 22 countries to developed countries until the beginning of 2005.

Local Content Requirement

- A **local content requirement** is a regulation that requires a specified fraction of a final imported good to be produced domestically.
- It may be
  - specified in value terms, by requiring that some minimum share of the value of a good represent domestic valued added
  - in physical units.
  - Widely used by developing countries to shift their manufacturing base from assembly back into intermediate goods.

Local Content Requirement (cont.)

- For domestic producers of inputs
  - Provides protection in the same way that an import quota would.
- For firms that must buy inputs
  - Does not place a strict limit on imports, but allows firms to import more provided they also buy more domestic parts.
- For government
  - Provides no government revenue (as a tariff would).

Other Trade Policies

- Export credit subsidies
  - A subsidized loan to exporters
  - US Export-Import Bank subsidizes loans to US exporters.
  - Vietnam:
    - Decision 75/2011/NĐ-CP
- Government procurement
  - Government agencies are obligated to purchase from domestic suppliers, even when they charge higher prices (or have inferior quality) compared to foreign suppliers.
  - EU telecoms compelled to buy high cost EU inputs

Other Trade Policies (cont.)

- Bureaucratic regulations (Red-tap barriers)
  - http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm9_e.htm
  - Safety, health, quality or customs regulations can act as a form of protection and trade restriction.
  - In 1982, all Japanese videocassette recorders must pass through the tiny customs house at Poiters

Presentation assignment

- Group 3: Car trade war between US and Japan: causes, process and impacts.
- Group 1: Boeing and Airbus trade war
- Next week

Summary

	Tariff	Export subsidy	Import quota	Voluntary export restraint
Producer surplus	Increases	Increases	Increases	Increases
Consumer surplus	Decreases	Decreases	Decreases	Decreases
Government net revenue	Increases	Decreases	No change: rents to license holders	No change: rents to foreigners
National welfare	Ambiguous, falls for small country	Decreases	Ambiguous, falls for small country	Decreases

Summary (cont.)

1. A tariff decreases the world price of the imported good when a country is “large”, increases the domestic price of the imported good and reduces the quantity traded.
2. A quota does the same.
3. An export subsidy decreases the world price of the exported good when a country is “large”, increases the domestic price of the exported good and increases the quantity produced.

Summary (cont.)

4. The welfare effect of a tariff, quota and export subsidy can be measured by:
   - Efficiency loss from consumers and producers
   - Terms of trade gain or loss
5. With import quotas, voluntary export restraints and local content requirements, the government of the importing country receives no revenue.
6. With voluntary export restraints and occasionally import quotas, quota rents go to foreigners.

END OF CHAPTER 8