

# International Economics

## Fall 2010

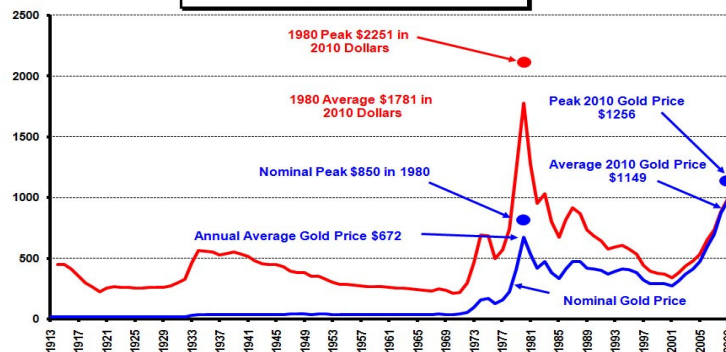
### Basic Trade Policy Tools

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Sept. 16, 2010

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## Hors D'oeuvres /Appetizers (09/16)

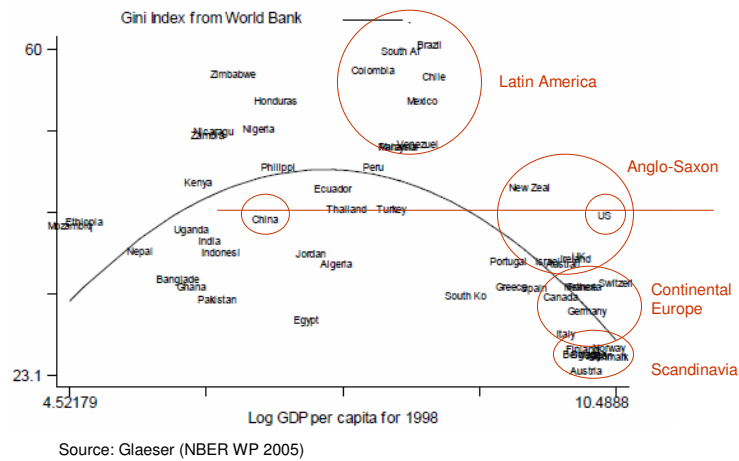
Inflation Adjusted Annual Average  
Gold PRICES (1914-2010)  
In May 2010 Dollars  
© www.InflationData.com  
Updated 06/24/2010



video analysis at: <http://economistonline.muogao.com/2010/09/gold-hit-another-record-high.html>

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## World Inequality Compared



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## Today's Plan

- Continue on *Trade and Inequality*
- Basic trade policy tools (instruments)
  - Tariff
  - (Export) subsidies
  - (Import) quotas
- Other instruments
  - VERs

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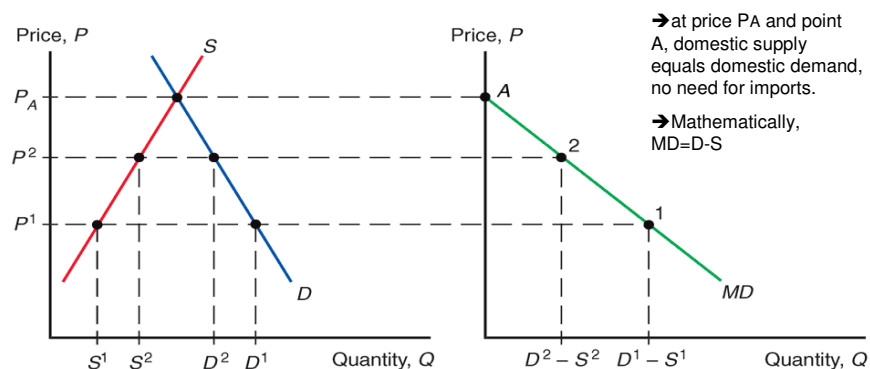
# Introduction to tariff

- A tax levied on imported goods
- The oldest trade protection measure
  - In early US history, when tax collection was difficult, tariff revenue was the most important government revenue source
  - In many places today, such as Boston and Venice, you still find old customs buildings with grand design, showing off their past glory
- In two forms:
  - Specific tariff: a fixed amount
  - Ad valorem tariff: a percentage charged on the import value, more common
- Normally it refers to import tariff only, but could be export tariff too (very rare though)
  - For example, recently China imposed export tariff on their strategic mining products so to keep these resources at home

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# Welfare analysis of tariff

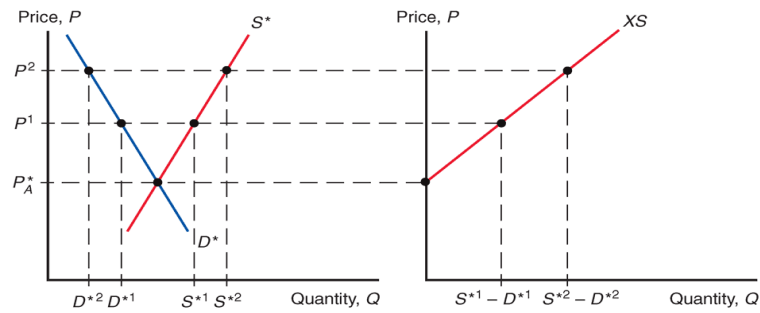
## ■ Home's import demand curve



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# Welfare analysis of tariff

## Foreign export supply curve



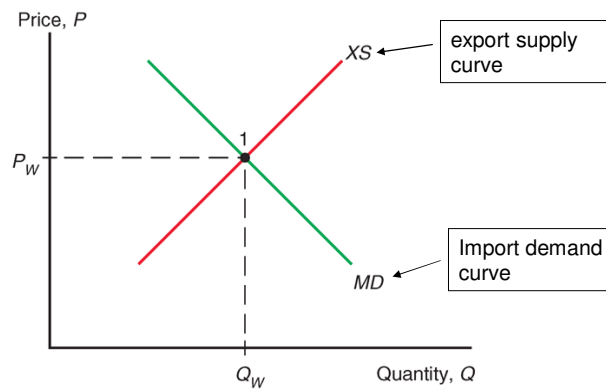
→ at price  $P^*_A$ , domestic demand exhaust all domestic supply, nothing left to export.

→ Mathematically,  $XS = S^* - D^*$

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# Welfare analysis of tariff

- With international trade, import demand=export supply and the world market clears

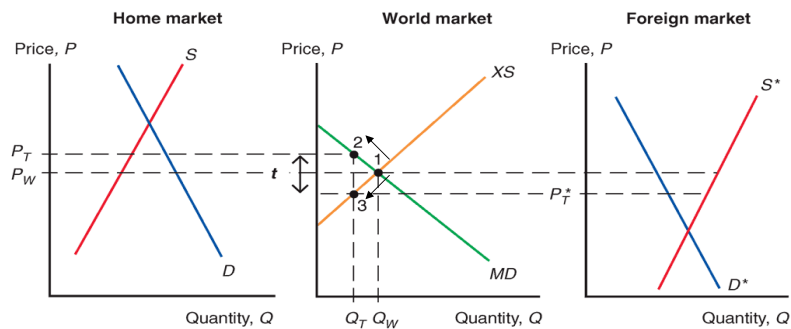


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# Welfare analysis of tariff

## ■ Effects of tariff

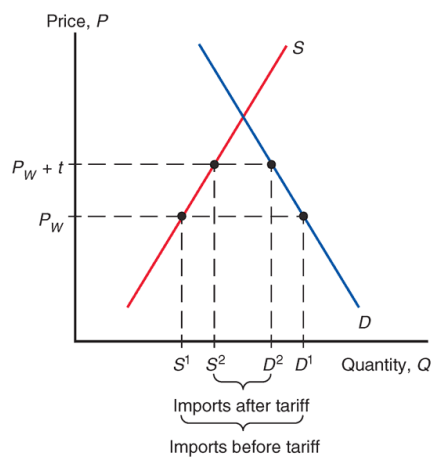
- The eventual price difference between home market and foreign market should be import tariff,  $t$
- Price in domestic market increases, from  $P_w$  to  $P_T$ .
- Price in foreign market decreases, from  $P_w$  to  $P_T^*$ , but why? (see the middle chart)



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# Welfare analysis of tariff

## ■ The case when home country is small,

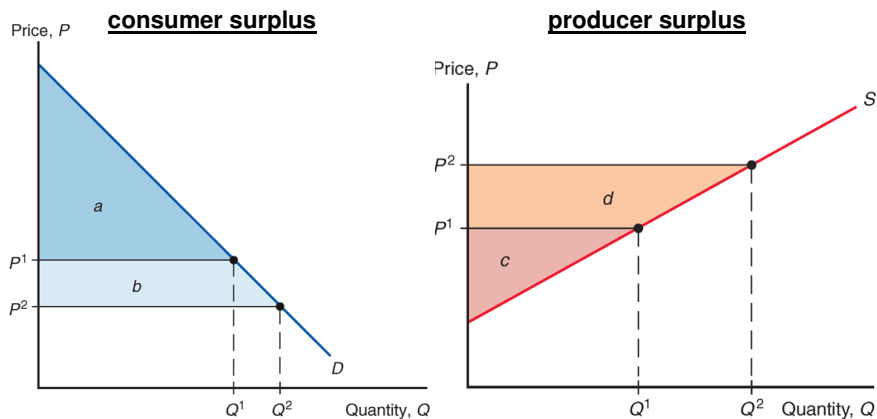


- When home country is small, such as Denmark, an increase of tariff will not have effect on import prices in the world market

- So the price difference before and after imposition of tariff will be  $t$ , and it shows up only in increase of home price, from  $P_w$  to  $P_w + t$ .

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## Review of some basic concepts



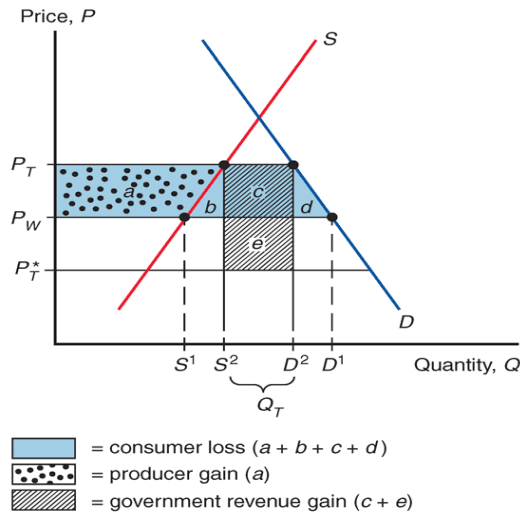
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## Review of some basic concepts

- Terms of Trade (or TOT)
- It is defined as the price of a country's exports divided by the price of its imports, i.e.,  $P_x/P_m$
- When TOT increases, i.e., when the relative price of a country's exports increases, a country can use its export revenue to buy *more* import goods because the relative price of imports is decreasing.
- Thus, a country's welfare improves when TOT increases.

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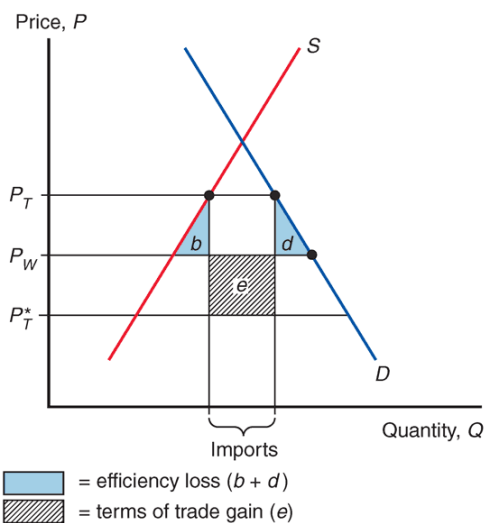
## Welfare analysis of tariff (cont.)



- First, be reminded that import tariff will produce a wedge between home price  $P_T$  and foreign price,  $P_T^*$ . The price difference is  $t$ , the tariff.
- For home consumers, as price increases from  $P_W$  to  $P_T$ , the loss of consumer surplus is  $a+b+c+d$ .
- For home producers, as price increases from  $P_W$  to  $P_T$ , the producer surplus increases by  $a$ .
- Before tariff, the import volume is  $D^1-S^1$ ; after tariff import volume is  $D^2-S^2$  or  $Q_T$  and government collects the tariff revenue for  $Q_T$  imports, i.e.,  $c+e$  in the graph.

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## Welfare analysis of tariff (cont.)



- So the net welfare loss for home country is: (loss of consumer surplus) – (gain of producer surplus) – (government tariff revenue), i.e.,  $(a+b+c+d) - a - (c+e) = b+d-e$ .
- $b+d-e$  could be greater/less than or equal to zero. It all depends.
- $e$  is called **terms of trade (TOT) gain**. The gain is from lower foreign import prices. (note: small country doesn't have  $e$  because it can't impact on world price)
- $b$  is called **production distortion loss**, as tariff distorts domestic price and induces producers to produce more.  $d$  is called **consumption distortion loss**, resulting from less consumption due to higher home prices.

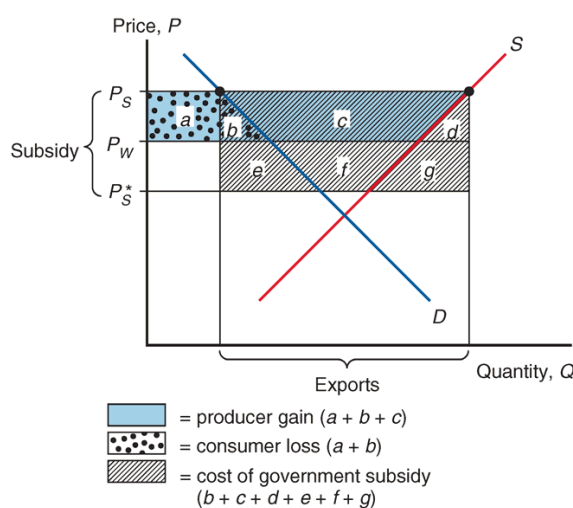
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## Introduction to export subsidies

- An export subsidy is a payment to a firm that exports goods abroad.
- It's another trade distortion measure that encourages exports, but gives domestic producers unfair advantage over foreign producers.
- The export subsidy enables domestic firms to export up to the point where the domestic price exceeds foreign price by the amount of subsidy.

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## Welfare analysis of export subsidies



### Home country's net welfare loss:

consumer surplus loss +  
cost of export subsidy –  
producer surplus =  $(a+b) +$   
 $(b+c+d+e+f+g) - (a+b+c) =$   
 **$b+d+e+f+g > 0$**

This means export subsidy  
reduces home country's  
welfare!!! ...and a waste of  
taxpayer's money.

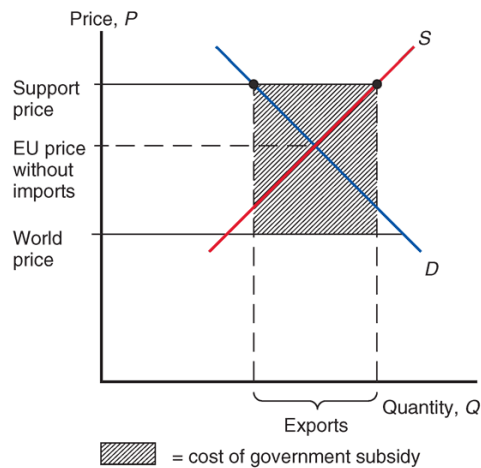
And countries all over the  
world are still doing it!!!

Consumers in foreign  
country benefit because  
they enjoy lower prices!

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## Case Analysis: EU's Common Agricultural Policy (CAP)



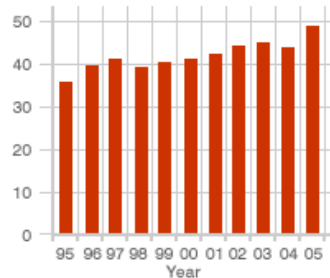
- Net welfare loss to European countries: taxpayer's money is used to subsidize foreign consumers, and domestic consumers pay higher food prices.
- The unintended consequences: the subsidy also gives EU farmers unfair advantage over the farmers in developing countries (export subsidy drives down world price), who are quite often in abject poverty and rely on selling their farm produces to survive!!!

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## Case Analysis: EU's Common Agricultural Policy (CAP)

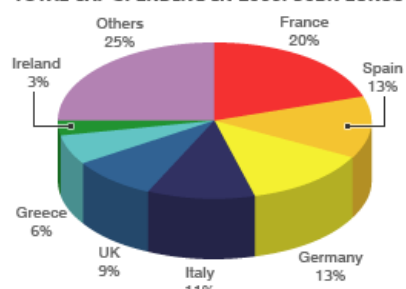
### CAP EXPENDITURE

Agricultural support and rural development  
bn euros



SOURCE: European Commission

### TOTAL CAP SPENDING IN 2006: 508N EUROS



SOURCE: European Commission

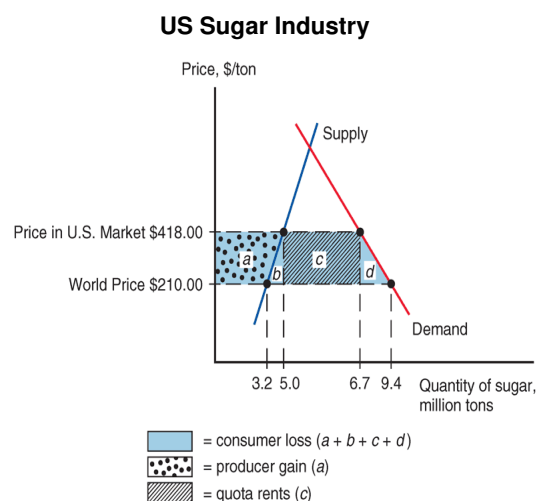
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## Introduction to quotas

- Quotas can be imposed on both imports and exports, but most common in imports.
- An import quota is a direct restriction on the quantity of goods that may be imported.
- There is also restriction on who can import or export. Firms need to get permit so they can be allocated rights to import/export – a hotbed for corruption.
- Compared to tariff, government in home country collect no revenue – a major difference.

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## Welfare analysis of import quotas



- Import quota always drives up domestic price of the good that is being restricted, as domestic demand can't be met by supply. As a result, domestic consumers suffer a welfare loss
- When quota rents are captured by foreign agents, and no change on world price, net welfare loss = consumer loss – producer gain =  $b+c+d > 0$
- In the case that quota rents  $c$  are shared by foreign and home country, the actual net welfare loss is smaller. Net welfare loss would be  $b+d$ , if quota rents all go to Home country (US), but it's rare.

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## Voluntary Export Restraints (VERs)

- VER is a variant of import quota
- The irony here is VER is self-imposed by exporting country, not by importing country. That's why it's called "voluntary".
- It often results from hard pressure from importing country. The most famous case was Japan's VER on its own auto exports.
- Similar to import quotas, domestic consumers (US consumers) suffer from higher auto prices they pay.

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## Summary of effect of trade policy instruments

	Tariff	Export subsidy	Import quota
Producer surplus	Increases	Increases	Increases
Consumer surplus	Decreases	Decreases	Decreases
Government net revenue	Increases	Decreases	No change: rents to license holders
Net national welfare	<b>Ambiguous, falls for small country</b>	<b>Decreases</b>	<b>Ambiguous, falls for small country</b>

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## For the next time...

- read KS chapter 9 &10
- (optional) read Krugman's influential article on *Foreign Affairs*, "Competitiveness: A Dangerous Obsession". (posted on the course website)