

# Commercial and Industrial Policy

## International Trade

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Lecture Slides

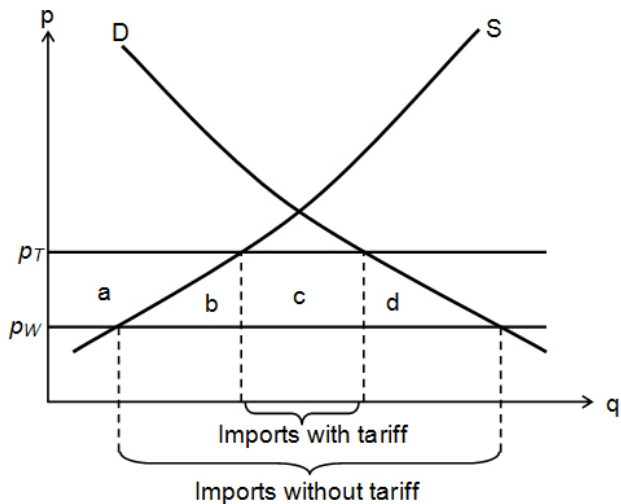
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# Outline

- 1 Tariffs
- 2 Export subsidy
- 3 Other barriers to trade
- 4 Empirical calculation of welfare losses
- 5 Justification for trade protection
- 6 Empirical patterns

## Small country:

Let a country impose a proportional tariff,  $t$ , on imports. This will raise the price of imports from  $p_W$  to  $p_T = p_W(1 + t)$ . As a consequence, less will be imported and more will be domestically produced. Areas  $b$  and  $d$  show the welfare loss.  $b$  represents the **production distortion loss** and  $d$  the **consumption distortion loss**.

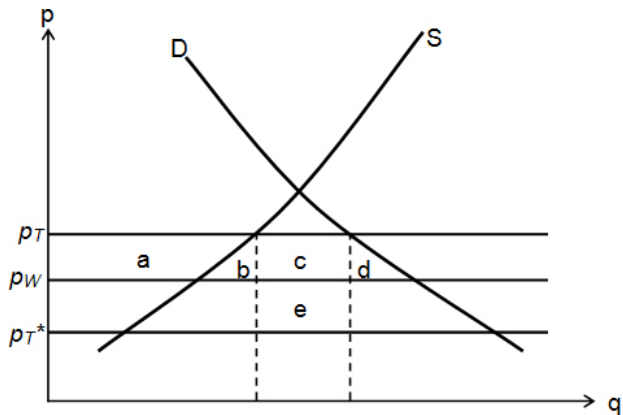


Consumers:	$-a-b-c-d$
Producers:	$+a$
<u>Government:</u>	<u><math>+c</math></u>
Net loss:	<u><math>-b-c</math></u>

## Large country:

In the above example, the imposition of a tariff did not have any effects on the Terms of Trade (TOT) because the country was small to affect the world price of its imports ( $P_W$ ). This changes when the country under consideration is large. Then, the reduction of the import demand leads to a lower *world price* of the importable.

The TOT of the country imposing the tariff improve, giving rise to a welfare gain shown by  $e$ . Therefore, in the case of a large country, the net welfare effect depends on whether the TOT gain can outweigh the distortion losses.



Consumers:  $-a-b-c-d$

Producers:  $+a$

Government:  $+c+e$

Net:  $-b-d+e$

$b+d \geq e ?$

Critical assumption about the *optimal tariff*: *no retaliation!*

### **Effective protection:**

The effective rate can be much different from the nominal rate because of intermediate goods.

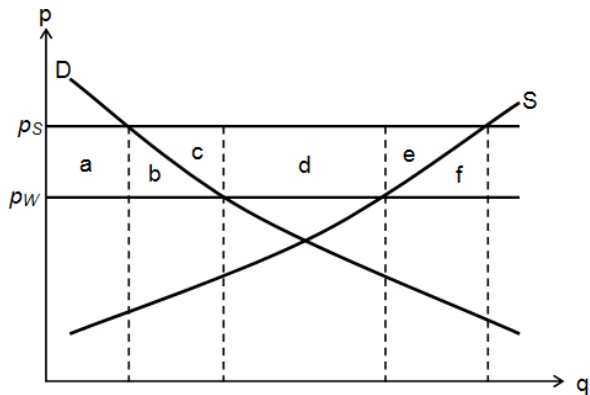
# Export subsidy

In the case of an export subsidy, the government pays a certain amount to the exporters for every unit sold abroad. As a result, the exporting sector expands its output and exports increase.

The graph below shows the welfare effects.

(Remark: Unlike the case of a tariff, a large country cannot potentially benefit from imposing an export subsidy. This is because the subsidy increases the quantity of goods exported and therefore its world price declines. Hence, the TOT of the country deteriorate.)





Consumers:  $-a-b$

Producers:  $+a+b+c+d+e$

Government:  $-b-c-d-e-f$

Net loss:  $-b-f$

# Other barriers to trade

- 1 Quotas: Equivalence between tariffs and quotas.  
The role of uncertainty
- 2 Embargo
- 3 VERs
- 4 Other indirect non-tariff barriers:
  - ▶ Government procurement policies
  - ▶ Health and safety standards

## (a) **Partial equilibrium**

Need elasticities of demand and supplies or elasticity of the demand for imports. A great deal of uncertainty.

Calculation of import elasticity: Regress import volume on prices, tariff rate, . . .

A simultaneity problem: Tariffs are endogenous. High tariffs are applied when imports are high. The estimated coefficient is biased downwards: Underestimation of welfare cost of protection.

(Trefler, JPE, 1993): Actual effect is ten times greater than estimated when one allows for endogenous tariffs!

## (b) **Applied general equilibrium (AGE)**

# Justification for trade protection

1. A device for raising revenue
2. A device for satisfying production/consumption goals (for instance, dealing with a particular distortion, environment, independence)
3. Income distribution

Distributional consequences of trade:

H-O	along factors
Specific factors	along industries
Intra-industry models	less pronounced distributional effects

## Theories

(a) Weighed social welfare

Some group's welfare is counted more heavily than others' e.g. Low skilled workers

(b) Conservative social welfare

Do not allow large changes in income distribution independent of who gains or loses

Irreversibility of protection because of the creation of vested interests (Latin America in the 30s and domestic industry creation)

(c) Collective action: Interest groups

Sugar quota in the US:

Cost = \$1,266 billion < \$10 per capita

Moreover, very few people know about the existence of the quota.

Gain = \$783 billion

Hundreds of thousands of \$ to each producer

Sugar producers are well organized.

*Small, well organized groups tend to succeed in promoting their own interest at the expense of the general public interest.*

Lobbying models

Media voter (majority voting)

Campaign contribution

## Remaining issues

1. Trade policy is not an efficient means of redistributing income

Example: How to help farmers

- (a) Direct income transfers
- (b) Production subsidy
- (c) Tariff

(c) is the most inefficient. Why is it chosen so often?

2. Why are trade policies biased against trade? (Why are import substitution activities favored?) Why tariffs rather than export subsidies?

History (time dependence)

Tariffs were a popular means of raising revenue for governments

But why so much persistence?

The inertia of state quo under uncertainty

Suppose that a policy reform will produce 60 winners and 40 losers. That each winner will gain +2 and each loser will lose -2. Suppose also that 40 of the winners have been identified and the rest do not know whether they will win or lose. Is policy reform going to attract a majority of the voters? NO.

For a voter who does not know whether he will win or lose, her expected gain/loss from voting in favor of the reform is

$(20/100) * (+2) + (60/100) * (-2) = (-40/100) * 2 = -0.8$ . A rational voter will vote against. Reform will not attract a majority.

- Employment
- Growth

To be discussed later after imperfect competition



# Empirical patterns

- 1 cross country experience
- 2 time variation

## Some general patterns

Countries with CA in manufacturing protect farmers

Resource rich countries protect industry

In the US: Steel, autos, sugar, textiles + clothing

Protection received by an industry is higher if

- (a) it is labor intensive, low skill, low wage industry
- (b) it has high import penetration
- (c) it produces consumption rather than intermediate goods
- (d) its production is regionally concentrated
- (e) little intra-industry trade
- (f) its customers are not highly concentrated