International Economics

Tariff and non-tariff barriers

Thomas Goda

The average grade of the first mid-term exam was 2.8 (without bonus)

Cohort	Average first mid-term	
2017-1	3.7	
2017-2	3.4	
2018-1	3.4	
2018-2	3.9	
2019-1	3.5	
2019-2	3.2	*Avg. pre-pandemia*
2020-1	3.7	**3.5**
2021-2	3.6	
2022-1	**3.2**	

What happened????

Agenda

- Tariff barriers
- Non-tariff barriers
- Effective rate of protection
- Conclusion

There exists different types of tariffs

- A tariff is a tax levied on a product when it crosses national boundaries (i.e. it is a tax on imports)

- There are three types of tariffs
  - **Specific tariff** – fixed monetary amount per unit of the imported good (e.g. $100 per computer)
  - **Ad valorem tariff** - fixed percentage of the value of the imported good (e.g. 10% of the worth of the computer)
  - **Compound tariff** - combines the elements of specific and ad valorem tariffs (e.g. $20 plus 10% of the worth of the computer)

Often countries are using a mixture of the different existing tariff types

Examples of US tariffs

Product	Duty Rate
Live, Chickens	0.9 cents each
Hams	1.4 cents/kg
Butter	12.3 cents/kg
Rice wine or Sake	3 cents/liter
Cheddar Cheese	16%
Caviar	15%
High Quality Beef Cuts	4%
Photographic Film in Rolls, 35mm	3.7%
Tire of Rubber for Motor Vehicles Radial	4%
Bicycles	11%
Mushrooms	8.8 cents/kg + 20%
Cigars each valued as less that 15 cents	$1.89/kg + 4.7%
Cigarettes, paper-wrapped	41.7 cents/kg + 0.9%
Women's or Girl's Overcoats made of wool	55.9 cents/kg + 16.4%

Source: Sawyer and Sprinkle (2009)

Tariffs can be used for the protection of domestic producers or to generate revenue

- **Protection**
  Tariff aims to reduce the amount of imports entering a country (to increase sales of domestic producers)

- **Government revenue generation**
  Tariff aims to generate government revenue, or sometimes to decrease inequality (tariff on luxury goods)

  For most countries nowadays tariff revenues are not very important (approximately 1% of total government revenue)

Developing Countries	Percentage
The Bahamas	51.2
Guinea	47.9
Ethiopia	33.5
Ghana	28.5
Sierra Leone	27.6
Madagascar	26.9
Dominican Republic	20.9
Jordan	11.3

Source: Carbaugh (2012)

On average developed countries have lower tariffs than developing countries

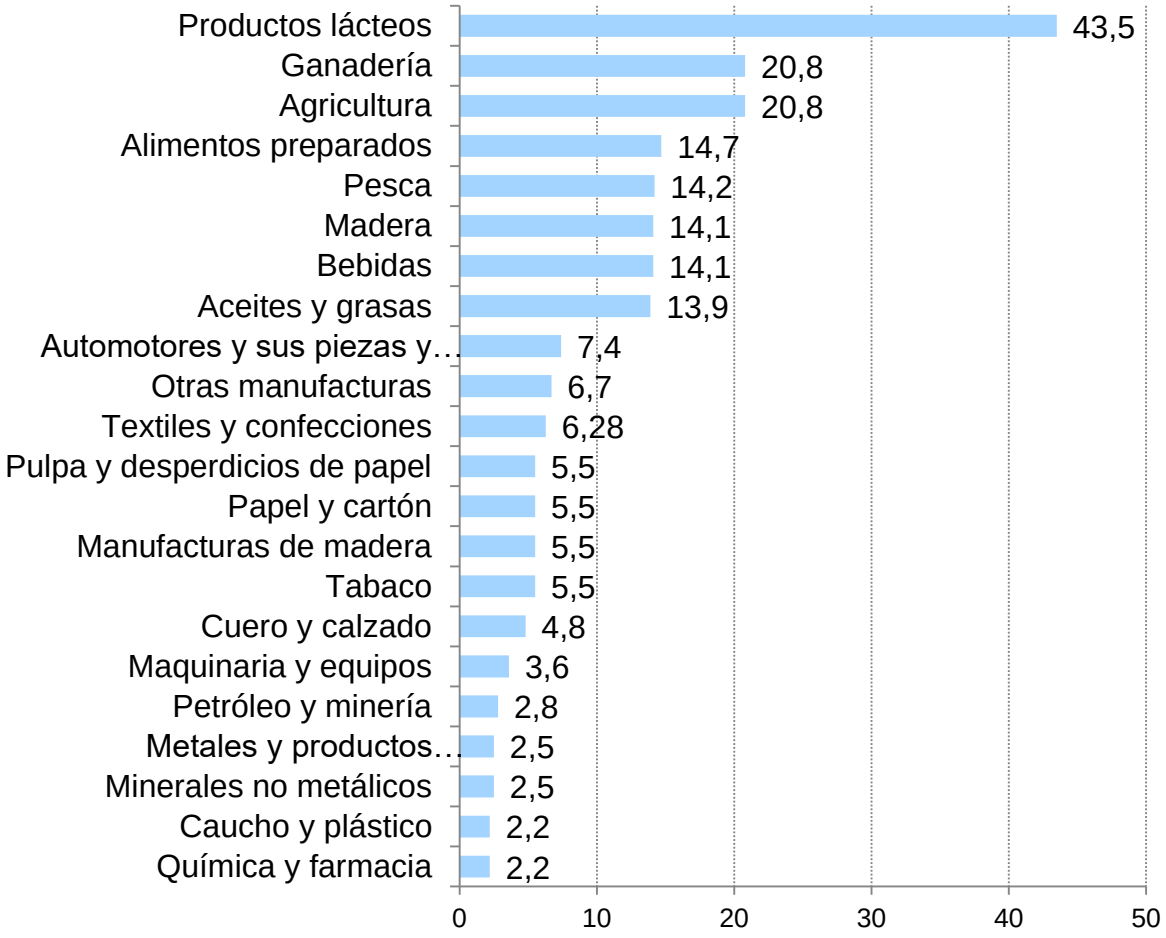
Examples of tariffs for selected countries (2007)

	United States	Canada	Japan	China	European Union
Textiles and clothing	9.6	11.7	7.4	17.5	7.9
Footwear	4.3	5.7	6.4	14.6	4.2
Metals	2.1	1.9	1.3	7.3	1.9
Chemicals	3.4	3.0	2.5	7.5	4.5
Nonelectrical machinery	1.2	1.5	0.0	9.9	1.7
Electrical machinery	1.9	2.4	0.2	10.4	2.5
Petroleum	1.9	3.0	1.7	5.0	3.1
Sugar	13.0	4.3	10.2	33.6	11.4
Dairy products	19.0	7.4	28.0	24.5	7.7
Average	3.9	4.1	3.2	12.4	4.2

Source: Carbaugh (2011)

Colombia has an array of tariffs; these are for protection rather than for revenue creation

Colombia's most favoured nation (MFN) tariffs in 2014



Source: CEPAL (2016)

In general terms, tariffs in Colombia are nowadays much lower than previously

Arancel industrial y aranceles en agricultura y minería en relación con el industrial, 1964-1997
(porcentaje)

	Agricultura/industria (1)	Minería/industria (2)	Arancel industria (3)
1964	57	27	79
1970	50	27	82
1976	54	31	34
1980	57	38	28
1984	54	37	48
1988	65	43	36
1989	69	46	33
1990	78	43	29
1995	73	44	14
1997	72	42	15

Source: BanRep (2019)

Protección arancelaria nominal y protección efectiva
(promedio simple)

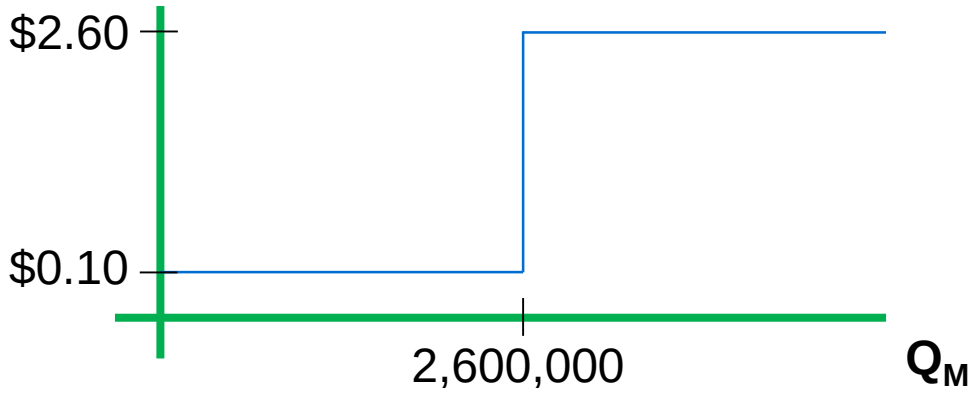
	1980	1991	2010
	A. Protección nominal		
Bienes de consumo	49	23	24
Bienes intermedios	18	11	9
Bienes de capital	15	4	4
Promedio	**26**	**12**	**12**
	B. Protección efectiva		
Bienes de consumo	52	35	35
Bienes intermedios	32	20	10
Bienes de capital	21	19	12
Promedio	**40**	**28**	**19**

Tariff-quotas are rarely used; when they are used "over-quota" tariff rates are often very high and impede the access of foreign competitors above quota levels

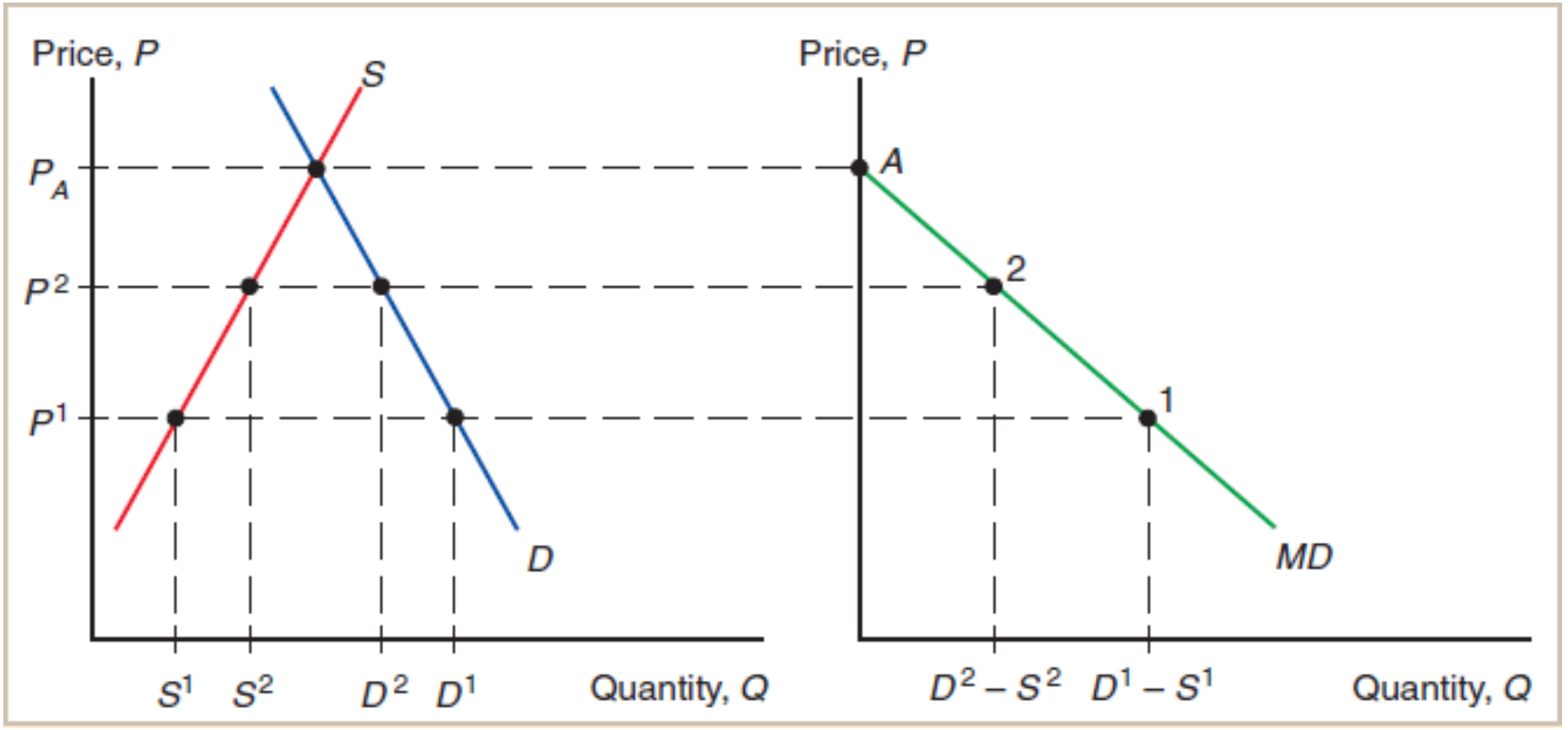
Examples of US tariff-quota rates

Product	Within-Quota Tariff Rate	Import-Quota Threshold	Over-Quota Tariff Rate
Peanuts	9.35 cents/kg	30,393 tons	187.9 percent ad valorem
Beef	4.4 cents/kg	634,621 tons	31.1 percent ad valorem
Milk	3.2 cents/L	5.7 million L	88.5 cents/L
Blue cheese	10 cents/kg	2.6 million kg	$2.60/kg
Cotton	4.4 cents/kg	2.1 million kg	36 cents/kg

Source: Carbaugh (2011)

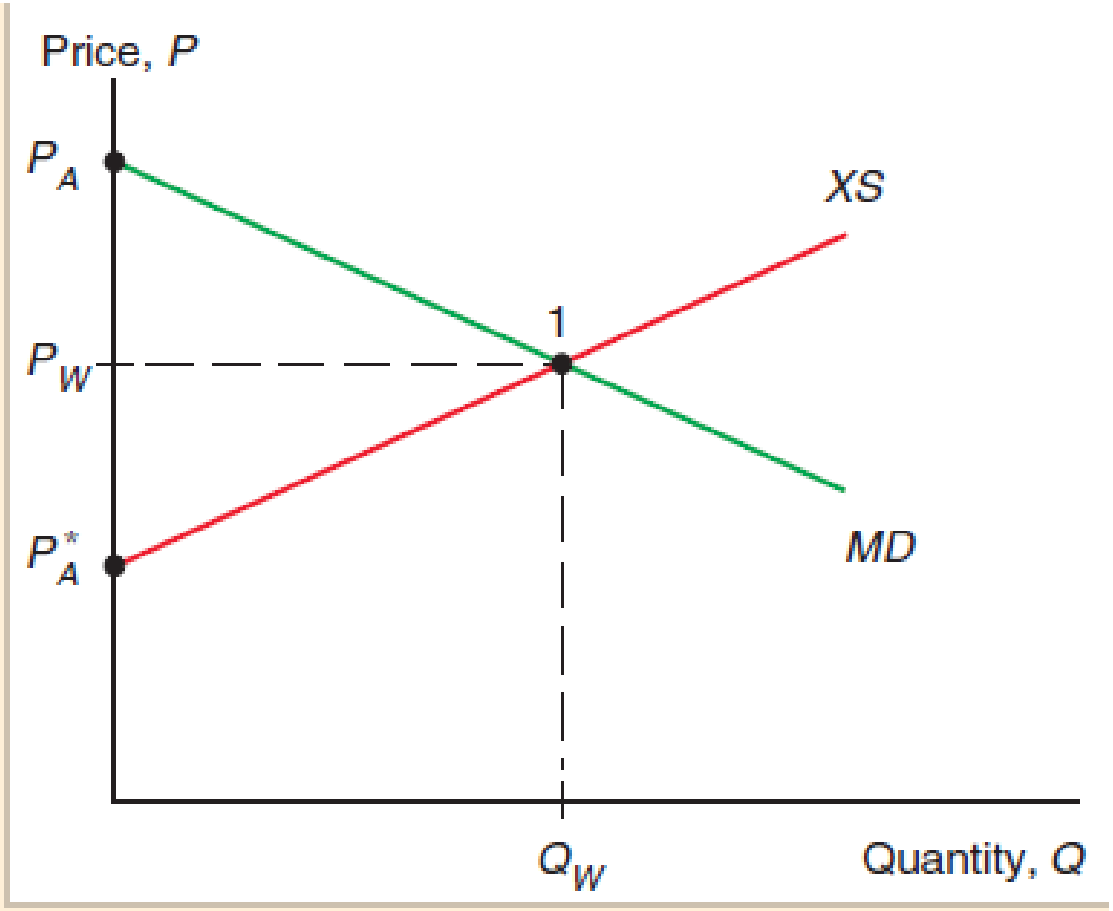


When the world price is below the domestic price,
<u>Home</u> consumers demand more and producers supply less

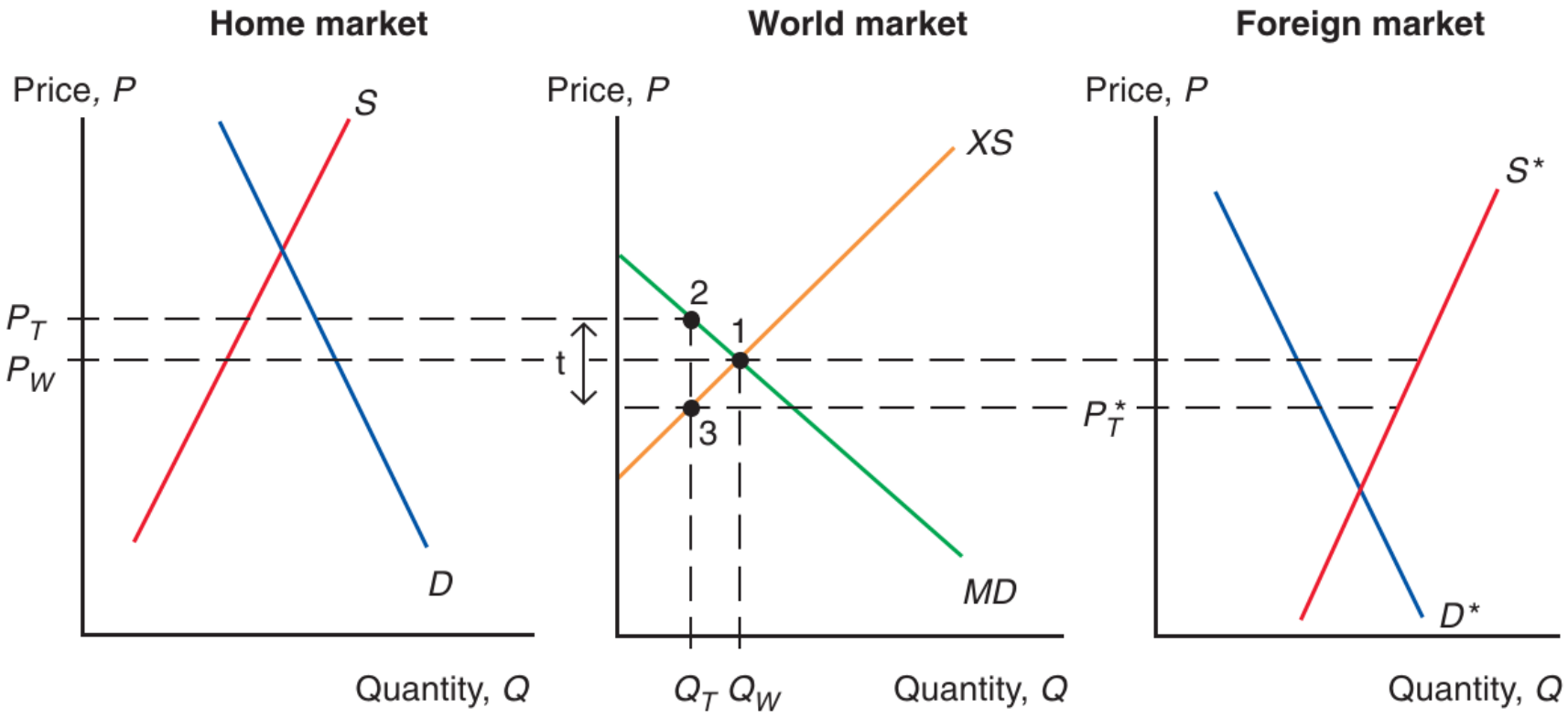


On the contrary, Foreign producers supply Home consumers and foreign consumers demand less

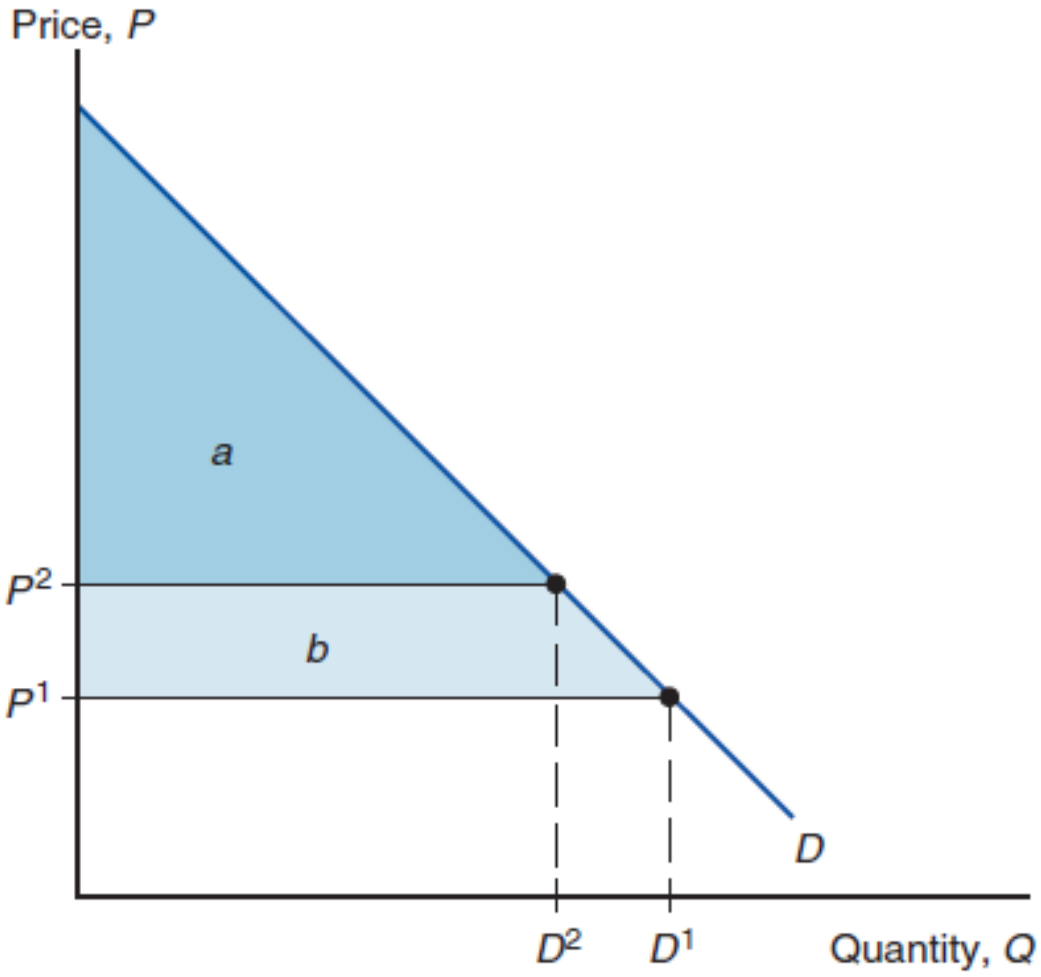
The equilibrium world price (P_W) is where Home import demand = Foreign export supply



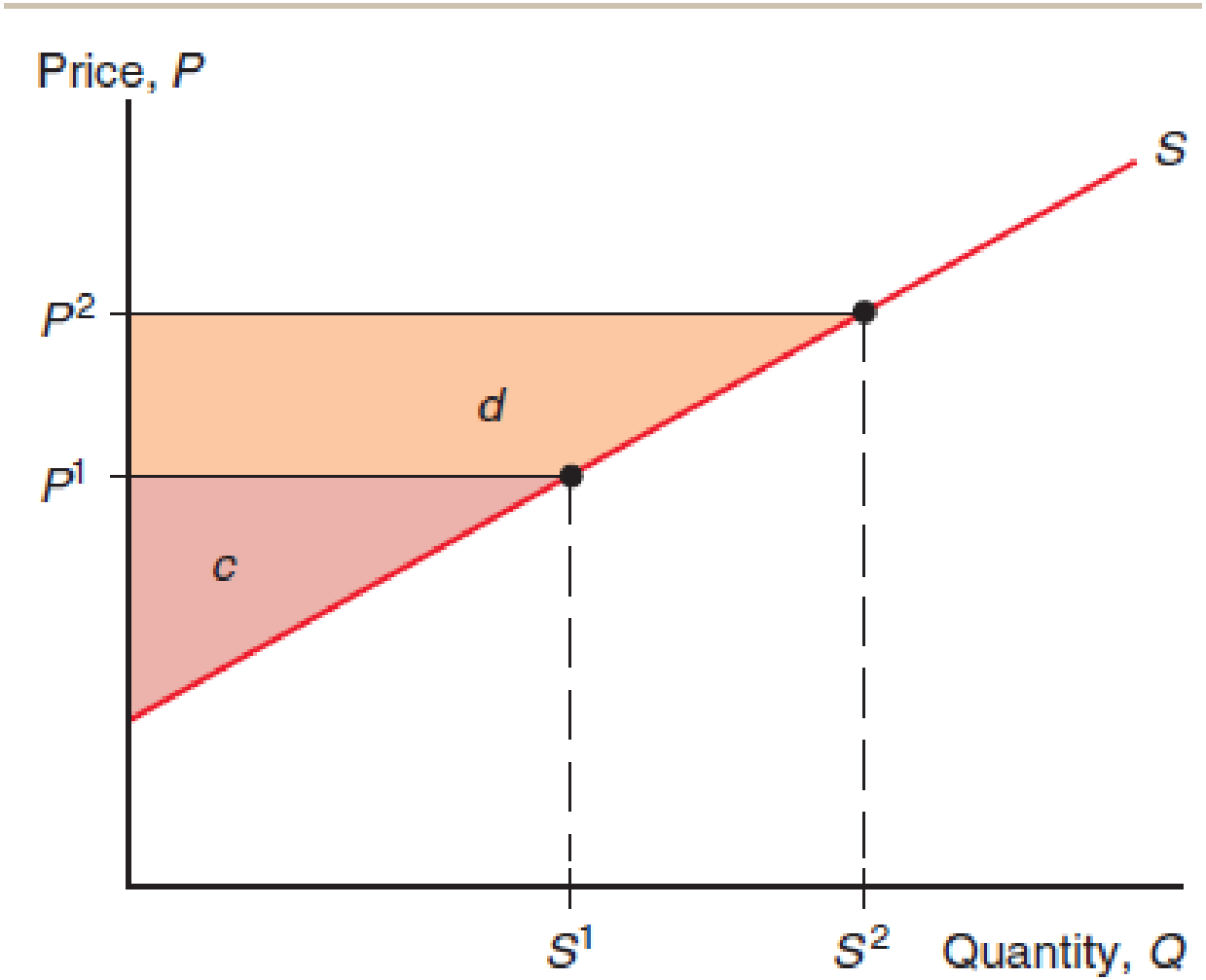
A tariff increases the price in Home and reduces the price in Foreign



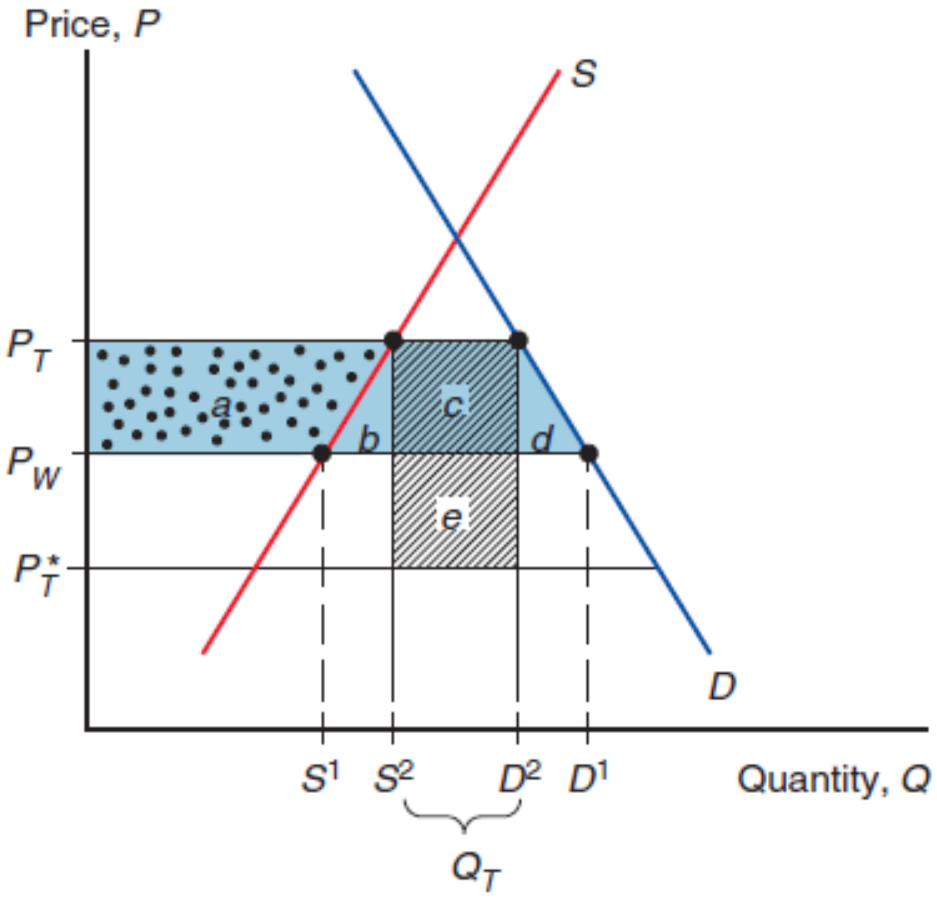
Consumer surplus is equal to the area under the demand curve and above the price



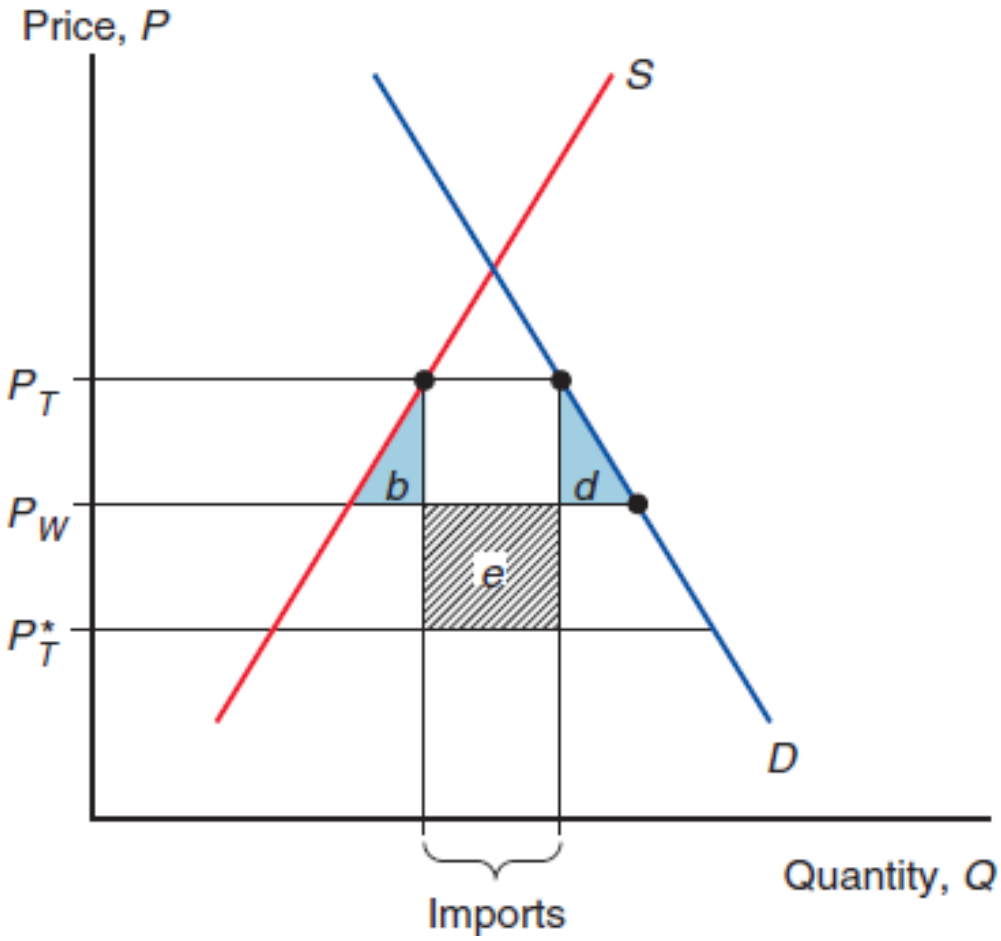
Producer surplus is equal to the area above the supply curve and below the price



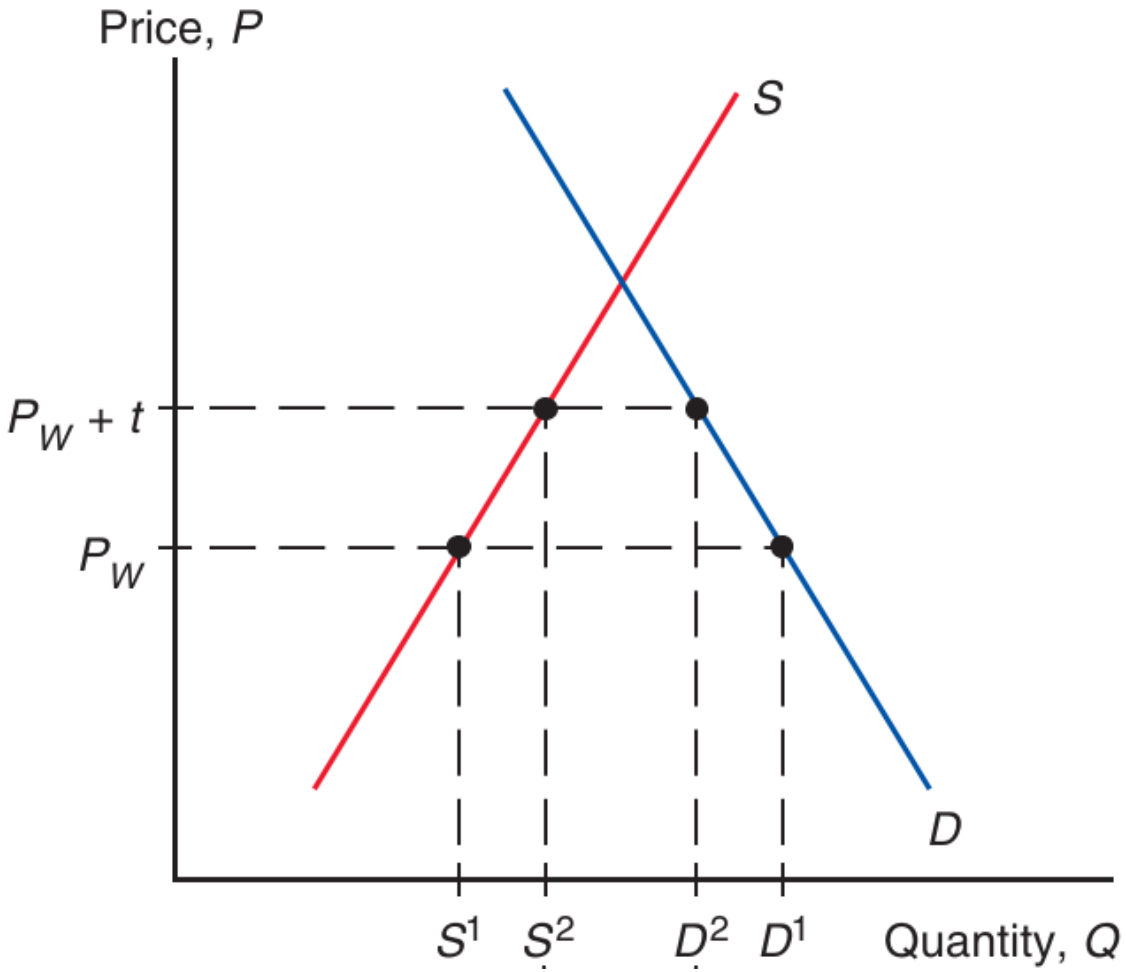
In a large country, a tariff rises the domestic price (P_W => P_T), and lowers the foreign price (P_W => P_T*); domestic production rises, domestic C falls, domestic G revenue rises



The gain/cost of a tariff depends on the ability of the tariff-imposing country to drive down foreign export prices (i.e. as smaller the country, as lower e, as higher the cost)



When Home is a small country, the tariff it imposes will not lower the price in Foreign



Agenda

Tariff barriers

Non-tariff barriers

Effective rate of protection

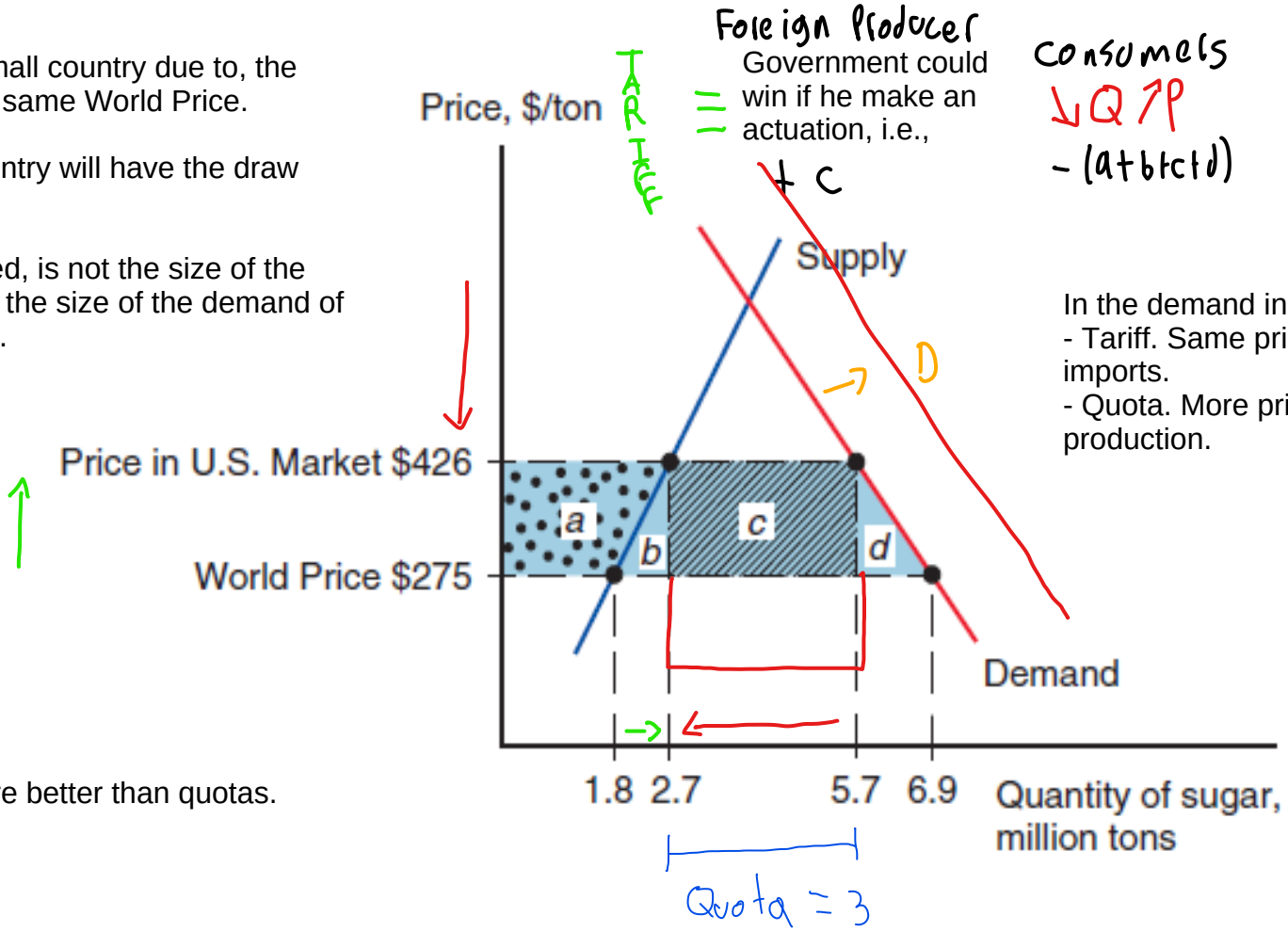
Conclusion

Import quotas can be more costly than tariffs when foreign producers receive quota rents and the government does not gain (can be circumvented by auctioning)

This is a small country due to, the price is the same World Price.

A large country will have the draw graph.

Note: Indeed, is not the size of the country but the size of the demand of the product.



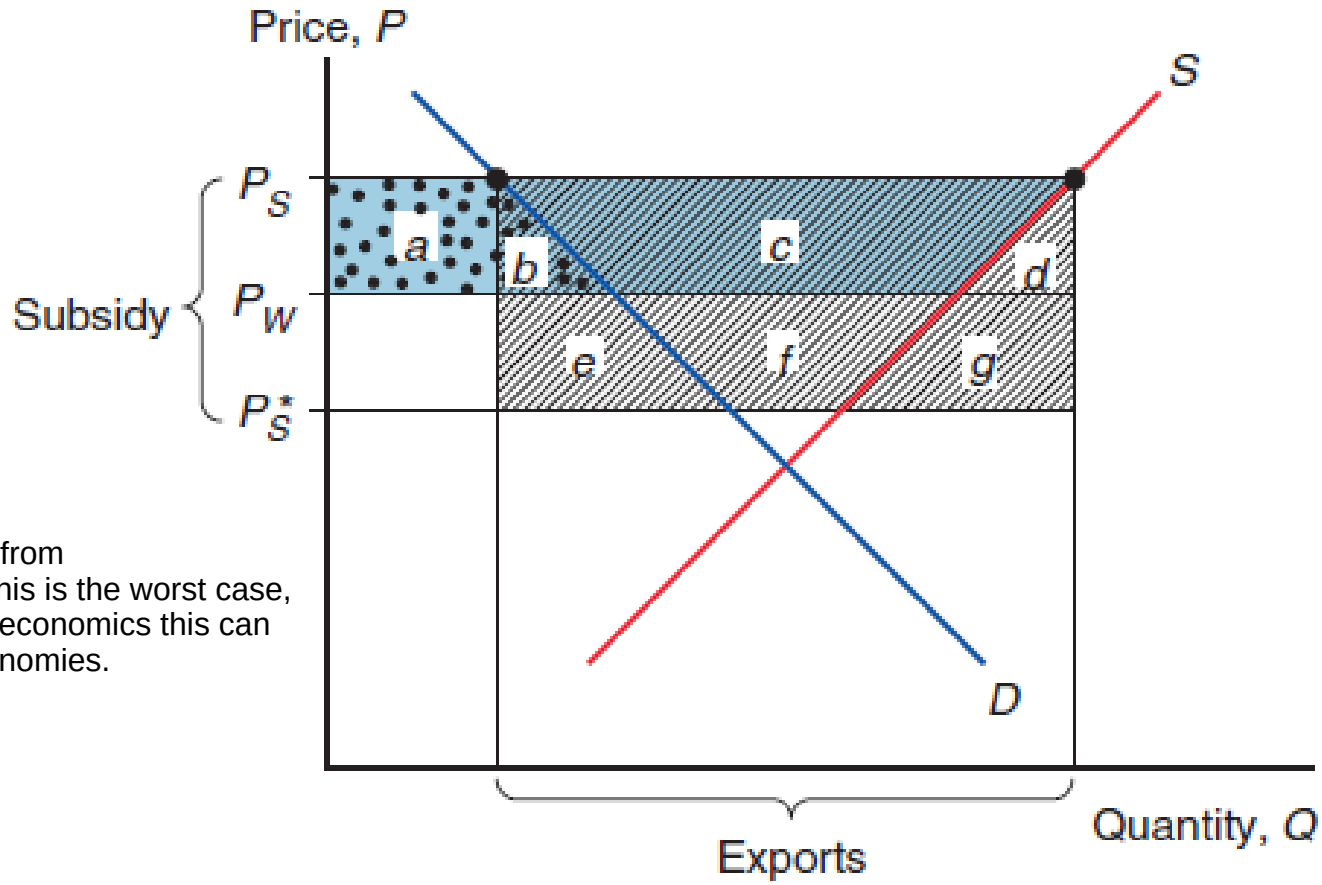
In the demand increase:
- Tariff. Same price, increase in imports.
- Quota. More price, more domestic production.

Tarifs are better than quotas.

Export subsidies always lower social welfare from a microeconomic perspective

	Government	Consumer	Producer	W elfare
↑P	-(b+c	-(a+b)	a+b+c	-(b+d+e+f+g)

This is a large country since the world price is lower.



If we analyze only from microeconomics, this is the worst case, but since of macroeconomics this can promote scale economies.

Other non-tariff trade barriers

- **Domestic content requirement** – part of the total value of the product needs to come from domestic producers (aim often is a technology transfer)
- **Product dumping** – temporary or persistent reduction of prices below average costs to force other competitors out of the market and/or achieve economies of scale
- **Government procurement policies** – the domestic government has the policy to prefer national products over foreign ones
- **Social regulations** – governments have certain health and safety regulations (sometimes those regulations are only introduced to prevent imports)
- **Transport and freight regulations** – restrictive practices on unloading cargo (e.g. only few duty officers that check imports), administrative burdens, small ports to increase transportation costs etc.

Colombia's president decides that only the imports will enter from Leticia.

Non-tariff trade protection (medidas no arancelarias; MNA) increased in Colombia

NTB

Cobertura de MNA en bienes de consumo, bienes intermedios y de capital (porcentaje)

	1991	1992	1993	1994	1996	1997	1999	2001	2003	2005	2006	2008	2012	2013	2014
I. Total	**27**	**34**	**46**	**53**	**59**	**62**	**64**	**63**	**78**	**77**	**77**	**76**	**76**	**78**	**78**
II. Bienes de consumo	**19**	**30**	**50**	**61**	**68**	**73**	**75**	**72**	**80**	**81**	**81**	**81**	**82**	**83**	**83**
1. No duraderos	19	35	61	71	80	86	88	88	92	92	93	92	92	93	93
2. Duraderos	17	18	27	37	41	43	44	35	52	53	54	55	58	59	59
III. Materias primas y bienes intermedios	**41**	**49**	**63**	**68**	**73**	**76**	**77**	**77**	**85**	**83**	**84**	**81**	**81**	**85**	**85**
1. Combustibles, lubricantes	45	39	40	59	67	67	67	72	100	100	100	96	77	77	77
2. Para la agricultura	30	70	94	97	99	99	99	100	100	100	100	100	100	100	100
3. Para la industria	41	48	62	67	72	75	76	76	84	82	83	80	80	85	84
IV. Bienes de capital	**8**	**10**	**10**	**18**	**21**	**21**	**25**	**21**	**60**	**59**	**60**	**59**	**57**	**58**	**58**
1. Materiales de construcción	20	26	28	41	42	42	42	36	63	62	62	55	48	50	51
2. Para la agricultura	7	7	5	8	14	15	15	11	48	46	46	47	25	25	25
3. Para la industria	4	5	5	9	10	10	16	16	57	56	56	57	58	58	58
4. Equipo de transporte	11	14	16	33	51	51	54	35	75	71	75	73	71	71	71

Fuente: WITS-Unctad; cálculos de los autores.

Source: BanRep (2019)

Non-tariff trade protection (medidas no arancelarias; MNA) increased in Colombia

Clasificación de las MNA usadas en Colombia

Medidas básicas	3000 Medidas de control de precios
	4000 Medidas financieras (excepto el código 417)
	6000 Medidas de control de cantidades (excepto códigos 617, 627 y 637) Quotas
	7000 Medidas monopolísticas
Medidas no básicas	5000 Medidas relativas a la concesión automática de licencias
	8000 Medidas técnicas
	4170 Depósito reembolsable para categorías de productos sensibles
	6170 Autorización previa para categorías de productos sensibles
	6270 Contingentes para categorías de productos sensibles
	6370 Prohibición para categorías de productos sensibles

Fuente: Unctad (Trains).

Source: BanRep (2019)

Non-tariff trade protection (medidas no arancelarias; MNA) increased in Colombia

To study this rea

MNA básicas y no básicas vigentes entre 1967 y 2008
(distribución en porcentajes)

	A.					
	1967-1983	1984-1990	1991	1992-1994	1995	1996-1998
	(1)	(2)	(3)	(4)	(5)	(6)
Medidas básicas	**8**	**21**	**17**	**3**	**10**	**6**
Monopolísticas	0	0	0	2	0	3
Control de precios	0	0	7	0	4	0
Control de cantidades	8	21	10	1	6	3
Medidas no básicas	**92**	**79**	**83**	**97**	**90**	**94**
Memo ítems:						
A. Reglamentaciones reportadas en la base de cada año	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.
B. Reglamentaciones por producto	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.

	B.						
	1999	2001	2003	2004	2005	2006	2008
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Medidas básicas	**8**	**10**	**12**	**12**	**16**	**16**	**16**
Monopolísticas	1	3	5	5	4	4	4
Control de precios	2	2	2	2	2	2	4
Control de cantidades	5	4	5	5	9	9	8
Medidas no básicas	**92**	**90**	**88**	**88**	**84**	**84**	**84**
Memo ítems:							
A. Reglamentaciones reportadas en la base de cada año	17.031	16.355	20.893	21.694	22.288	22.578	25.459
B. Reglamentaciones por producto	3,9	3,8	4,2	4,4	4,5	4,5	4,8

Source: BanRep (2019)

Agenda

Tariff barriers

Non-tariff barriers

Effective rate of protection

Conclusion

Measure the efficiency of the protection of the barrier

However, the effective protection of S_{home} also depends on the tariffs for imported inputs

What iff the government fix 50% of inputs, and 25% in output.
6000*1.5 = 9000, 1000/2000 - 1 = -0.5
A very high tarif to the inputs could kill industry.

Have a limitation, that if the imported imputs can be substitute, the imported imports could be substitute by domestic products

- The **effective rate of protection** can be defined as $(V_T - V_W) / V_W$ = 100%
  - V_W = value added in the sector at world prices; V_T = is value added in the presence of trade policies.

- To encourage a domestic auto industry, the first country places a **25% tariff** on imported autos (cost of imported inputs are $6,000; domestic costs $2,000) = 8,000
  - Domestic assemblers can charge $10,000 instead of $8,000 Domestic Price 10K
  - The **effective rate of protection** is 100% Global Price 8K
    - Instead of $2,000 ($V_W$) domestic assemblers can have costs of $4,000 ($V_{T1}$) small country

- To encourage the domestic production of parts for the domestic auto industry, the country also introduces a 10% tariff on imported parts
  - The costs of imported inputs increase from $6,000 to $6,600
  - As a result, the **effective rate of protection** now only is 70% (30% less than before) $\frac{3400}{2000} - 1$
    - Instead of $4,000 ($V_{T1}$) domestic assemblers now only can have costs of $3,400 ($V_{T2}$)

Domestic cost 2000 → 4.000, V_T = 4.000
V_W = 2,000

In general terms, tariffs in Colombia are nowadays much lower than previously

Protección arancelaria nominal y protección efectiva (promedio simple)

	1980	1991	2010
A. Protección nominal			
Bienes de consumo	49	23	24
Bienes intermedios	18	11	9
Bienes de capital	15	4	4
Promedio	**26**	**12**	**12**
B. Protección efectiva			
Bienes de consumo	52	35	35
Bienes intermedios	32	20	10
Bienes de capital	21	19	12
Promedio	**40**	**28**	**19**

Source: BanRep (2019)

Decrease in both, but more in nominal (in %)

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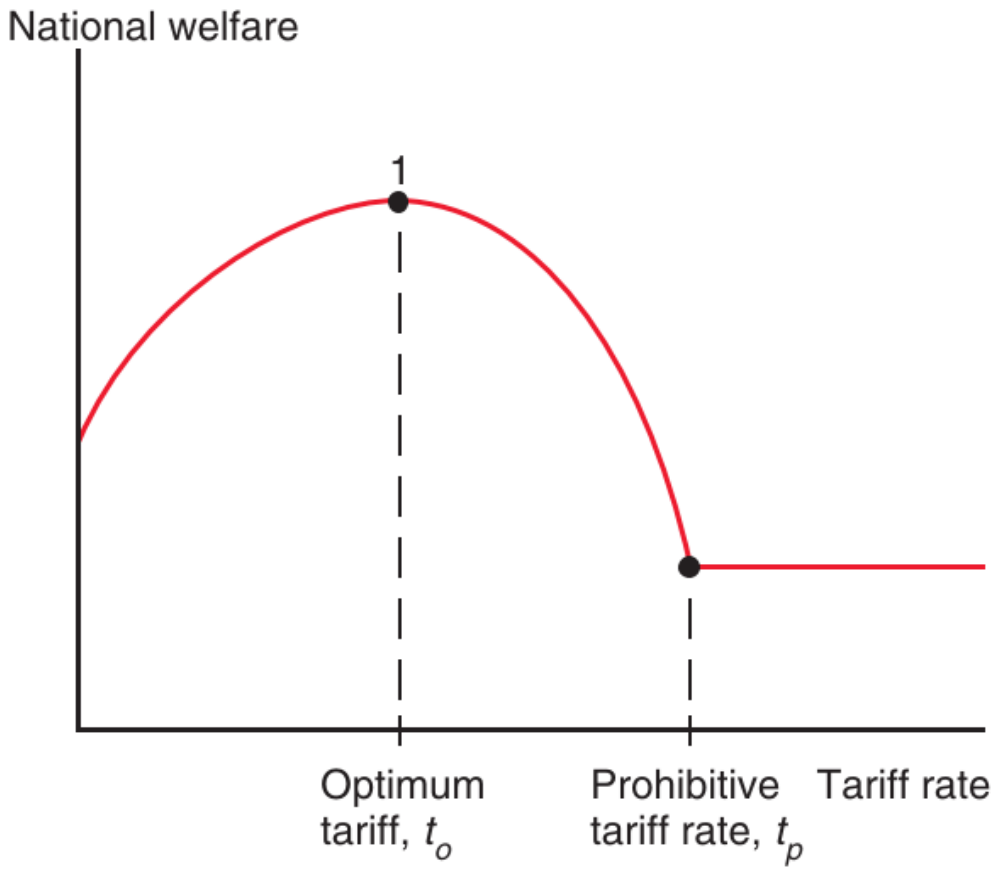
Microeconomic effects of different commercial policies (assuming full employment, increasing marginal costs and perfect competition)

	Tariff (Large / Small)	Export Subsidy	Import Quota
Producer surplus	Increases ↙ —	Increases	Increases
Consumer surplus	Falls ↗ —	Falls	Falls
Government revenue	Increases	Falls (government spending rises)	No change (rents to license holders) ↗ if license
Overall national welfare	Ambiguous (falls for small country)	Falls	Ambiguous (falls for small country)

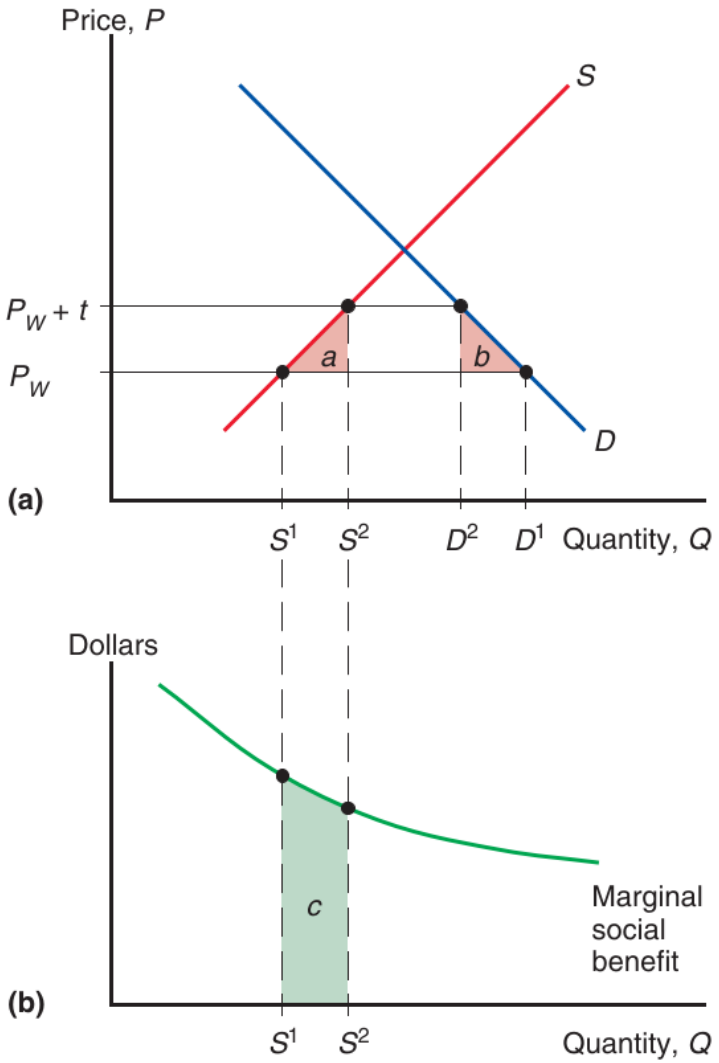
Source: Krugman (2018)

For a large country, there is an optimum tariff (marginal gain from improved terms of trade = marginal efficiency loss)



Source: Krugman (2018)

Domestic production can yield benefits that outweigh the efficiency loss



Source: Krugman (2018)

From a macroeconomic perspective restrictive trade policies can have some benefits

- Free trade provides productivity gains in the long-run (specialization in most productive resources and increasing competition)

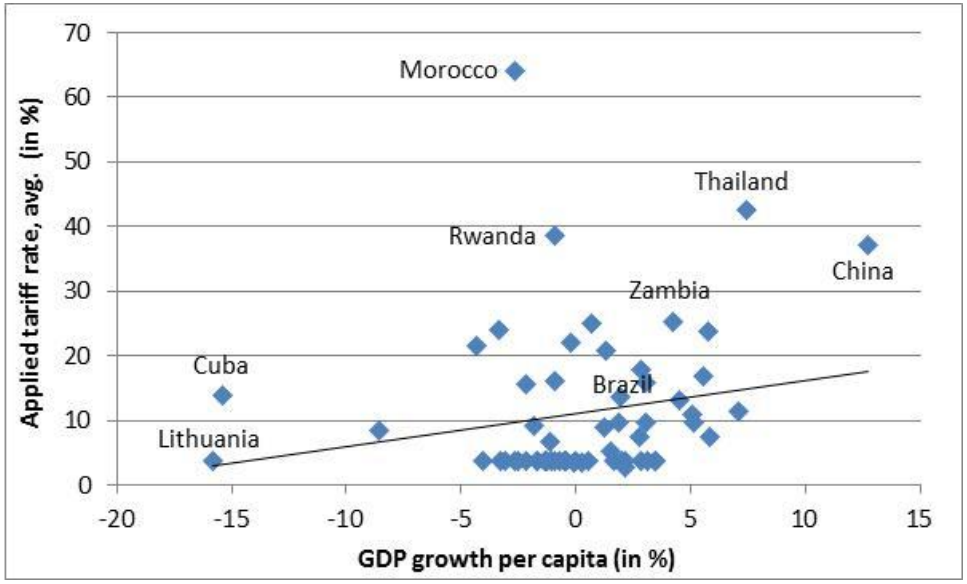
- However, restrictive trade policies can also have long-term gains, when:
  - they ensure a "level playing field" (e.g. counteract subsidies in foreign countries)
  - they avoid an overly dependence on other countries (e.g. food security)
  - the protection of certain industries leads to an increase in economies of scale and/or the competitiveness of high-value added sectors (industrial policies; week 8)
  - they avoid persistent current account deficits and BoP crisis which are very costly (BoP, week 12)

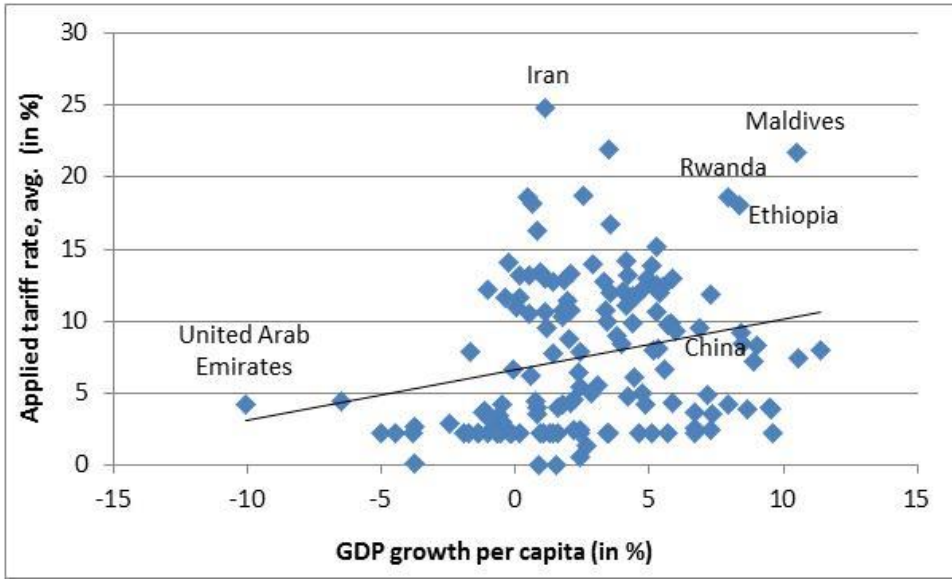
➢ Countries need to outweigh the costs and benefits of trade restrictions and choose wisely which sectors they want to protect

It is highly questionable if a decrease in tariffs is a sufficient condition to foster growth

"we are skeptical that there is a strong negative relationship in the data between trade barriers and economic growth, at least for levels of trade restrictions observed in practice."
(Rodriguez and Rodrik, 1999, p. 61)

Tariff barriers vs. economic growth reverse (1993 and 2008)





World Bank, 2012

It is highly questionable if a decrease in tariffs is a sufficient condition to foster growth

	Real Income gain ($ billion)	Gain due just to change in terms of trade ($ billion)	as % of baseline income in 2015
Australia and New Zealand	6.1	3.5	1.0
EU 25 plus EFTA	65.2	0.5	0.6
United States	16.2	10.7	0.1
Canada	3.8	-0.3	0.4
Japan	54.6	7.5	1.1
Korea and Taiwan	44.6	0.4	3.5
Hong Kong and Singapore	11.2	7.9	2.6
Argentina	4.9	1.2	1.2
Bangladesh	0.1	-1.1	0.2
Brazil	9.9	4.6	1.5
China	5.6	-8.3	0.2
India	3.4	-9.4	0.4
Indonesia	1.9	0.2	0.7
Thailand	7.7	0.7	3.8
Vietnam	3.0	-0.2	5.2
Russia	2.7	-2.7	0.6
Mexico	3.6	-3.6	0.4
High-income countries	201.6	30.3	0.6
Developing countries—WTO definition	141.5	-21.4	1.2
Developing countries	85.7	-29.7	0.8
Middle - income countries	69.5	-16.7	0.8
Low-income countries	16.2	-12.9	0.8
East Asia and Pacific	23.5	-8.5	0.7
South Asia	4.5	-11.2	0.4
Europe and Central Asia	7.0	-4.0	0.7
Middle East and North Africa	14.0	-6.4	1.2
Sub-Saharan Africa	4.8	-1.8	1.1
Latin America and the Caribbean	28.7	2.2	1.0
World Total	**287.3**	**0.6**	**0.7**

Fuente: Rodrik (2007)

Please answer the following question in your groups and send the answer via Interactiva email :

Considering what we have seen in class, the information from the video "America vs. China: why the trade war won't end soon" and other information that you can find in the internet, please answer the following:

a) *Please describe the trade war between the USA and China: When did it start? Why? Was there any important sequence of events? Which are the sectors that are most affected/targeted?*

b) *Considering the instruments that have been used from both countries, please show graphically what are the expected consequences for producers, consumers, the government and overall national welfare in the USA and China (from a microeconomic perspective) and global prices.*