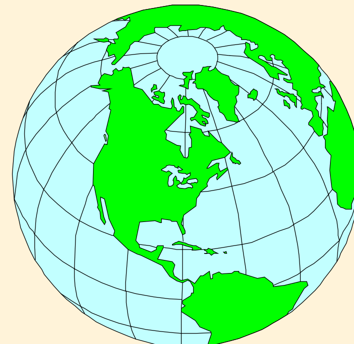
Application: International Trade

01.06.2020

Macroeconomics

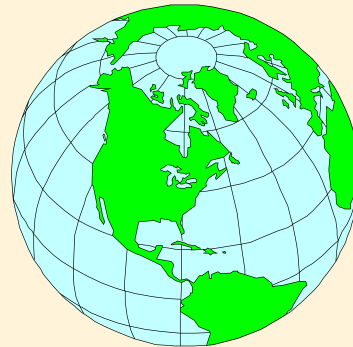
International Trade

- What determines whether a country imports or exports a good?



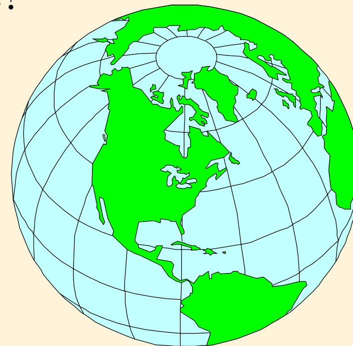
International Trade

- Who gains and who loses from free trade among countries?



International Trade

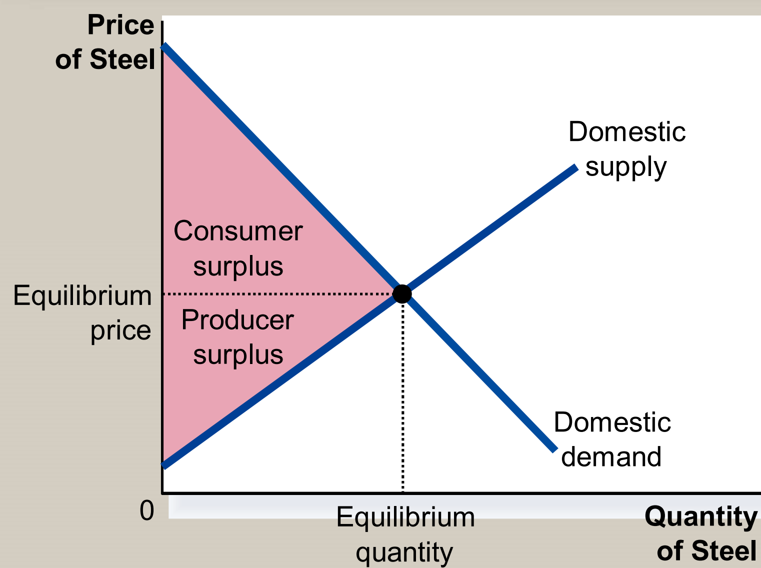
- What are the arguments that people use to advocate trade restrictions?



THE DETERMINANTS OF TRADE

- Equilibrium Without Trade
  - Assume:
    - A country is isolated from rest of the world and produces steel.
    - The market for steel consists of the buyers and sellers in the country.
    - No one in the country is allowed to import or export steel.

Figure 1The Equilibrium without International Trade



The Equilibrium Without International Trade

- Equilibrium Without Trade
  - Results:
    - Domestic price adjusts to balance demand and supply.
    - The sum of consumer and producer surplus measures the total benefits that buyers and sellers receive.

The World Price and Comparative Advantage

- If the country decides to engage in international trade, will it be an importer or exporter of steel?

The World Price and Comparative Advantage

- The effects of free trade can be shown by comparing the domestic price of a good without trade and the *world price* of the good. The *world price* refers to the price that prevails in the world market for that good.

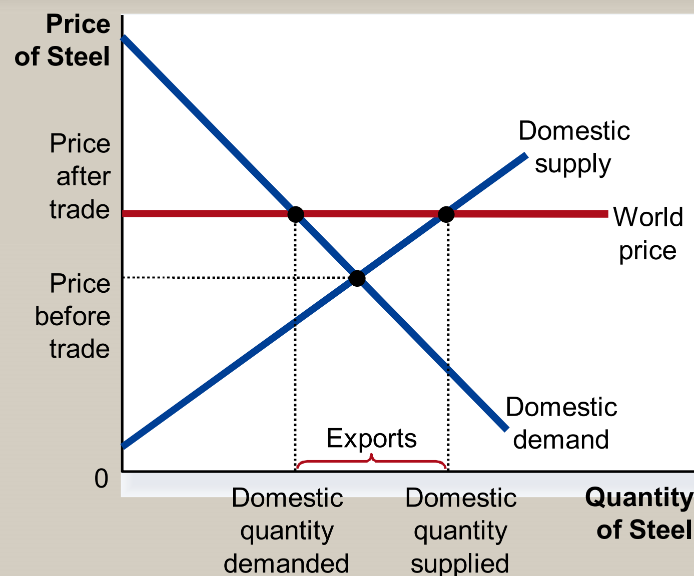
The World Price and Comparative Advantage

- If a country has a comparative advantage, then the domestic price will be below the world price, and the country will be an *exporter* of the good.

The World Price and Comparative Advantage

- If the country does not have a comparative advantage, then the domestic price will be higher than the world price, and the country will be an *importer* of the good.

Figure 2 International Trade in an Exporting Country



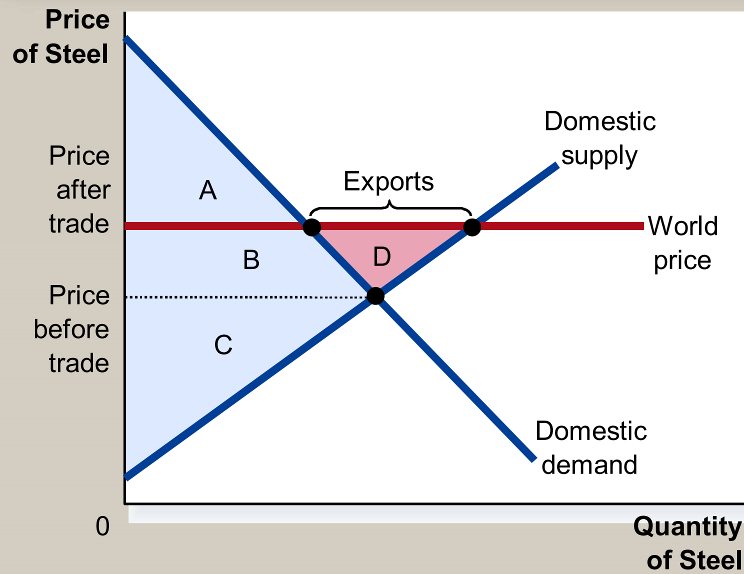


Figure 3 How Free Trade Affects Welfare in an Exporting Country
Price of Steel
Price after trade
Price before trade
A
B
C
D
Exports
Domestic supply
World price
Domestic demand
0
Quantity of Steel

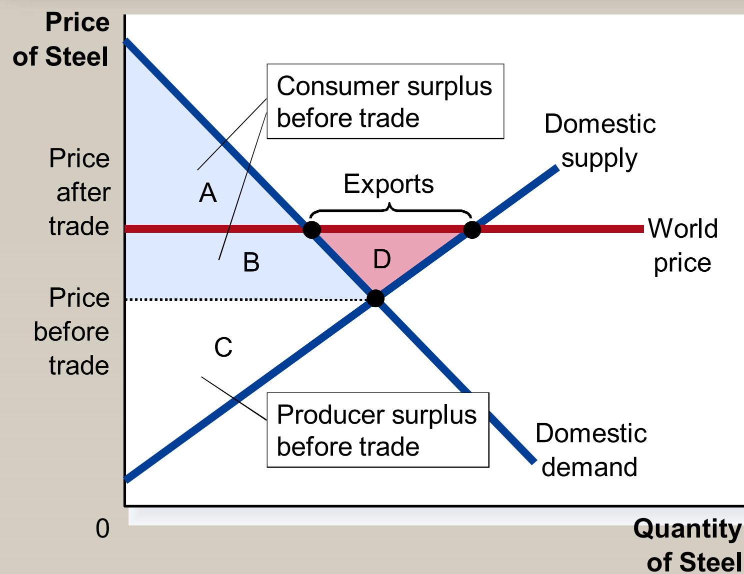


Figure 3 How Free Trade Affects Welfare in an Exporting Country
Price of Steel
Consumer surplus before trade
Price after trade
Price before trade
A
B
C
D
Exports
Domestic supply
World price
Producer surplus before trade
Domestic demand
0
Quantity of Steel

How Free Trade Affects Welfare in an Exporting Country

	Before Trade	After Trade	Change
Consumer Surplus	A + B	A	−B
Producer Surplus	C	B + C + D	+(B + D)
Total Surplus	A + B + C	A + B + C + D	+D

The area D shows the increase in total surplus and represents the gains from trade.

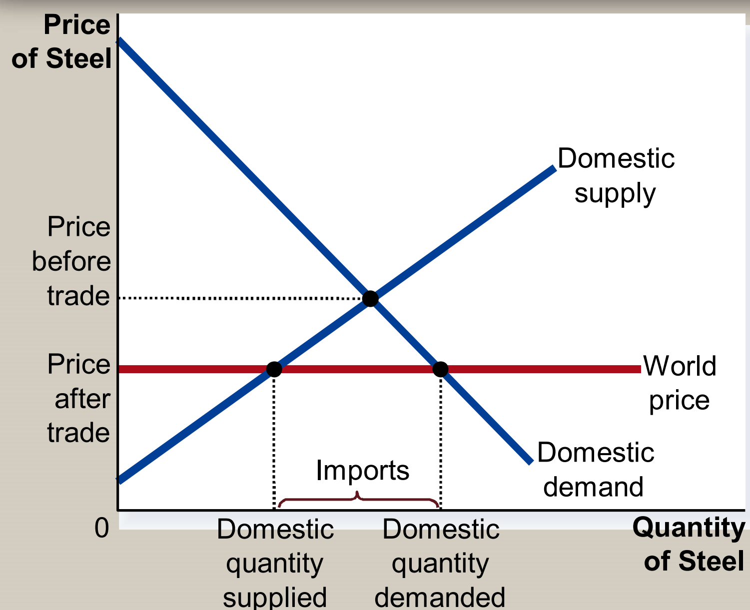
THE WINNERS AND LOSERS FROM TRADE

- The analysis of an exporting country yields two conclusions:
  - Domestic producers of the good are better off, and domestic consumers of the good are worse off.
  - Trade raises the economic well-being of the nation as a whole.

The Gains and Losses of an Importing Country

- International Trade in an Importing Country
  - If the world price of steel is lower than the domestic price, the country will be an importer of steel when trade is permitted.
  - Domestic consumers will want to buy steel at the lower world price.
  - Domestic producers of steel will have to lower their output because the domestic price moves to the world price.

Figure 4 International Trade in an Importing Country



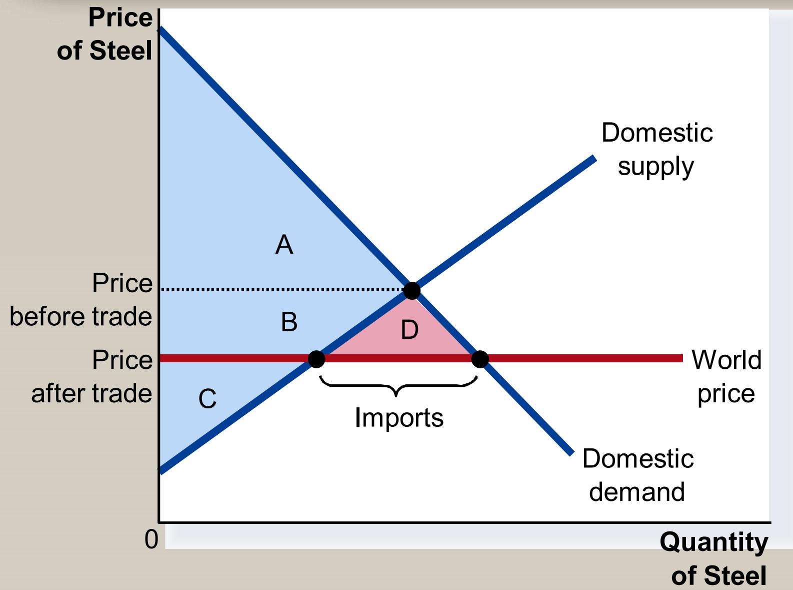


Figure 5 How Free Trade Affects Welfare in an Importing Country
Price of Steel
Domestic supply
A
Price before trade
B
D
Price after trade
World price
C
Imports
Domestic demand
0
Quantity of Steel

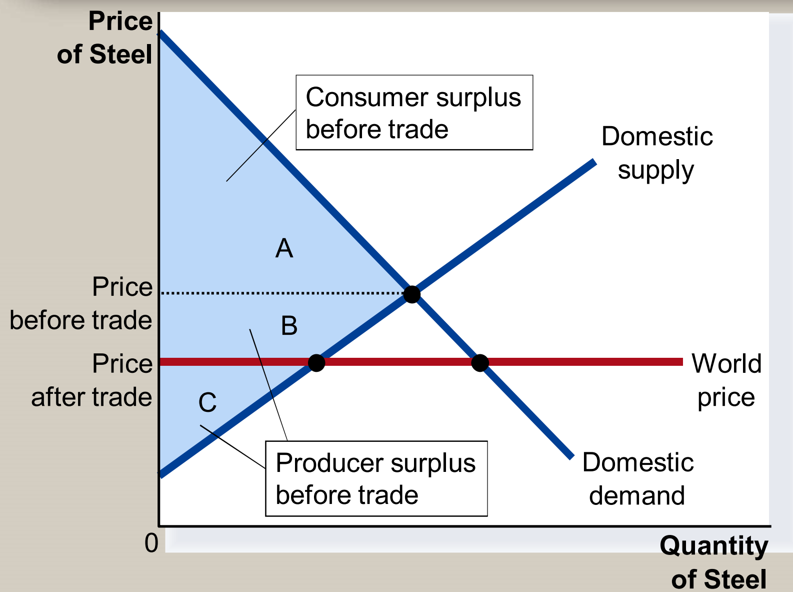
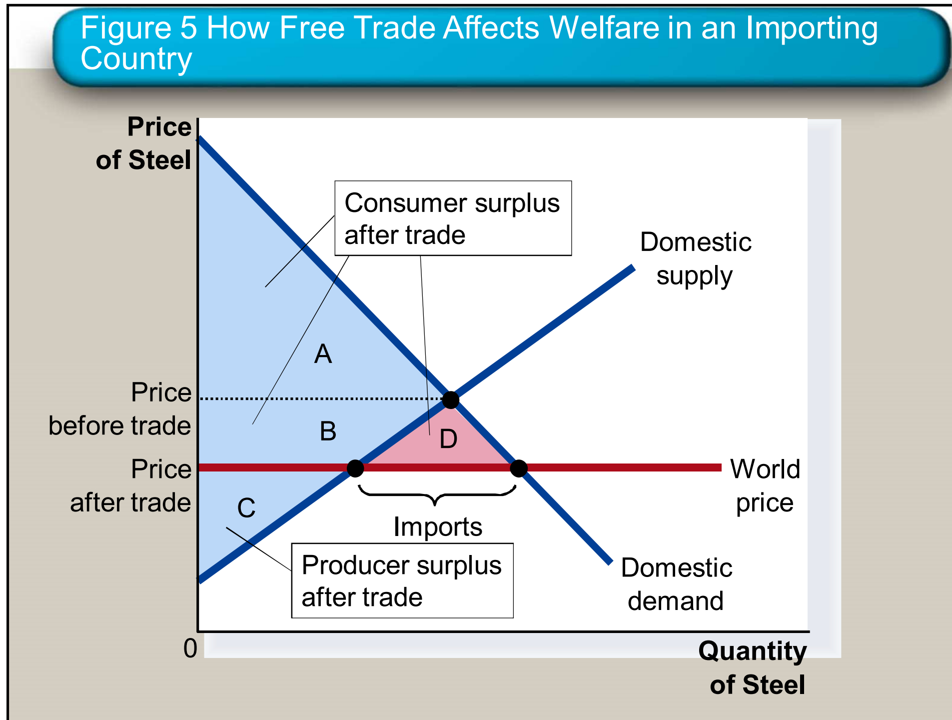


Figure 5 How Free Trade Affects Welfare in an Importing Country
Price of Steel
Consumer surplus before trade
Domestic supply
A
Price before trade
B
Price after trade
World price
C
Producer surplus before trade
Domestic demand
0
Quantity of Steel



How Free Trade Affects Welfare in an Importing Country

	Before Trade	After Trade	Change
Consumer Surplus	A	A + B + D	+(B + D)
Producer Surplus	B + C	C	−B
Total Surplus	A + B + C	A + B + C + D	+D

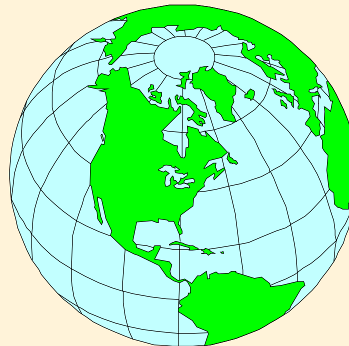
The area D shows the increase in total surplus and represents the gains from trade.

THE WINNERS AND LOSERS FROM TRADE

- How Free Trade Affects Welfare in an Importing Country
  - The analysis of an importing country yields two conclusions:
    - Domestic producers of the good are worse off, and domestic consumers of the good are better off.
    - Trade raises the economic well-being of the nation as a whole because the gains of consumers exceed the losses of producers.

THE WINNERS AND LOSERS FROM TRADE

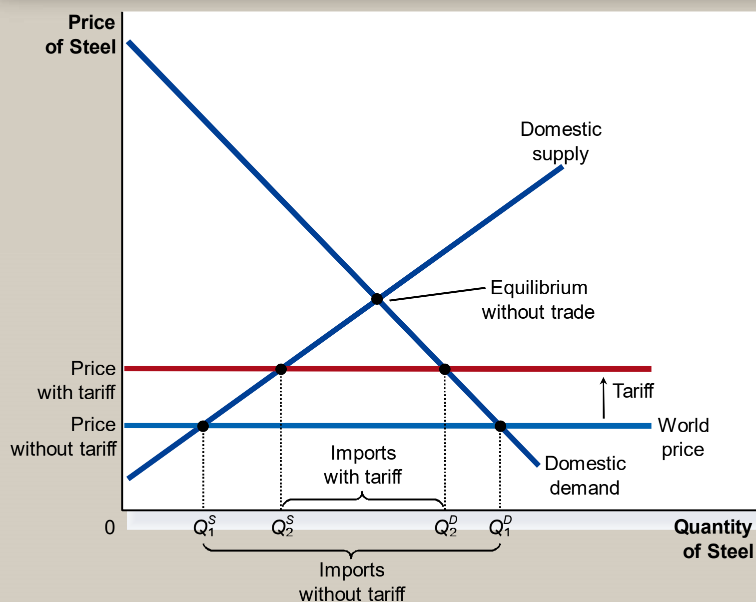
- The gains of the winners exceed the losses of the losers.
- The net change in total surplus is positive.



The Effects of a Tariff

- A *tariff* is a tax on goods produced abroad and sold domestically.
- Tariffs raise the price of imported goods above the world price by the amount of the tariff.

Figure 6 The Effects of a Tariff



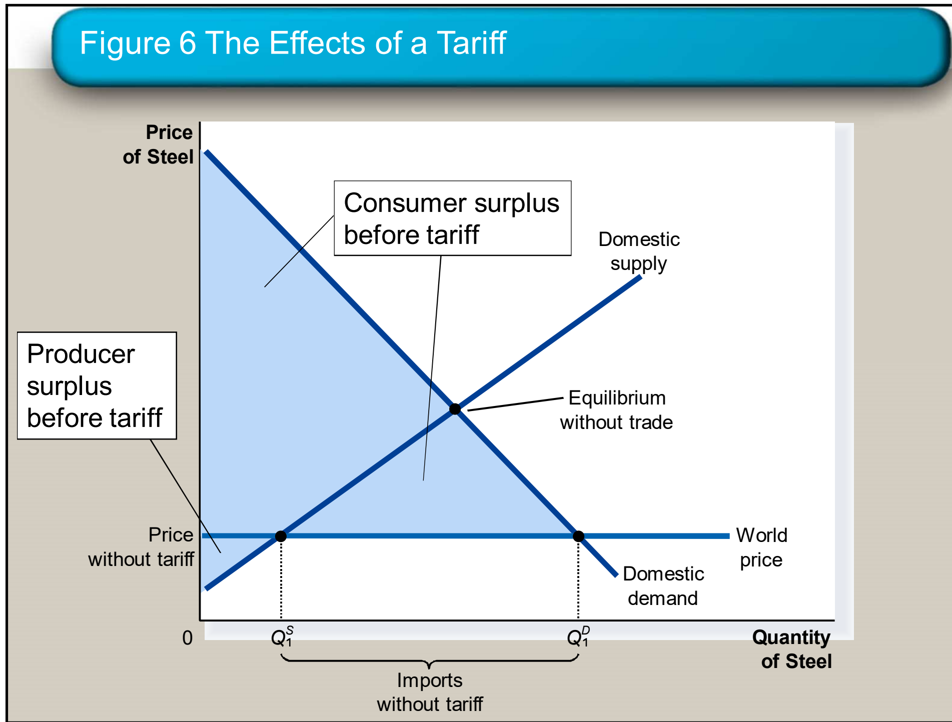


Figure 6 The Effects of a Tariff
Price of Steel
Consumer surplus before tariff
Domestic supply
Producer surplus before tariff
Equilibrium without trade
Price without tariff
World price
Domestic demand
0
Q_1^S
Q_1^D
Quantity of Steel
Imports without tariff

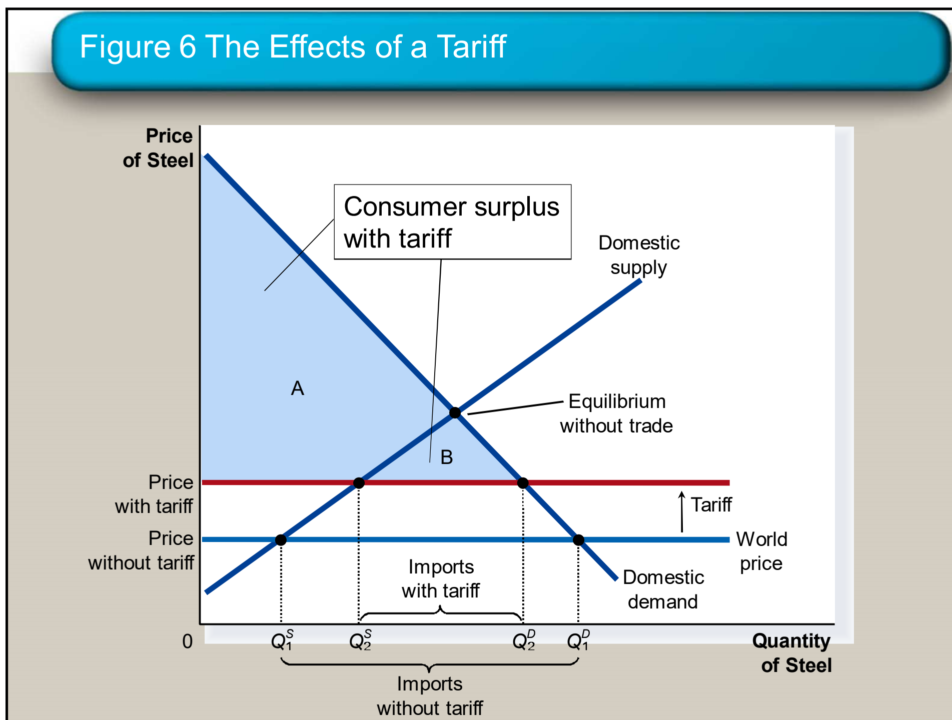


Figure 6 The Effects of a Tariff
Price of Steel
Consumer surplus with tariff
Domestic supply
A
Equilibrium without trade
B
Price with tariff
Tariff
Price without tariff
World price
Imports with tariff
Domestic demand
0
Q_1^S
Q_2^S
Q_2^D
Q_1^D
Quantity of Steel
Imports without tariff

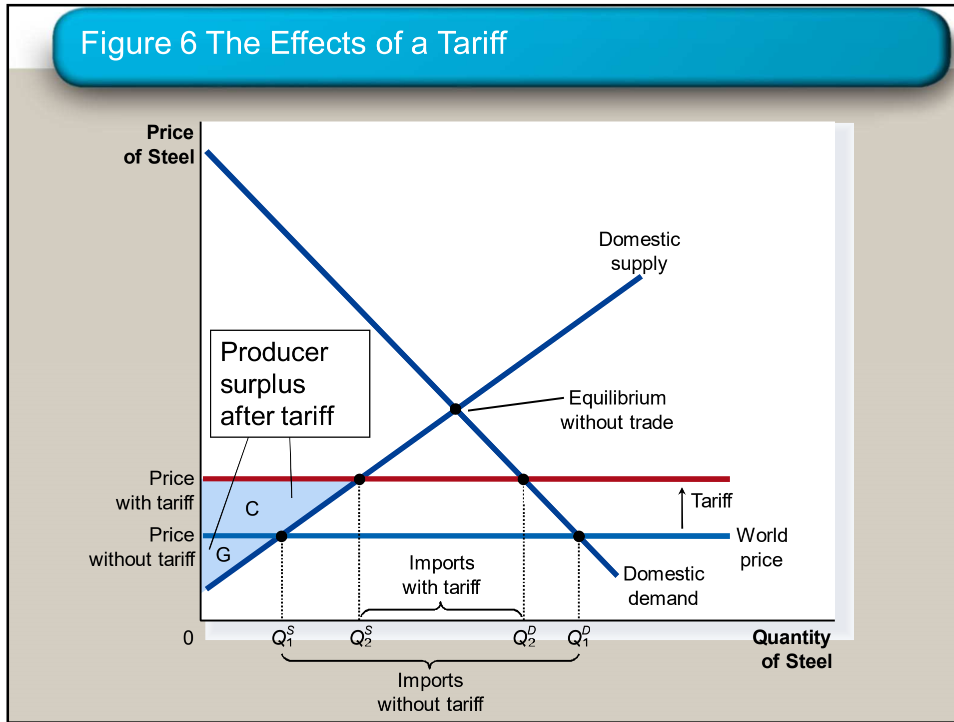


Figure 6 The Effects of a Tariff
Price of Steel
Domestic supply
Producer surplus after tariff
Equilibrium without trade
Price with tariff
C
Tariff
Price without tariff
G
World price
Imports with tariff
Domestic demand
0
Q_1^S
Q_2^S
Q_2^D
Q_1^D
Quantity of Steel
Imports without tariff

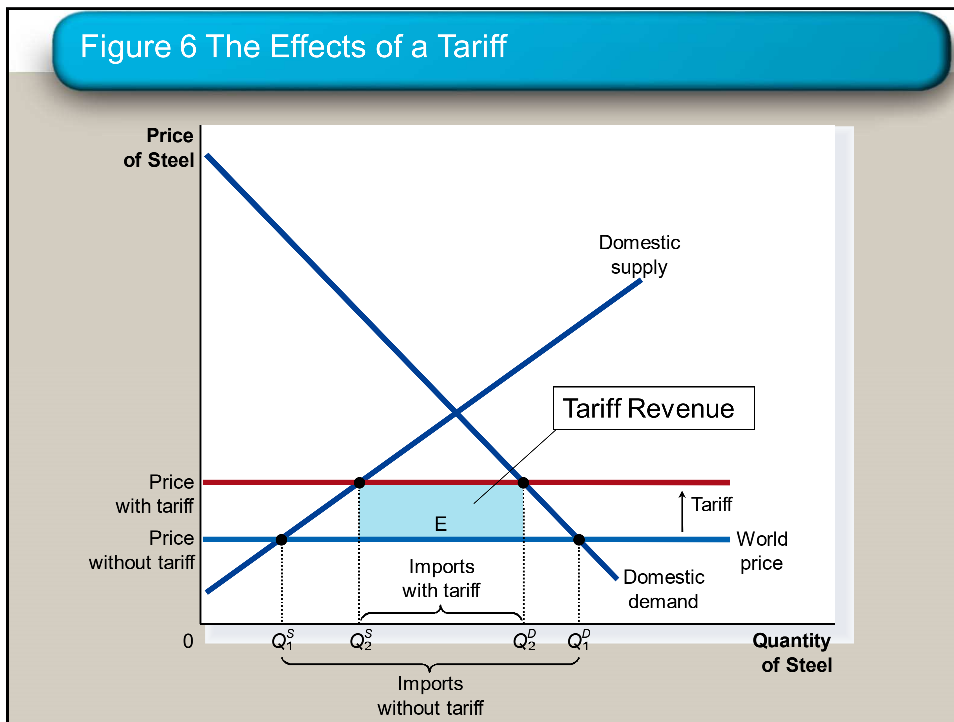
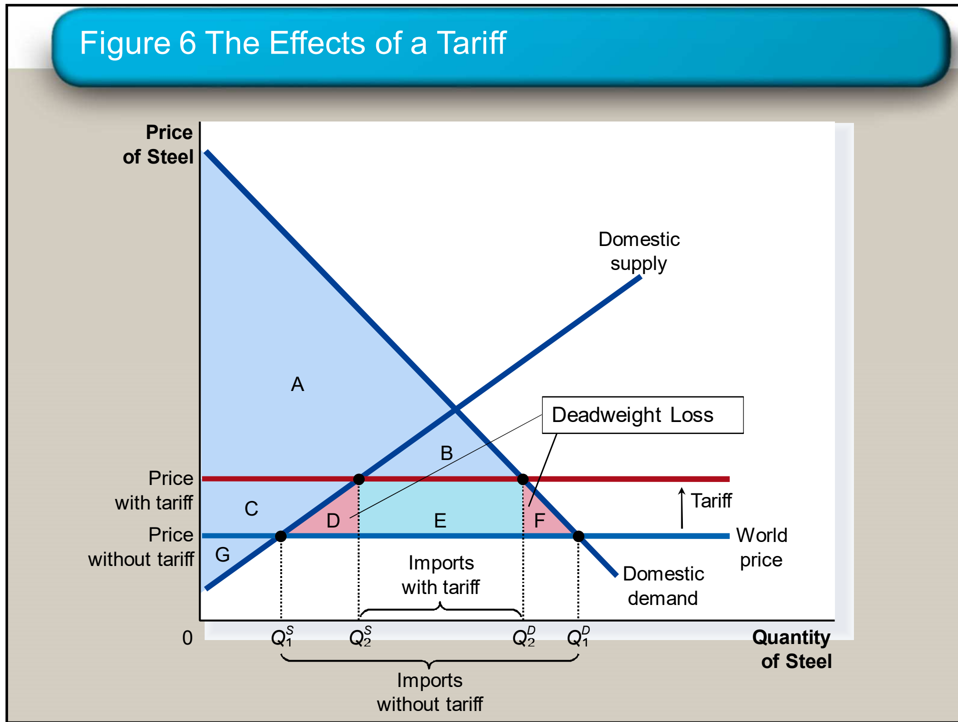


Figure 6 The Effects of a Tariff
Price of Steel
Domestic supply
Tariff Revenue
Price with tariff
Tariff
E
Price without tariff
World price
Imports with tariff
Domestic demand
0
Q_1^S
Q_2^S
Q_2^D
Q_1^D
Quantity of Steel
Imports without tariff



The Effects of a Tariff

	Before Tariff	After Tariff	Change
Consumer Surplus	A + B + C + D + E + F	A + B	−(C + D + E + F)
Producer Surplus	G	C + G	+C
Government Revenue	None	E	+E
Total Surplus	A + B + C + D + E + F + G	A + B + C + E + G	−(D + F)

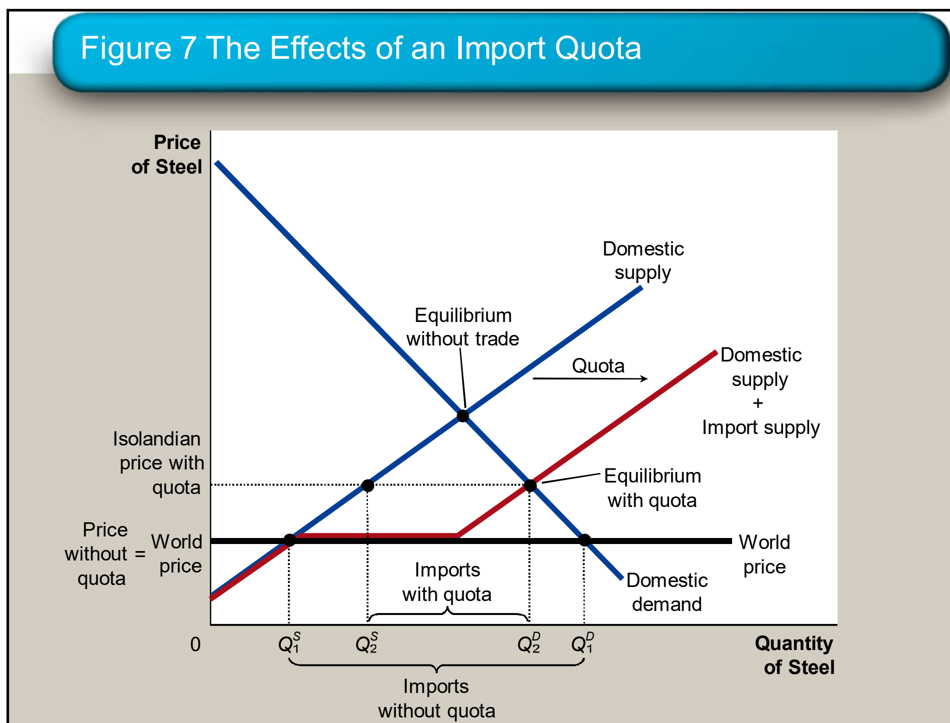
The area D + F shows the fall in total surplus and represents the deadweight loss of the tariff.

The Effects of a Tariff

- A tariff reduces the quantity of imports and moves the domestic market closer to its equilibrium without trade.
- With a tariff, total surplus in the market decreases by an amount referred to as a deadweight loss.

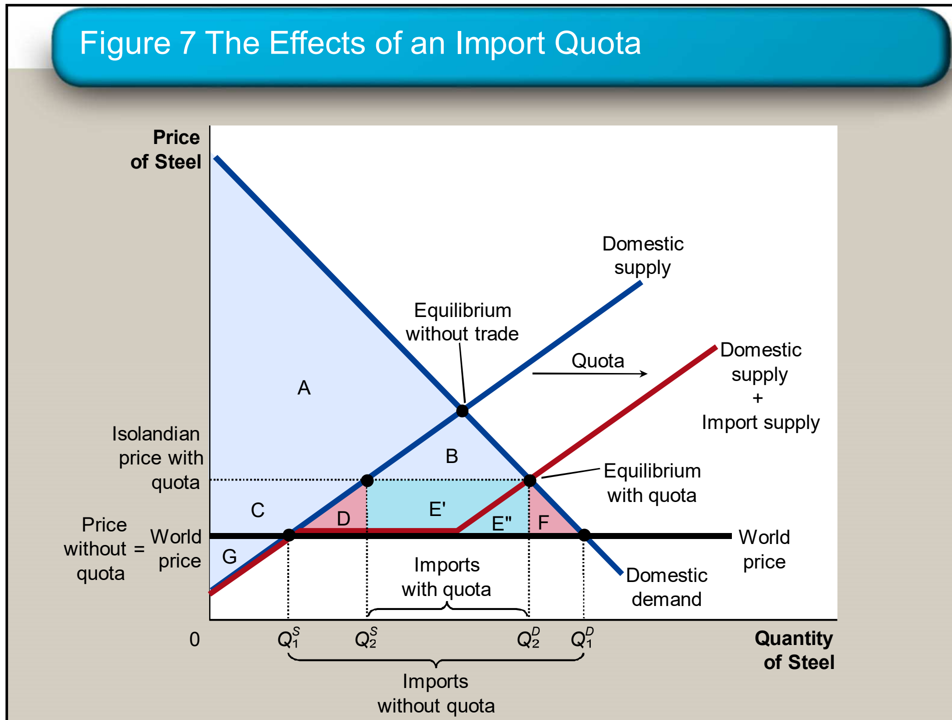
The Effects of an Import Quota

- An *import quota* is a limit on the quantity of a good that can be produced abroad and sold domestically.



The Effects of an Import Quota

- Because the quota raises the domestic price above the world price, domestic buyers of the good are worse off, and domestic sellers of the good are better off.
- License holders are better off because they make a profit from buying at the world price and selling at the higher domestic price.



The Effects of an Import Quota

	Before Quota	After Quota	Change
Consumer Surplus	A + B + C + D + E' + E'' + F	A + B	−(C + D + E' + E'' + F)
Producer Surplus	G	C + G	+C
License-Holder Surplus	None	E' + E''	+(E' + E'')
Total Surplus	A + B + C + D + E' + E'' + F + G	A + B + C + E' + E'' + G	−(D + F)

The area D + F shows the fall in total surplus and represents the deadweight loss of the quota.

The Effects of an Import Quota

- With a quota, total surplus in the market decreases by an amount referred to as a deadweight loss.
- The quota can potentially cause an even larger deadweight loss, if a mechanism such as lobbying is employed to allocate the import licenses.

The Lessons for Trade Policy

- If government sells import licenses for full value, revenue equals that of an equivalent tariff and the results of tariffs and quotas are identical.

The Lessons for Trade Policy

- Both tariffs and import quotas . . .
  - raise domestic prices.
  - reduce the welfare of domestic consumers.
  - increase the welfare of domestic producers.
  - cause deadweight losses.

The Lessons for Trade Policy

- Other Benefits of International Trade
  - Increased variety of goods
  - Lower costs through economies of scale
  - Increased competition
  - Enhanced flow of ideas

THE ARGUMENTS FOR RESTRICTING TRADE

- Jobs
- National Security
- Infant Industry
- Unfair Competition
- Protection-as-a-Bargaining Chip