Lecture 10
International Trade and Trade Policy

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Lecture Outline

- ▶ Comparative advantage as a basis for trade
- ▶ Benefits of Trade
- ▶ A supply and demand perspective on trade
- ▶ Protectionist policies

Comparative Advantage as a Basis for Trade

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Absolute versus Comparative Advantage

- A person has an **absolute advantage** at a particular task if he or she can perform the task in fewer hours than the other person

- A person has a **comparative advantage** at a particular task if his or her opportunity cost of performing the task is lower than the other person's opportunity cost

- Comparative advantage doesn't just care about your skill at a task, but about your skill at that task compared to your skill at other tasks

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Comparative Advantage: An Example

Production Times	Web Update	Bike Repair
Ana	20 minutes	10 minutes
Xin	30 minutes	30 minutes

▶ Ana and Xin can each update web pages and repair bikes

▶ Ana has an absolute advantage in both

▶ But who has a comparative advantage in what?
  ▷ Need to look at opportunity cost

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Comparative Advantage: An Example

Production Times	Web Update	Bike Repair
Ana	20 minutes	10 minutes
Xin	30 minutes	30 minutes

Opportunity Cost	Web Update	Bike Repair
Ana	2 repairs	0.5 update
Xin	1 repair	1 update

▶ Ana has comparative advantage in bike repair; Xin has comparative advantage in web updates

▶ Comparative advantage drives specialization
  ▹ As shown in the example in the next 2 slides

Comparative Advantage: An Example

Production Times	Web Update	Bike Repair
Ana	20 minutes	10 minutes
Xin	30 minutes	30 minutes

Hourly Output	Web Update	Bike Repair
Ana	3 updates	6 repairs
Xin	2 updates	2 repairs

▶ Suppose:
  ▷ Both Ana and Xin work 8 hours a day
  ▷ There is a demand for 16 web updates per day
  ▷ Ana spends half her time at each activity, producing 12 updates and 24 repairs
  ▷ Xin produces the remaining 4 updates and uses the remaining 6 hours to do12 repairs

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Comparative Advantage: An Example

Total Output	Web Update	Bike Repair
Ana	12 updates	24 repairs
Xin	4 updates	12 repairs
Total	**16 updates**	**36 repairs**

▶ Suppose Ana and Xin specialise

Hourly Output	Web Update	Bike Repair
Ana	0 updates	48 repairs
Xin	16 updates	0 repairs
Total	**16 updates**	**48 repairs**

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Comparative Advantage as a Basis for Trade

▶ Specialisation based on comparative advantage is the basis of economic exchange

▶ When each person specialises in the task at which he/she is relatively most efficient, the economic pie is maximised, making possible the largest slice for everyone

▶ When each country produces according to its comparative advantage, and then trades with other countries, we can all enjoy more goods and services

Sources of Comparative Advantage

- ► At individual level
  - ▷ Talent

- ► At national level
  - ▷ Natural resources
  - ▷ Cultures or societal norms
    - ■ Languages
    - ■ Institutions
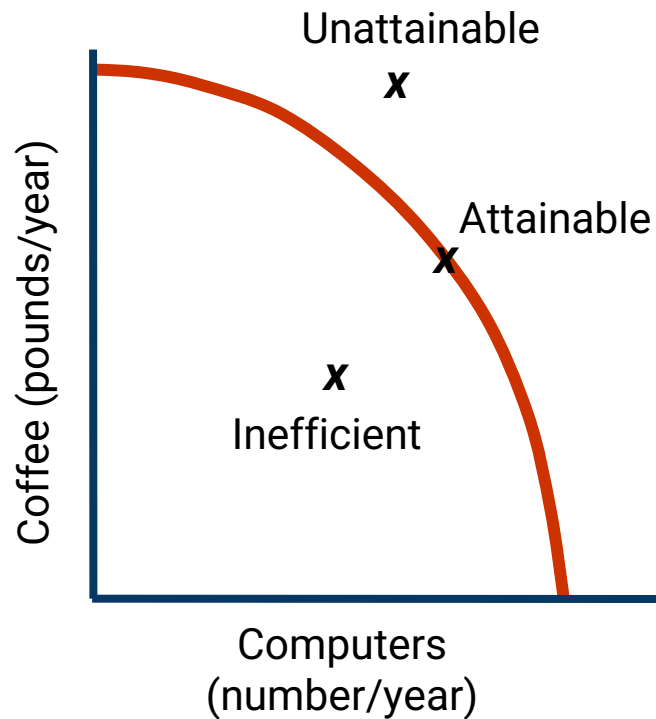   - ● Value placed on craftsmanship
      - ● Support for entrepreneurship

Benefits of Trade

Production Possibilities Curve

- A **production possibilities curve** illustrates the combinations of two goods that can be produced with given resources

- PPC for a 2 goods economy with many workers

Unattainable

Attainable

Inefficient

Coffee (pounds/year)

Computers (number/year)
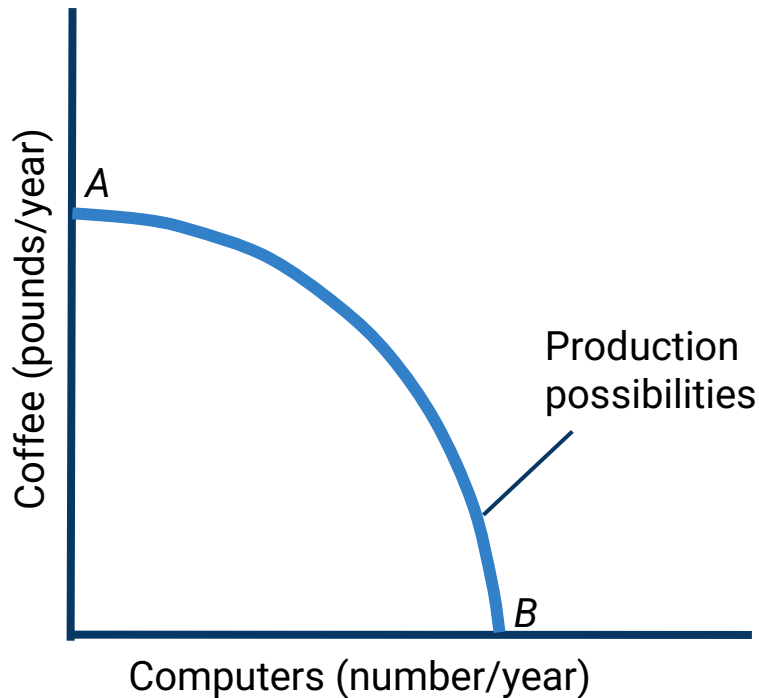
Production Possibilities Curve

- ▶ Bow-shaped: Opportunity cost of producing computers increases as the economy produces more computers

- ▶ At each point on the PPC, the slope of the curve reflects the opportunity cost, in terms of coffee forgone, of producing an additional computer
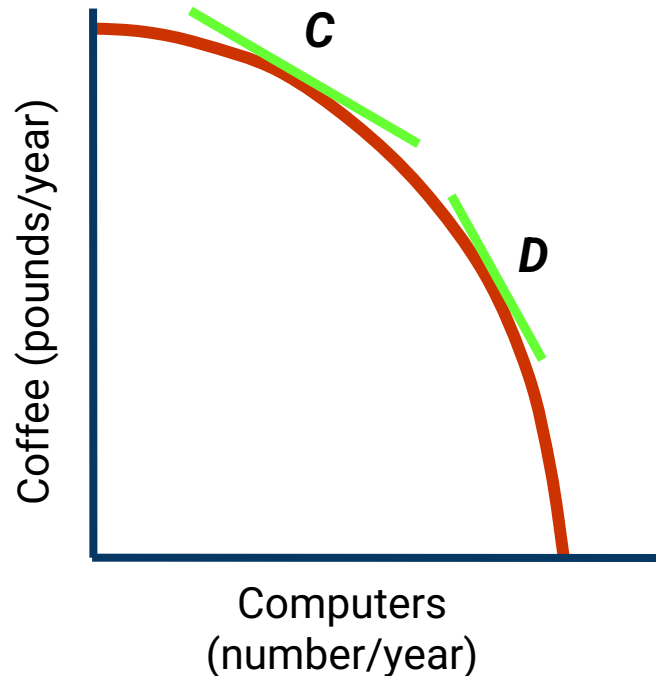
- **Consumption Possibilities**
  - The combinations of goods and services that a country's citizens might feasibly consume

- In a **closed economy**:
  - An economy that does not trade with the rest of the world
  - Society's production possibilities = consumption possibilities.
  - If a country is self-sufficient and does not trade, it is called *autarky*

- In an **open economy**:
  - An economy that trades with other countries
 - The society's consumption possibilities are typically greater than its production possibilities.

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Consumption Possibilities Curve

Coffee (pounds/year)

Computers (number/year)

A

B

Production possibilities

▶ In a **closed economy**
  ▷ Society's production possibilities = consumption possibilities

Consumption Possibilities Curve

Coffee (pounds/year)

Computers (number/year)

F

A

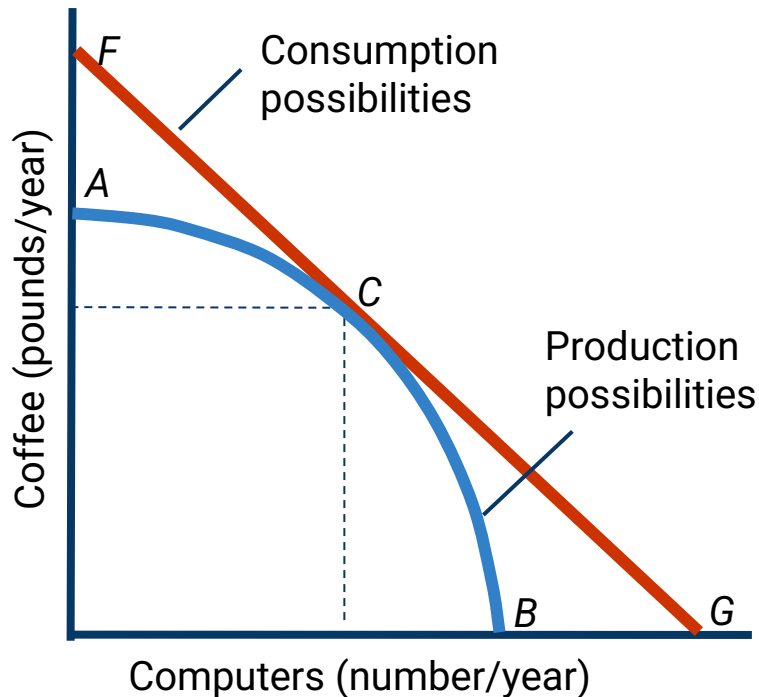Production possibilities

B

G
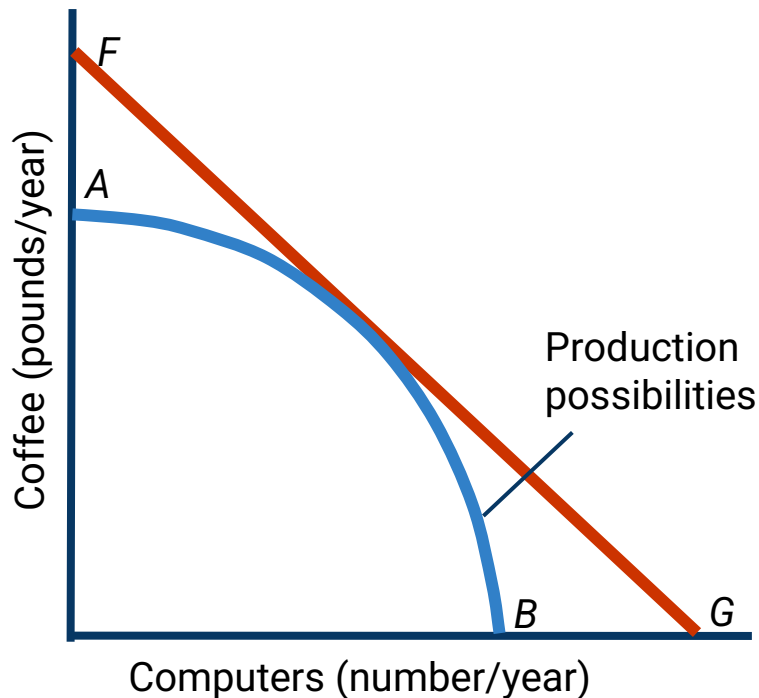
▸ In an **open economy**
  ▹ The country can buy/sell coffee/ computers on the world market
  ▹ FG is the price line
    ■ Slope of FG = relative prices of coffee & computers on the world market
    ■ Quantity of coffee that can be exchanged for one computer

Consumption Possibilities Curve

- ▸ To maximise consumption
  - ▹ Produce at C (slope of PPC = slope of FG)
  - ▹ And trade for the desired combination on FG
  - ▹ FG is the consumption possibilities line
  - ▹ Consumption possibilities are greater than its production possibilities
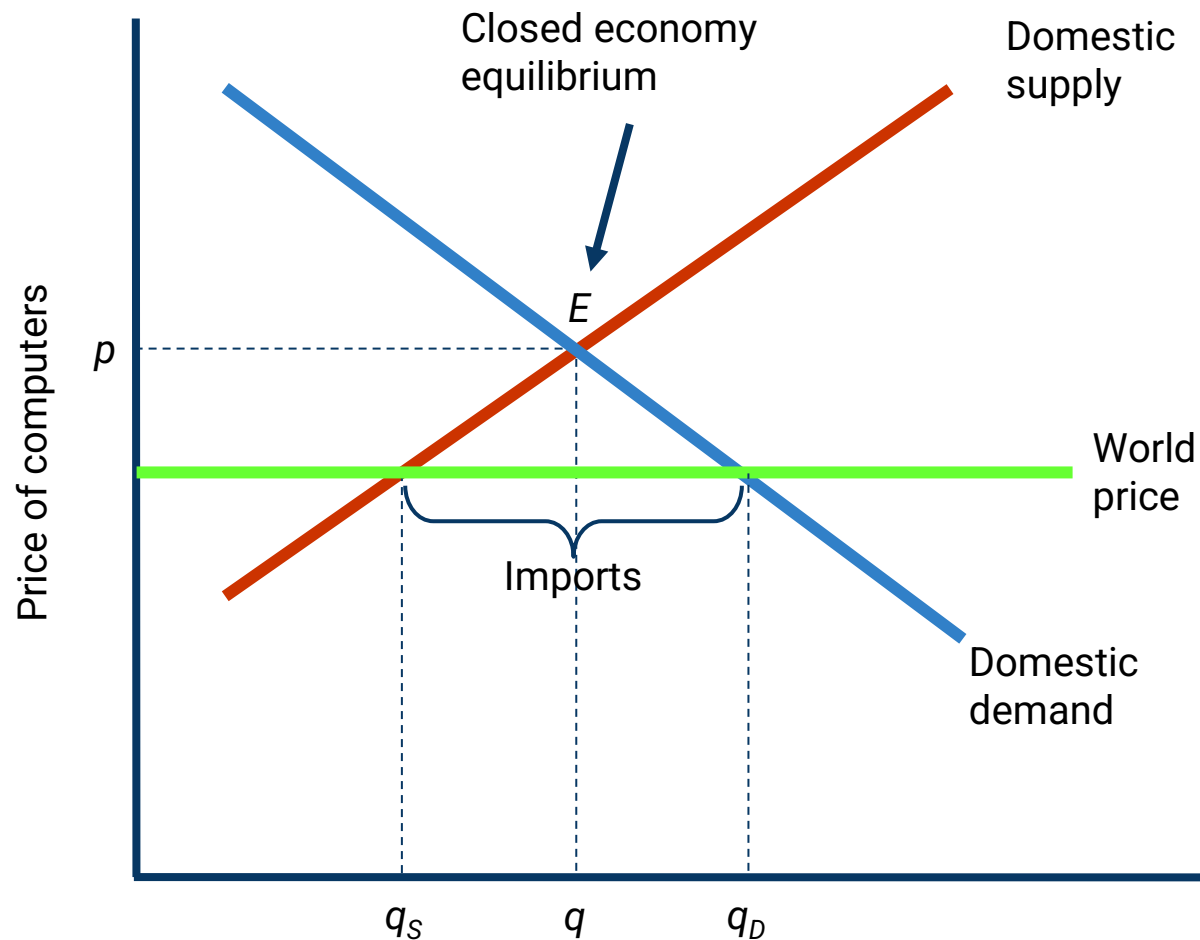
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A Supply and Demand Perspective on Trade

An Example

- ▸ Macroland produces two goods: computers and coffee

- ▸ Initially the economy is closed

- ▸ Suppose the economy opens to trade
  - ▹ Would Macroland be an importer or exporter of computers?
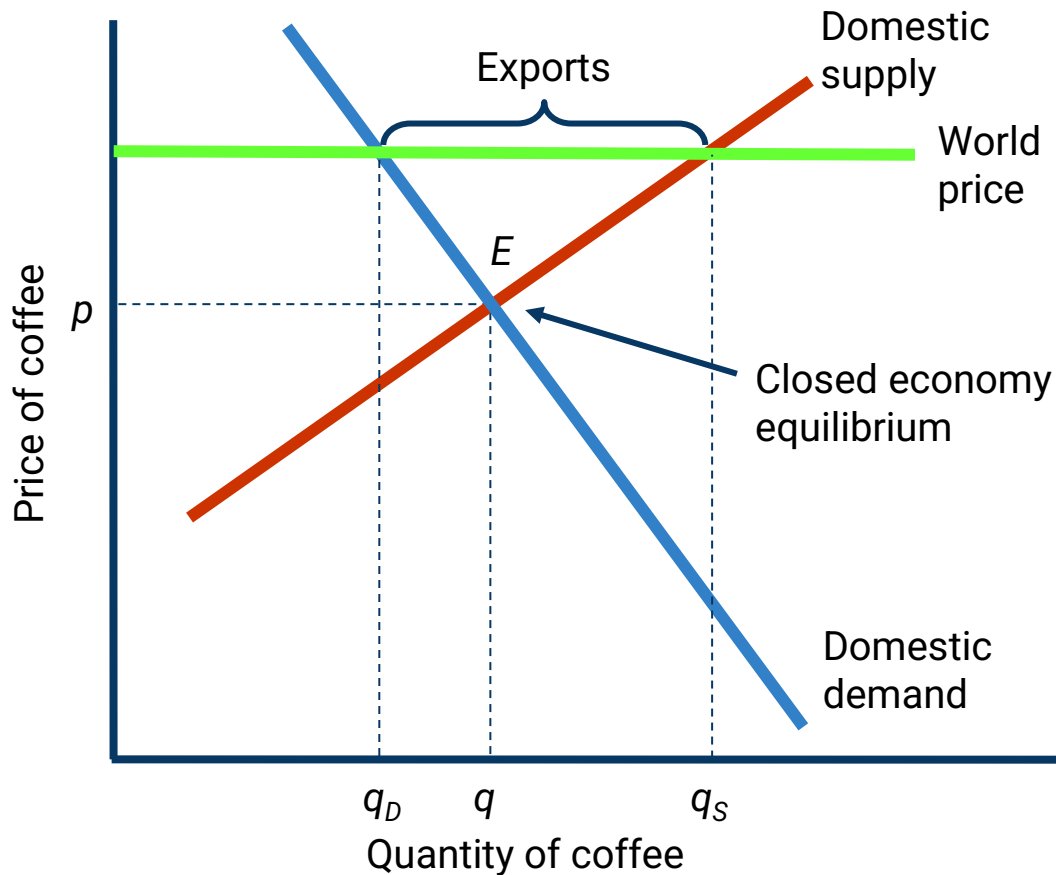 - ▹ Would Macroland be an importer or exporter of coffee?

Importer of goods

▸ If the price of a good or service in a closed economy is greater than the world price, and that economy opens itself to trade, the economy will tend to become a net importer of that good or service

Market for Coffee

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Exporter of goods

▸ If the price of a good or service in a closed economy is lower than the world price, and that economy opens itself for trade, the economy will tend to become a net exporter of that good or service

Mutually Beneficial Gains from Trade

▸ Countries will profit by exporting the goods and services which they have a comparative advantage

▸ Revenue from the exports are used to import goods and services which they do not have a comparative advantage

▸ The markets will ensure that goods will be produced where opportunity cost is lowest, leading to highest possible consumption possibilities

Winners and Losers from Trade

▸ Although free trade benefits the economy as a whole, specific groups may be hurt by trade

▸ **Winners**
  ▹ Consumers of imported goods
  ▹ Producers of exported goods

▸ **Losers**
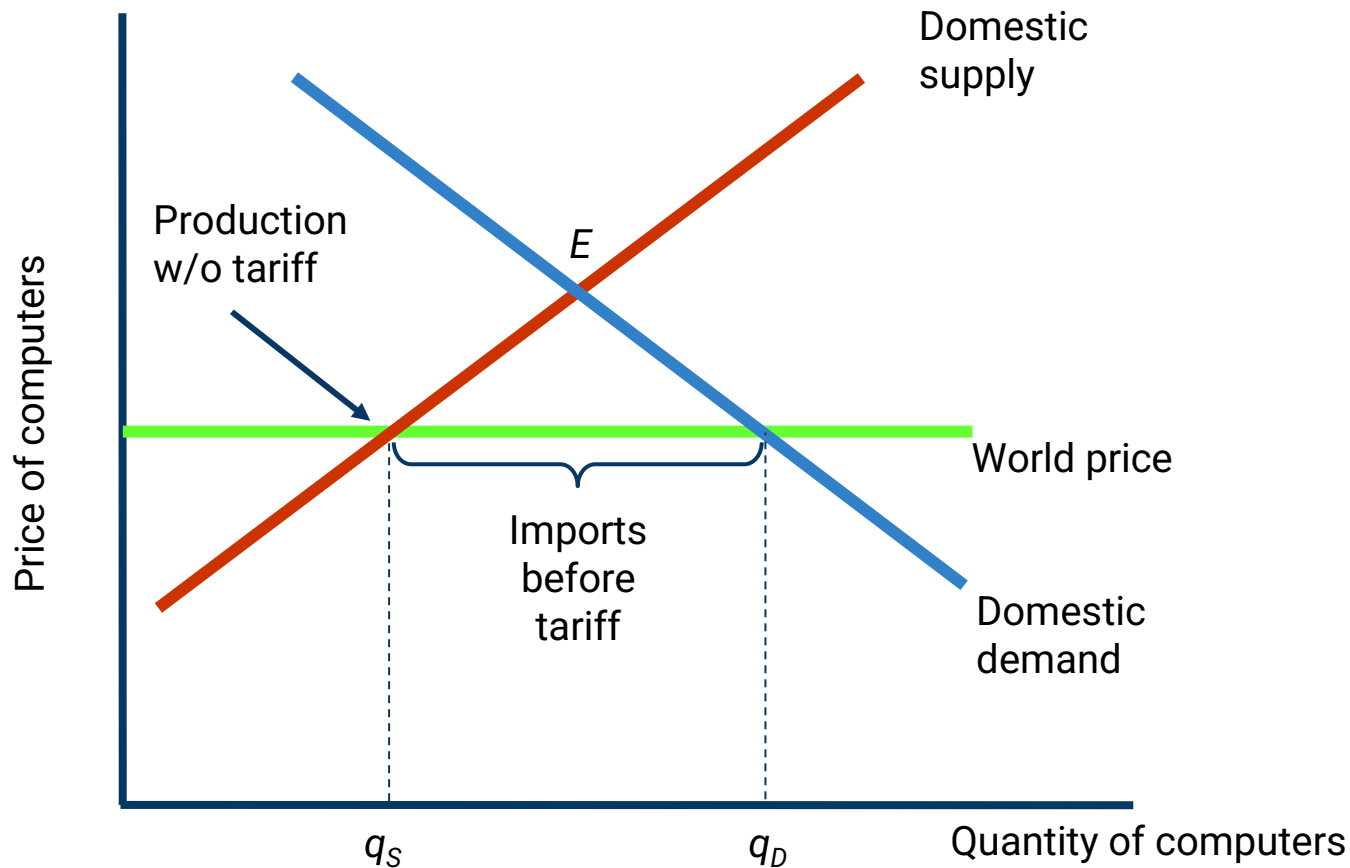 ▹ Consumers of exported goods
  ▹ Producers of imported goods

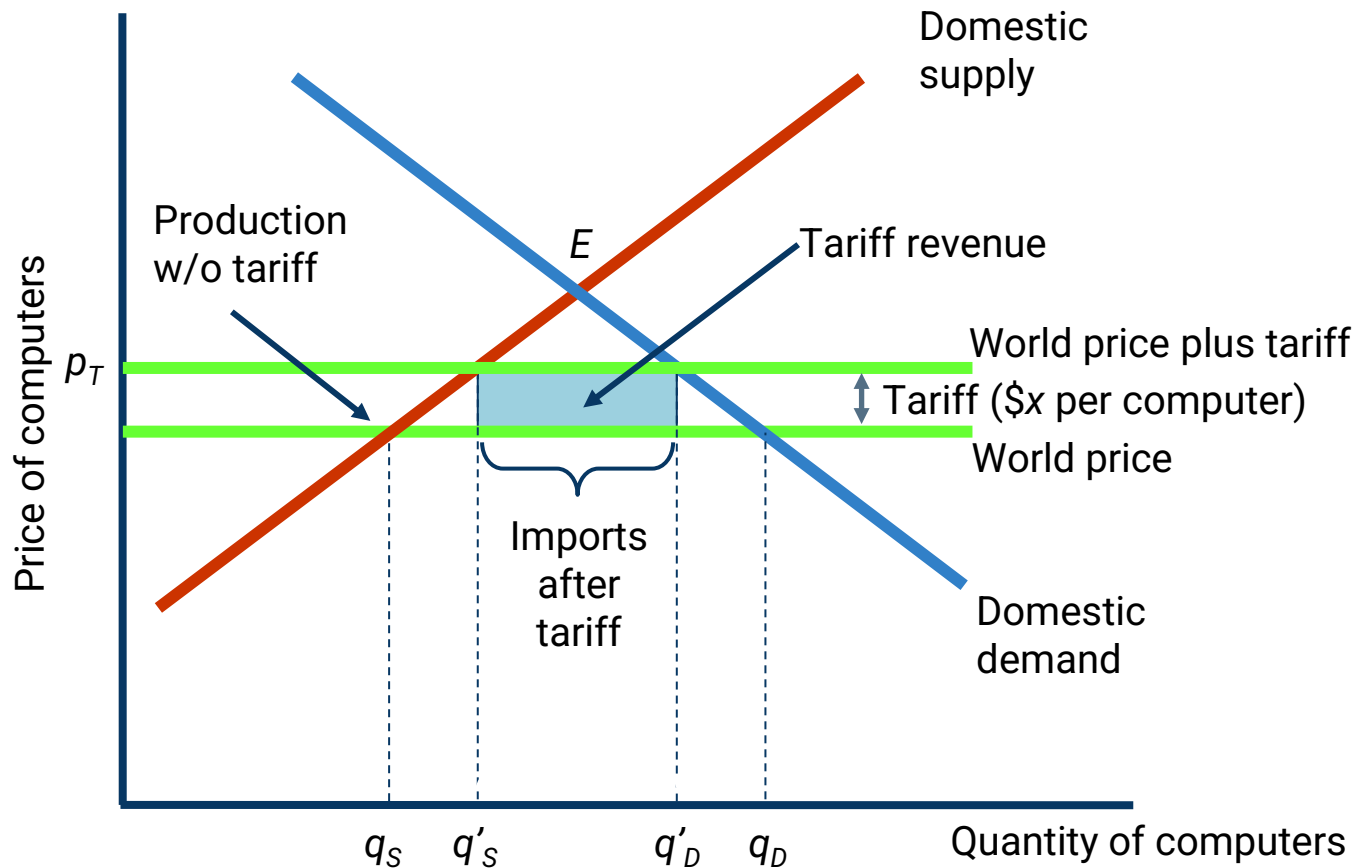# Protectionist Policies: Tariffs and Quotas

Protectionist Policies

- **Protectionism**
  - The view that free trade is injurious and should be restricted
- **Tariff**
  - A tax imposed on an imported good
- **Quota**
  - A legal limit on the quantity of a good that may be imported

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Market for Computers before Imposition of Import Tariff

Domestic supply

Price of computers

Production w/o tariff

E

World price

Imports before tariff

Domestic demand

q_S

q_D

Quantity of computers

Market for Computers after Imposition of Import Tariff

Effects of Tariff on Trade

- The market for computers in Macroland
  - Demand = Q_D = 3,000 − 0.5 P_C
  - Supply = Q_S = 1,000 + 0.5 P_C
- <u>Closed economy</u>
  - Equilibrium price:
    - 1,000 + 0.5 P_C = 3,000 − 0.5P_C
    - P_C = $2,000
  - Equilibrium quantity:
    - 1,000 + 0.5(2,000) = 2,000 computers

Effects of Tariff on Trade

▸ <u>Open economy</u>

    ▹ P = world price = $1,400

    ▹ q_S = 1,000 + 0.5(1,400) = 1,700

    ▹ q_D = 3,000 − 0.5(1,400) = 2,300

    ▹ Imports = 2,300 − 1,700 = 600 computers/yr
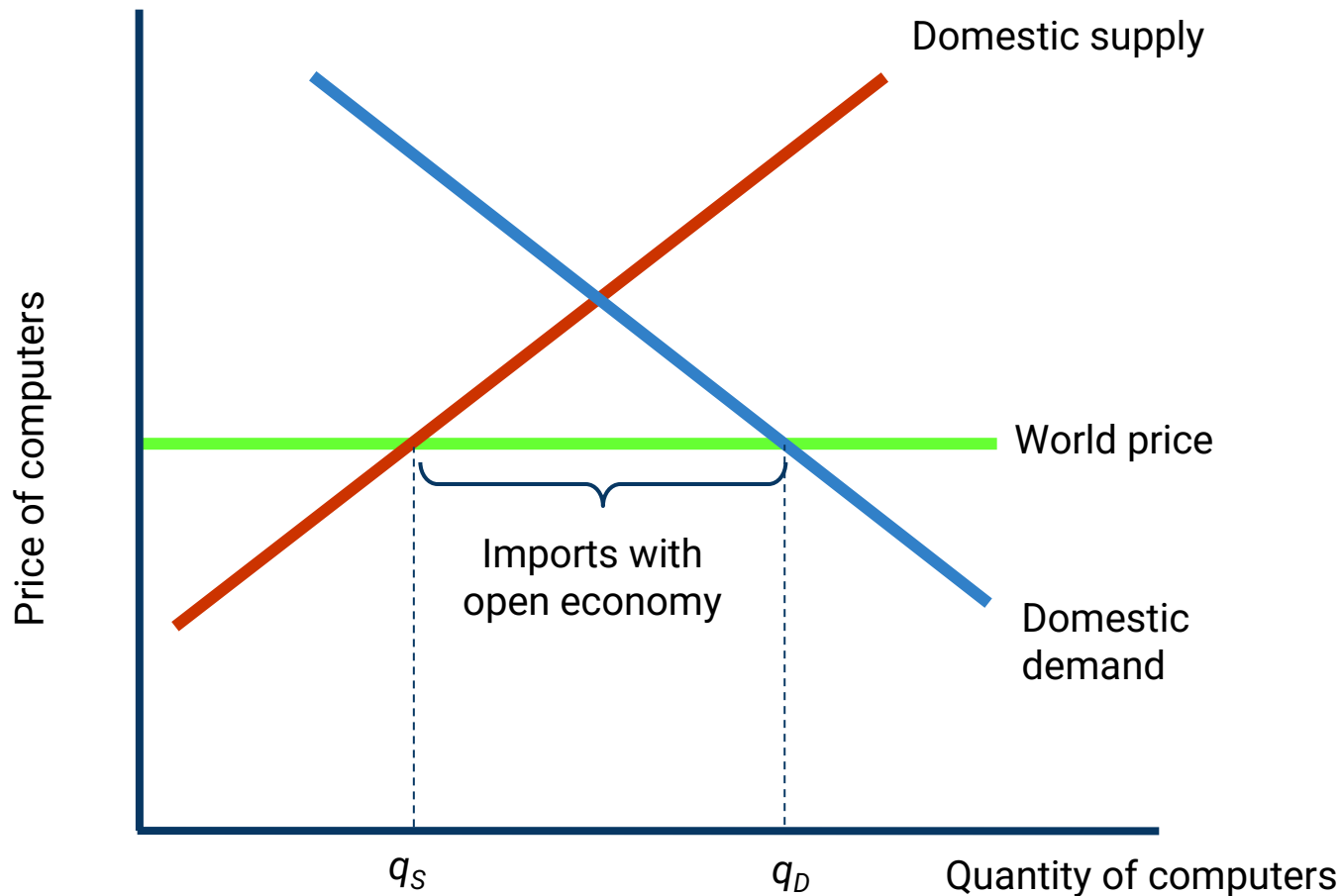
Effects of Tariff on Trade

▸ <u>Tariff imposed</u>
  ▹ Tariff = $400/computer
  ▹ P = world price + tariff
     = $1,400 + $400 = $1,800
  ▹ q_s = 1,000 + (0.5)(1,800) = 1,900
  ▹ q_d = 3,000 = (0.5)(1,800) = 2,100
  ▹ Imports = 2,100 − 1,900 = 200 computers/yr
  ▹ Tariff revenue = $400/computer × 200 computers/yr = $80,000/yr

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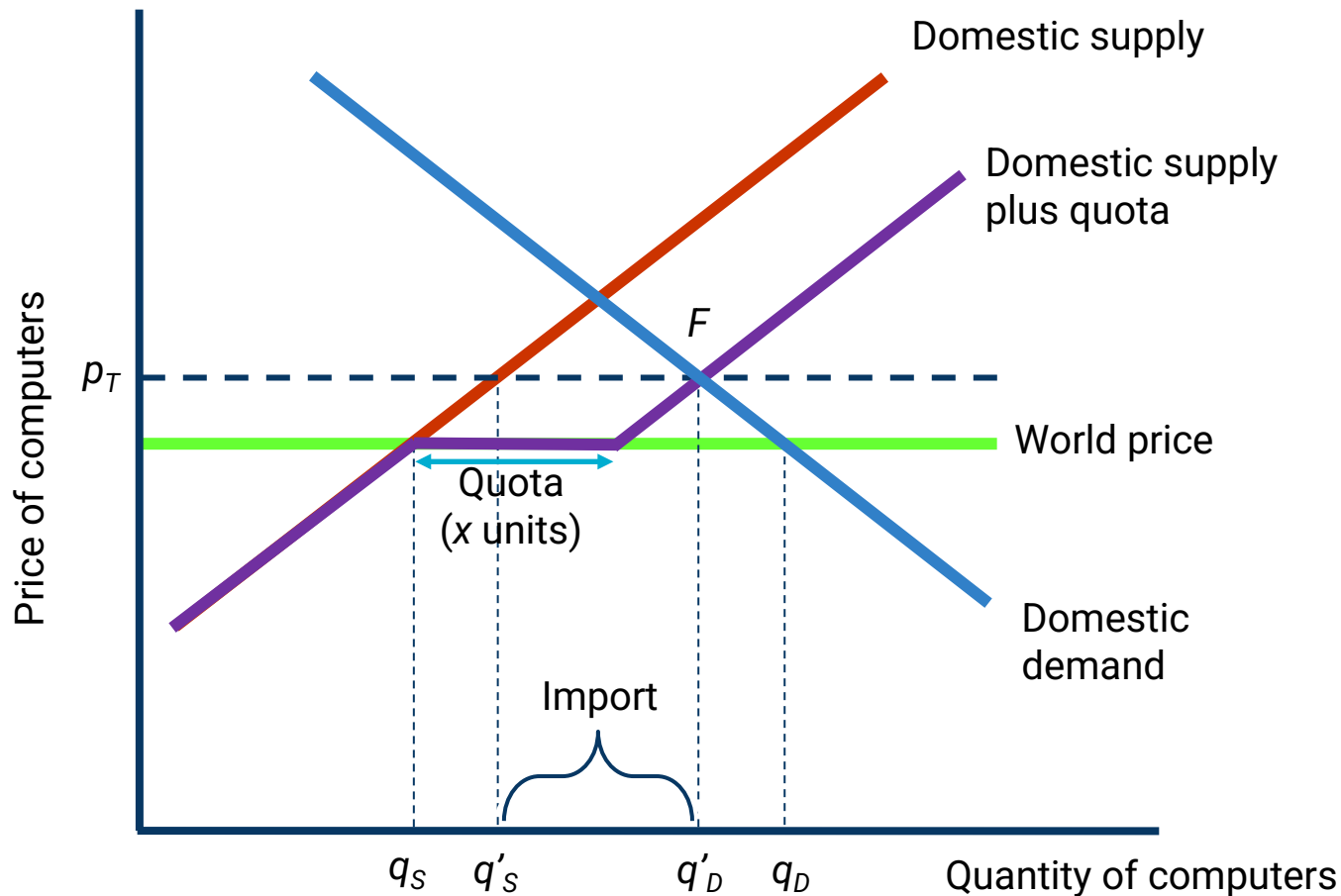**Market for Computers before Imposition of Import Quota**

Domestic supply

World price

Domestic demand

Price of computers

Quantity of computers

Imports with open economy

q_S

q_D

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Market for Computers **after** Imposition of Import Quota

Price of computers

p_T

Domestic supply

Domestic supply plus quota

World price

Domestic demand

Quota (x units)

F

Import

q_S q'_S q'_D q_D

Quantity of computers

Effects of Quota on Trade

- <u>Without quota</u> : $q_S = 1{,}000 + 0.5P_C$
- <u>With a quota of 200 computers</u>
  - $q_S = 1{,}000 + 0.5P_C + 200 = 1{,}200 + 0.5P_C$
  - $q_D = 3{,}000 - 0.5P_C$
  - Equilibrium:
    $1{,}200 + 0.5P_C = 3{,}000 - 0.5\,P_C$
  - Equilibrium price = \$1,800
  - Domestic quantity supplied:
    $1{,}000 + 0.5(\$1{,}800) = 1{,}900$ computers/yr
  - Domestic quantity demanded:
    $3{,}000 - 0.5(\$1{,}800) = 2{,}100$ computers/yr
  - Imports = 2,100 − 1,900 = 200
  - Revenue to the importers:
    $(\$1{,}800 - \$1{,}400) \times 200 = \$80{,}000$

Effects of Tariff and Quota on Trade

- ▸ Market effects of quotas and tariffs are the same
  - ▹ Higher domestic price
  - ▹ Lower domestic purchases
  - ▹ Higher domestic production
  - ▹ Lower imports
- ▸ Tariffs generate tax revenue
- ▸ Quotas generate revenue for the firms that hold import licenses

Protectionism

▸ Other Barriers to Trade
  ▹ Red-tape barriers
  ▹ Regulations

▸ Inefficiency of Protectionism
  ▹ Trade barriers are inefficient and reduce the size of the economic pie
  ▹ Because trade barriers benefit certain groups, and these groups may be well organized, they may be successful in lobbying for trade barriers
  ▹ The gains from trade could be used to assist groups that have been hurt by trade

THANKS!

Any questions?

You can find me at

▸ ahysng@ntu.edu.sg