International Economics: Macroeconomics in Open Economy

Outline

- The Balance of Payments: Linking the United States to the International Economy
- The Foreign Exchange Market and Exchange Rates
- Comparative Advantage: Gains from Trade
- International Trade Policies

Linkages between countries

An **open economy** is one that engages in trade with other countries and countries are linked

- By trade in goods and services
- By flows of financial investment

A good way to understand economic interactions with other countries is by examining the *balance of payments* (BoP): the record of a country's trade with other countries in goods, services, and assets.

U.S. balance of payments, 2010 (in $billions)

BOP= 0
Current Account (CA)
+Financial Account (FA)
+Capital Account (KA)=0

Table 29-1

CURRENT ACCOUNT		
Exports of goods	$1,289	
Imports of goods	−1,935	
Balance of trade		−646
Exports of services	549	
Imports of services	−403	
Balance of services		146
Income received on investments	663	
Income payments on investments	−498	
Net income on investments		165
Net transfers		−136
Balance on current account		−471

It is composed of the ***current account:*** the record of :

a) Country's net exports,

b) Net income on investments,

c) Net transfers…

U.S. balance of payments, 2010 (in $billions)

… the *financial account*, which records

a) purchases of assets a country has made abroad,

b) foreign purchases of assets in the country…

… and the *capital account*,.

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FINANCIAL ACCOUNT		
Increase in foreign holdings of assets in the United States	1,259	
Increase in U.S. holdings of assets in foreign countries	−1,005	
Balance on financial account		254
BALANCE ON CAPITAL ACCOUNT		0
Statistical discrepancy		217
Balance of payments		0

U.S. balance of payments, 2010 (in $billions)

The balance of payments is the sum of these three accounts.

It must equal zero. In 2010, the U.S. spent $471 billion more on goods, services, and other current account items than it received.

But this money must logically have been used either to buy U.S. assets, or to keep as U.S. currency holdings overseas.

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The rest of the current account

The *balance of services* is the difference between the values of the exports and imports of services.

Net exports is the sum of the balance of trade and the balance of services.

The current account balance is the sum of net exports, *net income on investments*, and *net transfers*.

For simplicity, we will frequently ignore the latter two—their sum is close to zero for the U.S.—and think of net exports as being equal to the current account balance.

The financial account

While the current account records short-term flows of funds into and out of the country, the *financial account* records *long-term* flows:

Capital outflows: purchases of assets overseas by Americans

Capital inflows: purchases of American assets by foreigners

These assets might be financial assets, like stocks and bonds—*foreign portfolio investment*—or physical assets, like factories—*foreign direct investment*.

The Foreign Exchange Market and Exchange Rates

Foreign Exchange Market - a global market in which people trade one currency for another.

Nominal Exchange Rate – the number of units of one nation's currency that equals one unit of another nation's currency

Example: If one U.S. dollar can purchase 100 Japanese yen, then the exchange rate is ¥100 = $1; or alternatively, ¥1 = $0.01.

The Foreign Exchange Market is characterized by

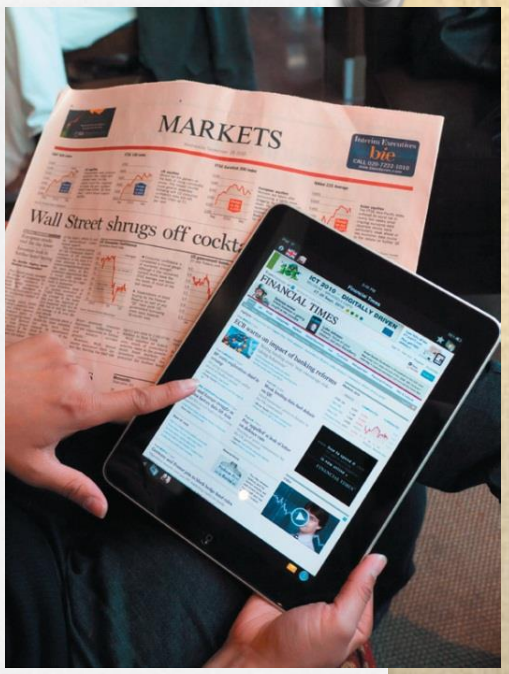
- high trading volume: Foreign exchange markets are very active; over $3 trillion in currency is traded in foreign exchange markets each day. Almost all of this in electronic form.
- High degree of global integration.
- the large number of, and variety of, traders in the market,
- High volatility of the exchange rate.
- its long trading hours: 24 hours a day (except on weekends),

Making the Connection

Exchange Rate Listings

Exchange Rate Between the Dollar and the Indicated Currency

Currency	Units of Foreign Currency per U.S. Dollar	U.S. Dollar per Unit of Foreign Currency
Canadian dollar	1.023	0.978
Japanese yen	76.870	0.013
Mexican peso	13.449	0.074
British pound	0.635	1.574
Euro	0.727	1.375



The two versions of the exchange rate are reciprocals of each other; 1.023 Canadian dollars bought 1 U.S. dollar, or equivalently 1 Canadian dollar bought 1/1.023 = 0.978 U.S. dollars.

Foreign exchange market and exchange rate

- The dollar has a price in terms of how much foreign currency it buys.

Domestic currency value=foreign currency price X exchange rate

Example:
Price of T-shirt=40TL
Exchange rate= 0.69$ /TL
US. Dollar Value=
40TL X 0.69$/TL=28$

Foreign exchange market and exchange rate

- Equilibrium in the Market for Foreign Exchange
  - The exchange rate of the dollar is determined by its supply and demand.
  - Changes in the exchange rate affect imports and exports of the country.

Market exchange rates are determined by supply and demand, just like any price.

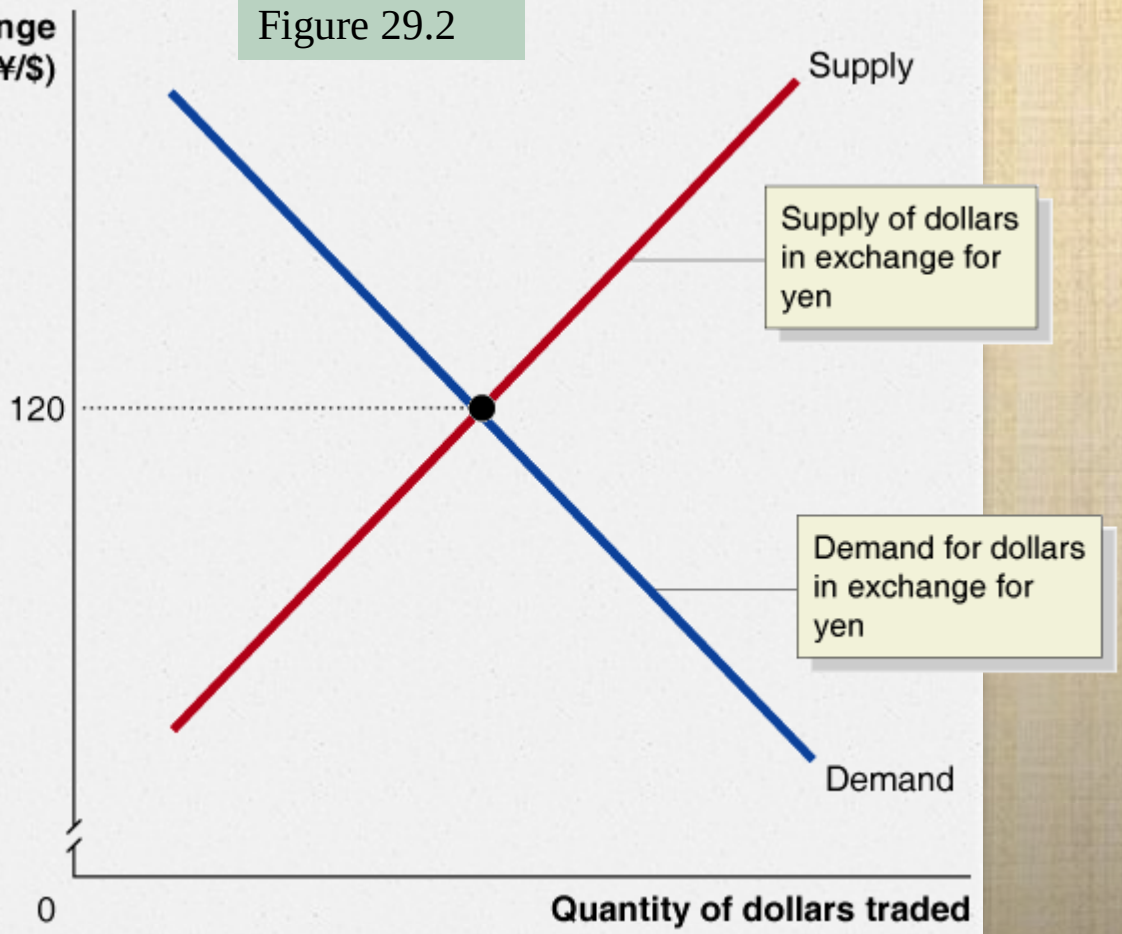
- The demand for $US comes from:
  a) Foreign firms and households wanting to buy U.S. goods and services
  b) Foreign firms and households wanting to invest in U.S. physical or financial assets
  c) Expectation: Currency traders believing the value of the $US will rise

- The supply of $US comes from:
  a) U.S. firms and households wanting to buy foreign goods and services
  b) U.S. firms and households wanting to invest foreign physical and financial assets
  c) Expectation: Currency traders believing the value of the $ will decrease

Equilibrium in the foreign exchange market

The equilibrium exchange rate is the exchange rate at which the quantity of dollars supplied is just equal to the quantity of dollars demanded.

Figure 29.2



Example of the effect of changes in exchange rate on trade

Assume the following:

Price in domestic currency:

- $2 for a bushel of U.S. wheat
- 50,000 yen for a Japanese camera

$1 = 88 yen

Example of the effect of changes in exchange rate on trade

- Price of wheat in yen is:

  $2 x (88yen / $1) = 176 yen

- Price of camera in dollars is:

  50,000 yen x ($1 / 88 yen) = $568

Example of the effect of changes in exchange rate on trade

- **What happens to the foreign price of these goods when the price of the dollar rises to 140 yen per dollar?**
- Price of wheat in yen is:

  $2 *(140 yen / $1) = 280 yen
- Price of camera in dollars is:

  50,000 yen *($1 / 140 yen) = $357

Example of the effect of changes in exchange rate on trade

- The camera then costs $357 and the wheat costs 280 yen.

  More cameras are sold in the U.S. and less wheat is sold in Japan.
- All else being equal, a higher price of the dollar (appreciation or strong dollar) hurts our trade balance because we import more and export less.

Example of the effect of changes in exchange rate on trade

- **RESULT:**

Currency appreciation Occurs when the market value of a currency rises relative to another currency.

Example of the effect of changes in exchange rate on trade

- What happens to the foreign price of these goods when the price of the dollar falls to 50 yen per dollar?
- Price of wheat in yen is:

  $2 *(50 yen / $1) = 100 yen
- Price of camera in dollars is:

  50,000 yen *($1 / 50 yen) = $1000

Example of the effect of changes in exchange rate on trade

- Less cameras are sold in the U.S. and more wheat is sold in Japan

lower price of the dollar (depreciation or weak dollar) therefore helps our trade balance (import less, export more).

Example of the effect of changes in exchange rate on trade

RESULT:

Currency depreciation Occurs when the market value of a currency falls relative to another currency.

Changes in the demand and supply for foreign exchange

Anything affecting the demand for foreign exchange will shift the demand curve—to the right for an increase in demand, to the left for a decrease.

This might result from:

1. Changes in the demand for U.S.-produced goods and services, relative to foreign produced goods and services
2. Changes in the desire to invest in the U.S. relative to foreign countries
3. Changes in the expectations of currency traders about the likely future value of $US relative to foreign currencies

The supply of $US for yen is the same as the demand for yen with $US; so the same factors that change demand also change supply.

Changes in the demand and supply for foreign exchange

Let's see the affect of these factors in the foreign exchange market—Just shift either supply or demand

1-

- A) Changes in the demand for U.S.-produced goods and services and financial assets: foreigners want to buy more of our stuff

$\Rightarrow$ more demand for dollar (shifts out)

$\Rightarrow$ higher price of dollar

- Why do they want more of our stuff?

-higher real incomes in their country

-change in tastes (they like our stuff)

Changes in the demand and supply for foreign exchange

1-

- B) changes in the demand for foreign-produced goods and services: we want to buy more of their stuff

$\Rightarrow$ more supply of dollar (shifts out)

$\Rightarrow$ lower price of dollar

- Why do we want more of their stuff?

-higher real incomes in our country

-change in tastes (we like their stuff)

Changes in the demand and supply for foreign exchange

2-

- A) Changes in the desire to invest in the United States

foreigners want to buy our bonds ⇒

more demand for dollar ⇒ higher price of dollar

Changes in the demand and supply for foreign exchange

2-

- B) Changes in the desire to invest in foreign countries

- Americans invest in other countries ⇒ more supply of dollars ⇒ lower price of dollar

Changes in the demand and supply for foreign exchange

- 3- Changes in the expectations of currency traders about the likely future value of the dollar

- Expect dollar to be higher in future

$\Rightarrow$ more current demand

$\Rightarrow$ higher current price of dollar

Currency speculation

A large amount of trade in foreign exchange is by *speculators*, currency traders who buy and sell foreign exchange in an attempt to profit from changes in exchange rates.

Speculators purchase and hold a currency when the believe it will appreciate; or they may engage in more complicated financial transactions, for example to buy currency in the future at a price agreed today.

Real exchange rates

The *real exchange rate* is the price of domestic goods in terms of foreign goods:

$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \left(\frac{\text{Domestic price level}}{\text{Foreign price level}} \right)$$

Suppose initially \$1 = £1, and the U.S. and British price levels are both 100. Then the real exchange rate between \$US and British pounds is:

$$\text{Real exchange rate} = 1 \text{ pound/dollar} \times \left(\frac{100}{100} \right) = 1 \text{ pound/dollar.}$$

Now suppose the \$US appreciates, so the new exchange rate is \$1 = £1.10; and simultaneously the price level in the U.S. rises to 105 (5% inflation) while price levels stay constant in the U.K.; then:

$$\text{Real exchange rate} = 1.1 \text{ pounds/dollar} \times \left(\frac{105}{100} \right) = 1.15 \text{ pounds/dollar}$$

Interpretation: Prices of U.S. goods are now 15% higher *than they were*, relative to the prices of British goods.

SUMMARY

- **Balance of Payments** is a record of a country's trade in goods, services and assets with the rest of the world. The Balance of Payments has two categories, the **Current Account** and the **Financial and Capital Account**.

- The Current Account records a country's next exports, net income on investments, and net transfers. It records the flow of money generated from **assets already owned**.
  - When the Current Account > 0, the country has a trade surplus.
  - When the Current Account < 0, the country has a trade deficit.
  - When the Current Account = 0, the country has a balanced budget.
-

- **Financial Account** records **purchases of assets** a country has made abroad and foreign purchases of assets in the country.
- When summed together, the Current Account + Financial and Capital Account = zero.
  - **Foreign portfolio investment** is the purchase of assets that are easily sold (stocks and bonds).
  - **Foreign direct investment** is the purchase of assets that are typically held for a longer time period (real estate and businesses).

- **Capital Account** records **purchases** people take with them when they enter or leave a country, and sales of non-produced, nonfinancial assets.

- **Net debtor nation** run a trade deficit. Current Account < 0; Cap and Fin Account > 0.
- **Net creditor nation** runs a trade surplus. Current Account > 0; Cap and Fin Account < 0.

SUMMARY

- An **exchange rate** is a rate that equates one currency to another currency.
- **Appreciation of a currency** is when the rate increases. This makes the currency more valuable and the purchase of foreign final goods and services less expensive. Everything else the same, appreciation of a currency increases the country's imports and reduces the country's net exports; aggregate demand will decrease.
- **Depreciation of a currency** is when the rate decreases. This makes the currency less valuable and the purchase of foreign final goods and services more expensive. Everything else the same, depreciation of a currency decreases a country's imports and increases the country's net exports; aggregate demand will increase.

Why Trade: GAIN

- Countries specialize in the production of goods and services based upon **comparative advantage**. Recall, comparative advantage occurs when a county has a lower opportunity cost relative to another country (it costs a county less to produce something relative to another country). Countries specialize in production of goods and services according to comparative advantage and then use the excess supply to trade.

- Trading countries both achieve gains from trade

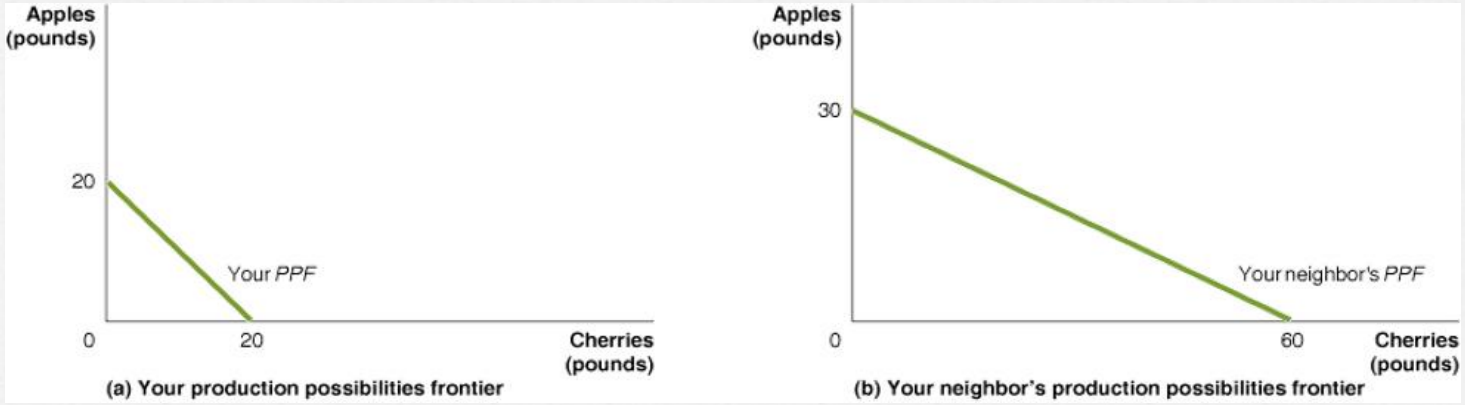
- HOW?

Comparative Advantage and Trade

- Describe comparative advantage and explain how it serves as the basis for trade.
- You and your neighbor each have a limited time to pick apples and/or cherries.
- The table shows the amount of each fruit that you could each pick, by devoting all of your time to that fruit.

Blank	You	Blank	Your Neighbor	Blank
Blank	Apples	Cherries	Apples	Cherries
Devote all time to picking apples	20 pounds	0 pounds	30 pounds	0 pounds
Devote all time to picking cherries	0 pounds	20 pounds	0 pounds	60 pounds

Figure 2.4 Production Possibilities for You and Your Neighbor, without Trade

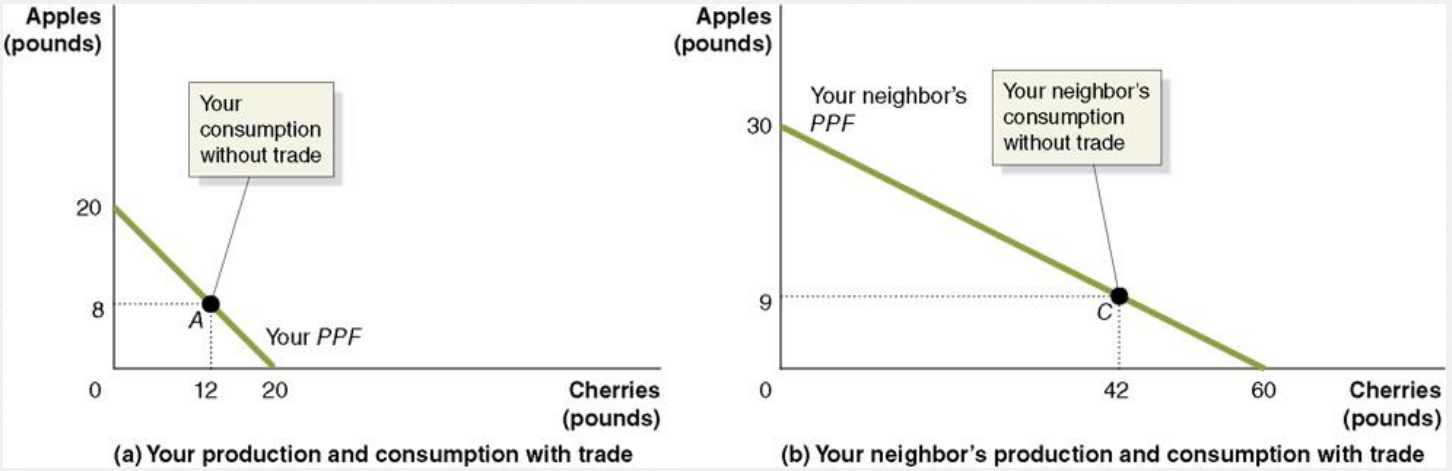


- If you spend all of your time picking cherries, you can pick 20 pounds of cherries; or if you spend all your time picking apples, you can pick 20 pounds of apples.
- Your neighbor can similarly pick 60 pounds of cherries or 30 pounds of apples.

Specialization and Trade

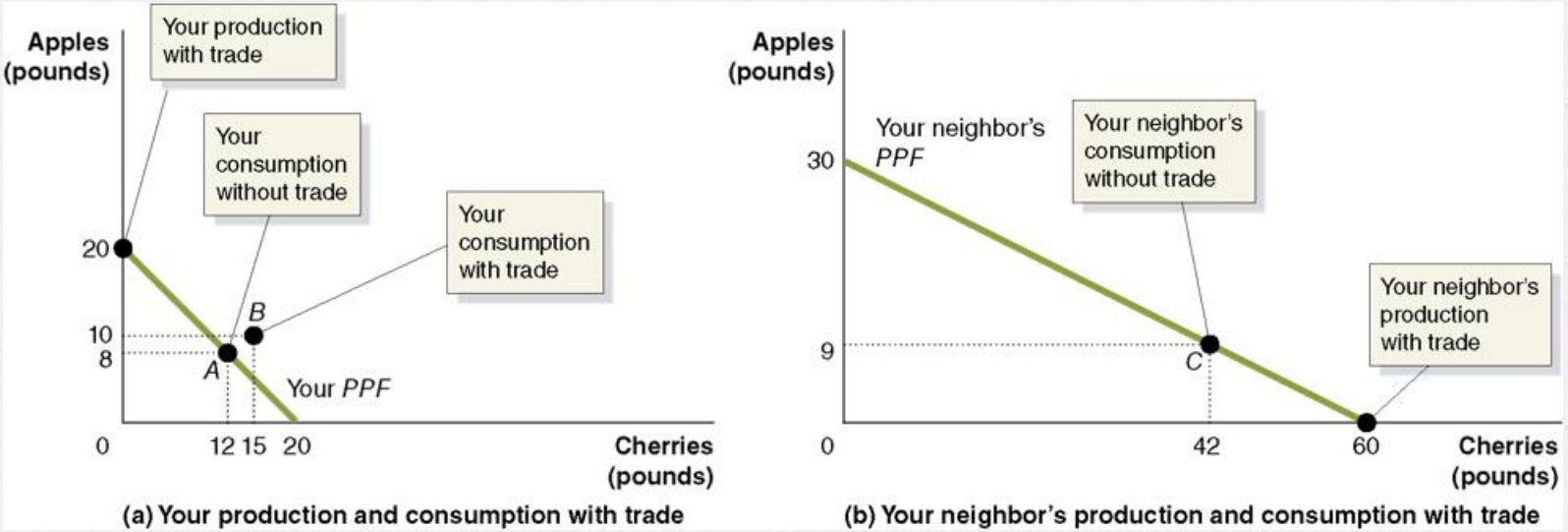
- What if you and your neighbor decided to specialize and **trade**?
- **Trade**: The act of buying and selling.
- Could your neighbor benefit from trade? She is better at picking both apples and cherries…
- Both of you can benefit from trade, by specializing in what you are **relatively** good at. Let's see how…

Gains from Trade



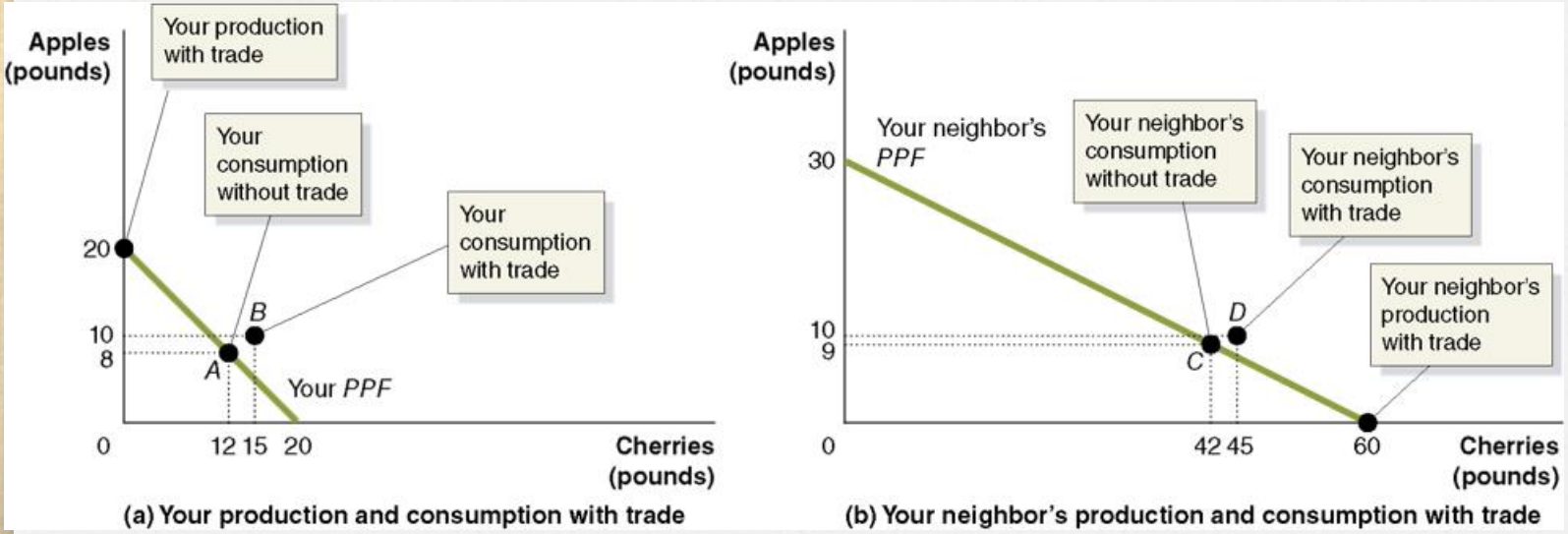
- When you don't trade with your neighbor, let's say you pick and consume 8 pounds of apples and 12 pounds of cherries per week—point *A* in panel (a).
- When your neighbor doesn't trade with you, she picks and consumes 9 pounds of apples and 42 pounds of cherries per week—point *C* in panel (b).

Gains from Trade



- If you specialize in picking apples, you can pick 20 pounds. If your neighbor specializes in picking cherries, she can pick 60 pounds.
- If you trade 10 pounds of your apples for 15 pounds of your neighbor's cherries, you will be able to consume 10 pounds of apples and 15 pounds of cherries— point *B* in panel (a).

Gains from Trade



- Your neighbor can now consume 10 pounds of apples and 45 pounds of cherries—point *D* in panel (b). You and your neighbor are both better off as a result of trade.
- Note that your neighbor benefits from trade **even though she could produce more of either fruit than you could.**

A Summary of the Gains from Trade

Blank	You	Blank	Your Neighbor	Blank
Blank	Apples (in pounds)	Cherries (in pounds)	Apples (in pounds)	Cherries (in pounds)
Production **and** consumption **without** trade	8	12	9	42
Production **with** trade	20	0	0	60
Consumption **with** trade	10	15	10	45
Gains from trade (increased consumption)	2	3	1	3

- Both you and your neighbor are able to consume more with trade than without.

Why do Countries Restrict Trade

Generally accepted that free trade enhances societal welfare of the countries

- But…

Why is complete free trade seldom practiced?

- https://www.youtube.com/watch?v=Y2X3KPilAt0&list=PLF2A3693D8481F442&index=35

What are trade restriction policies that countries use:

- https://www.youtube.com/watch?v=_e2gQxN1OBg&list=PLF2A3693D8481F442&index=36