

Unit 5: International Trade



International Trade

Why do people trade?

**“Magic of Markets”
Brown Bag Activity**

Why do people trade?

1. Assume people didn't trade. What things would you have to go without?

Everything you don't produce yourself!

(Clothes, car, cell phone, bananas, health care, etc)

The Point: Everyone specializes in the production of goods and services and trades it to others

2. What would life be like if cities couldn't trade with cities or states couldn't trade with states?

Limiting trade would reduce people's choices and makes the worse off.

The Point: More access to trade means more choices and a higher standard of living.

Absolute and Comparative Advantage

Per Unit Opportunity Cost Review

$$\text{Per Unit Opportunity Cost} = \frac{\text{Opportunity Cost}}{\text{Units Gained}}$$

Assume it costs you \$50 to produce 5 t-shirts. What is your PER UNIT cost for each shirt?

\$10 per shirt

Now, take money out of the equation. Instead of producing 5 shirts you could have made 10 hats.

1. What is your PER UNIT OPPORTUNITY COST for each shirt in terms of hats given up?

1 shirt costs 2 hats

2. What is your PER UNIT OPPORTUNITY COST for each hat in terms of shirts given up?

1 hat costs a half of a shirt

Per Unit Opportunity Cost Review

Ronald McDonald can produce 20 pizzas or 200 burgers

Papa John can produce 100 pizzas or 200 burgers

- 1. What is Ronald's opportunity cost for one pizza in terms of burgers given up? 1 pizza cost 10 burgers**
- 2. What is Ronald's opportunity cost for one burger in terms of pizza given up? 1 burger costs 1/10 pizza**
- 3. What is Papa John's opportunity cost for one pizza in terms of burgers given up? 1 pizza costs 2 burgers**
- 4. What is Papa John's opportunity cost for one burger in terms of pizza given up? 1 burger costs 1/2 pizza**

Ronald has a COMPARATIVE ADVANTAGE in the production of burgers

Papa John has a COMPARATIVE ADVANTAGE in the production of pizza

Absolute and Comparative Advantage

Absolute Advantage

- The producer that can produce the most output OR requires the least amount of inputs (resources)
- Ex: Papa John has an absolute advantage in pizzas because he can produce 100 and Ronald can only make 20.

Comparative Advantage

- The producer with the lowest opportunity cost.
- Ex: Ronald has a comparative advantage in burgers because he has a lowest PER UNIT opportunity cost.

Countries should trade if they have a relatively lower opportunity cost.

They should specialize in the good that is “cheaper” for them to produce.

Benefits of Specialize and Trade

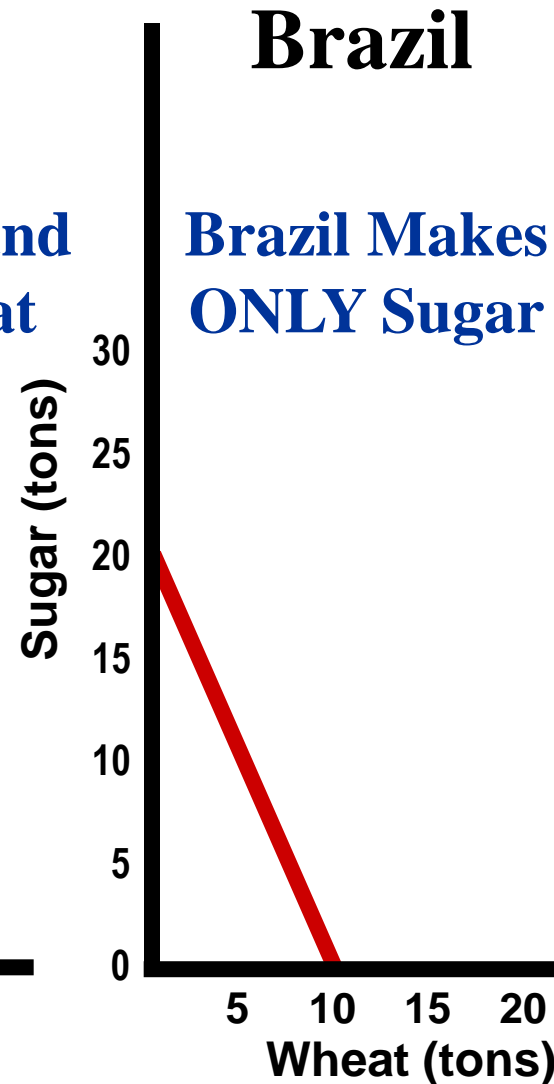
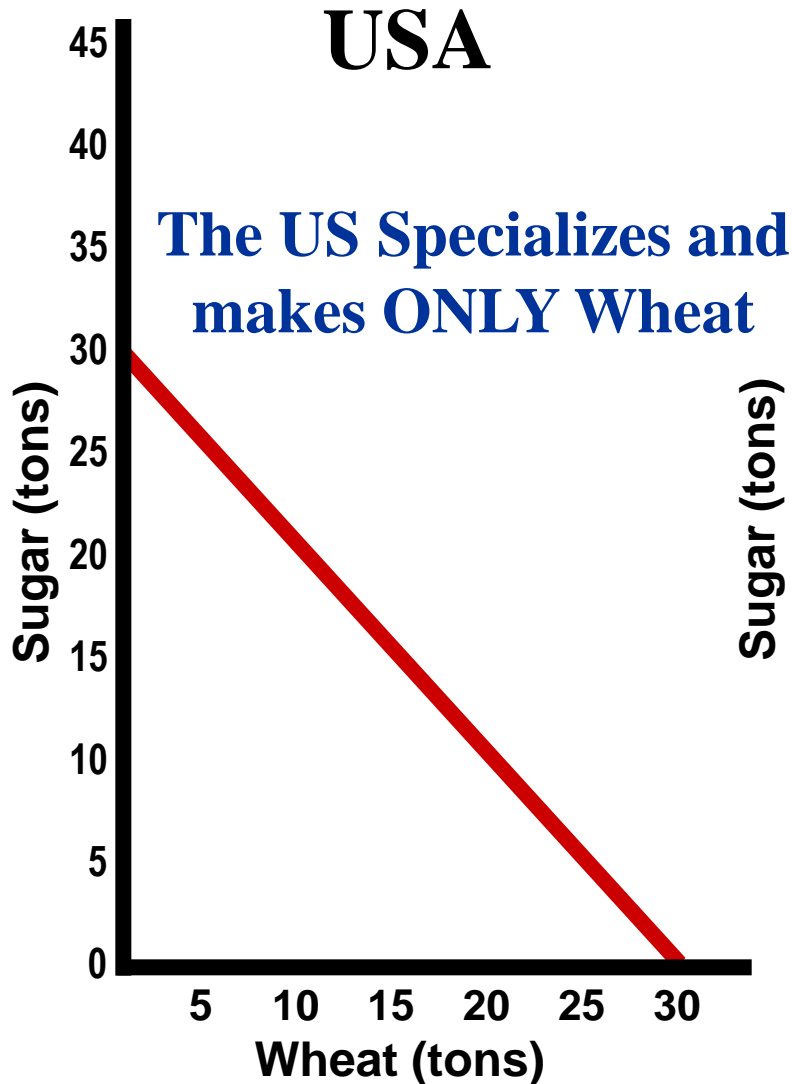


International Trade



Trade: 1 Wheat for 1.5 Sugar

S	W
0	30
1.5	29
3	28
4.5	27
6	26
7.5	25
9	24
10.5	23
12	22
13.5	21
15	20
16.5	19
18	18
19.5	17



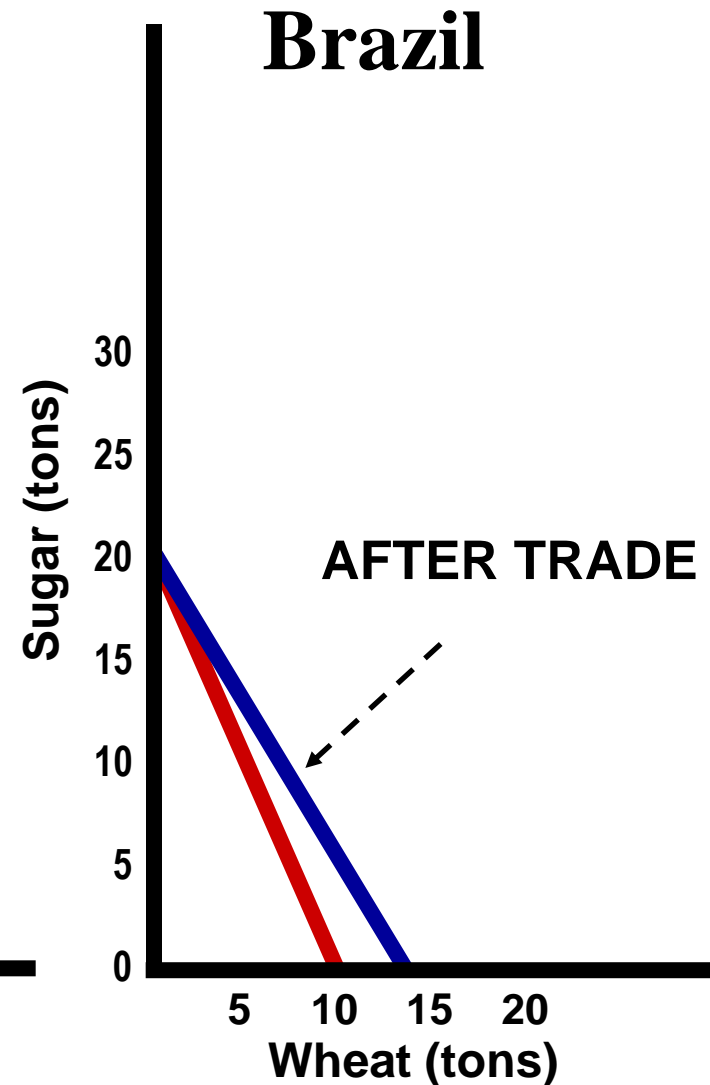
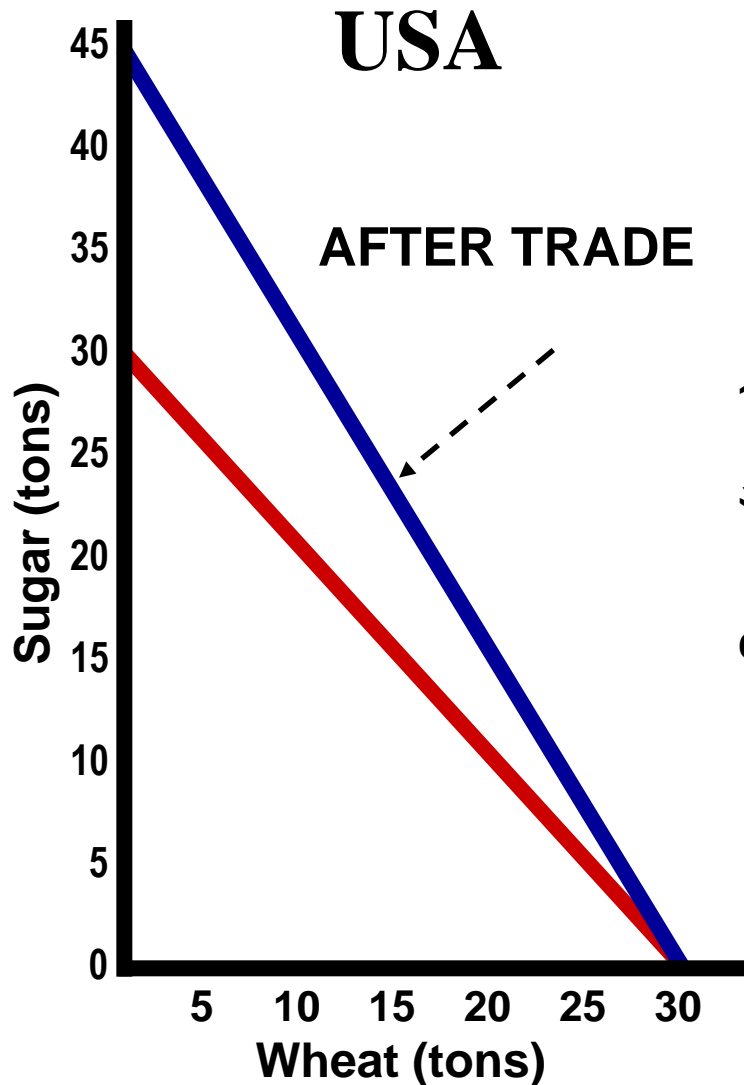
S	W
20	0
18.5	1
17	2
15.5	3
14	4
12.5	5
11	6
9.5	7
8	8
6.5	9
5	10
3.5	11



International Trade



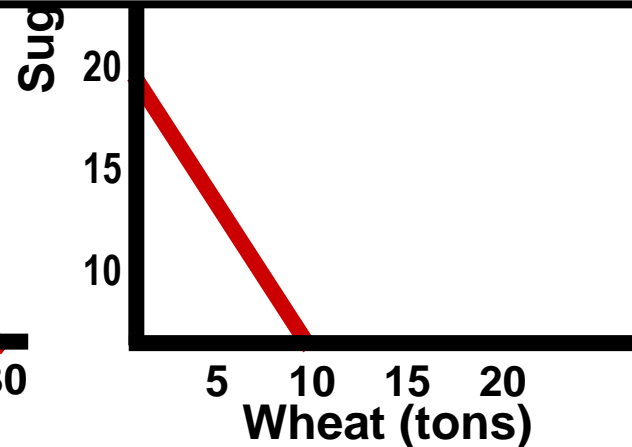
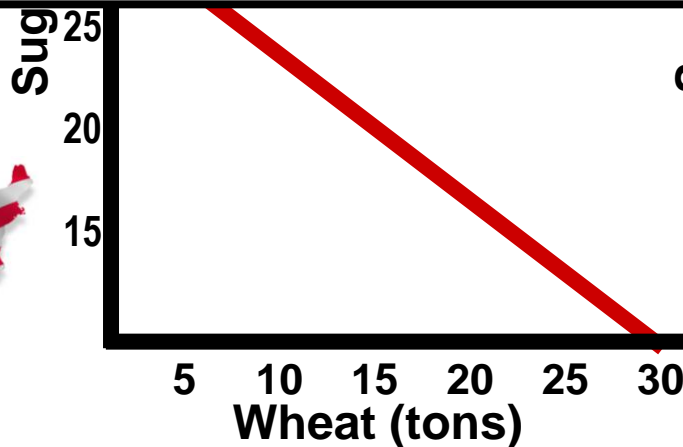
TRADE SHIFTS THE PPC!



	Wheat	Sugar
USA	30 (1W costs 1S)	30 (1S costs 1W)
Brazil	10 (1W costs 2S)	20 (1S costs 1/2W)

Which country has a comparative advantage in wheat?

1. Which country should **EXPORT** Sugar?
2. Which country should **EXPORT** Wheat?
3. Which country should **IMPORT** Wheat?



Determining Comparative Advantage (Output Method)

The following chart illustrates the number of CDs and pounds of beef that can be produced in one hour.

	<u>CDs</u>	<u>Beef</u>
Japan	4	2
Canada	4	6

Output Questions:

OOO=

Output: Other goes Over

1. Which nation has an *absolute advantage* in producing CDs?
2. Which nation has an *absolute advantage* in producing beef?
3. Which has a *comparative advantage* in producing CDs?
4. Which has a *comparative advantage* in producing beef?
5. Should Japan specialize in CDs or beef?
6. Should Canada specialize in CDs or beef?

Determining Comparative Advantage (Input Method)

The following chart illustrates the number of hours it takes to produce one loaf of bread and one bushel of corn.

	<u>Bread</u>	<u>Corn</u>
United States	4	2
France	4	6

1. Which nation has an *absolute advantage* in producing bread?
2. Which nation has an *absolute advantage* in producing corn?
3. Which has a *comparative advantage* in producing bread?
4. Which has a *comparative advantage* in producing corn?

Input Questions:

IOU=

Input: Other goes Under

Term of Trade

	Pineapples	Radios
Kenya	30 (1P costs 1/3R)	10 (1R costs 3 P)
India	40 (1P costs 1R)	40 (1R costs 1P)

Kenya wants Radios

If the terms of trade for 1 radio is **greater than 3** pineapples then Kenya is worse off and should make radios on their own.

India wants Pineapples

If the terms of trade for 1 radio is **less than 1** pineapple then India is worse off and should make pineapples on their own.

What terms of trade benefit both countries?

	Pineapples	Radios
Kenya	30 (1P costs 1/3R)	10 (1R costs 3 P)
India	40 (1P costs 1R)	40 (1R costs 1P)

Trading 1 radio for 2 pineapples will benefit both
If Kenya produces radios by themselves, they give up 3 Pineapples for each radio. If they can trade 2 pineapples for each radio they are better off.

If India produces pineapples by themselves, they give up 1 pineapple for one radio. If they can get 2 pineapples for one radio they are better off.

The countries trade at a lower opportunity cost than if they made the products themselves!

Comparative Advantage Practice

Create a chart for each of the following problems.

- **First- Identify if it is a output or input question**
- **Second-Identify who has the ABSOLUTE ADVANTAGE**
- **Third-Identify who has a COMPARATIVE ADVANTAGE**
- **Fourth- Identify how they should specialize**

1. Sara gives 2 haircuts or 1 perm and hour. Megan gives 3 haircuts or 2 perms per hour.

2. Justin fixes 16 flats or 8 brakes per day. Tim fixes 14 flats or 8 brakes per day.

3. Hannah takes 30 minutes to wash dishes and 1 hour to vacuum the house. Kevin takes 15 minutes to wash dishes and 45 minutes to vacuum.

4. Americans produce 50 computers or 50 TVs per hour. Chinese produce 30 computers or 40 TVs per hour.



International Trade and Finance



Closed vs. Open Economies

A closed economy focuses only on the domestic price and the open economy trades for the lower world price.

Export Goods & Services **16%** of American GDP.

US Exports have **doubled** as a percent of GDP since **1975**.

Balance of Trade vs. Balance of Payments

Balance of Trade

Net Exports (X_N) = Exports – Imports

Trade Surplus = Exporting more than is imported

Trade Deficit (aka. trade gap) = Exporting less than is imported

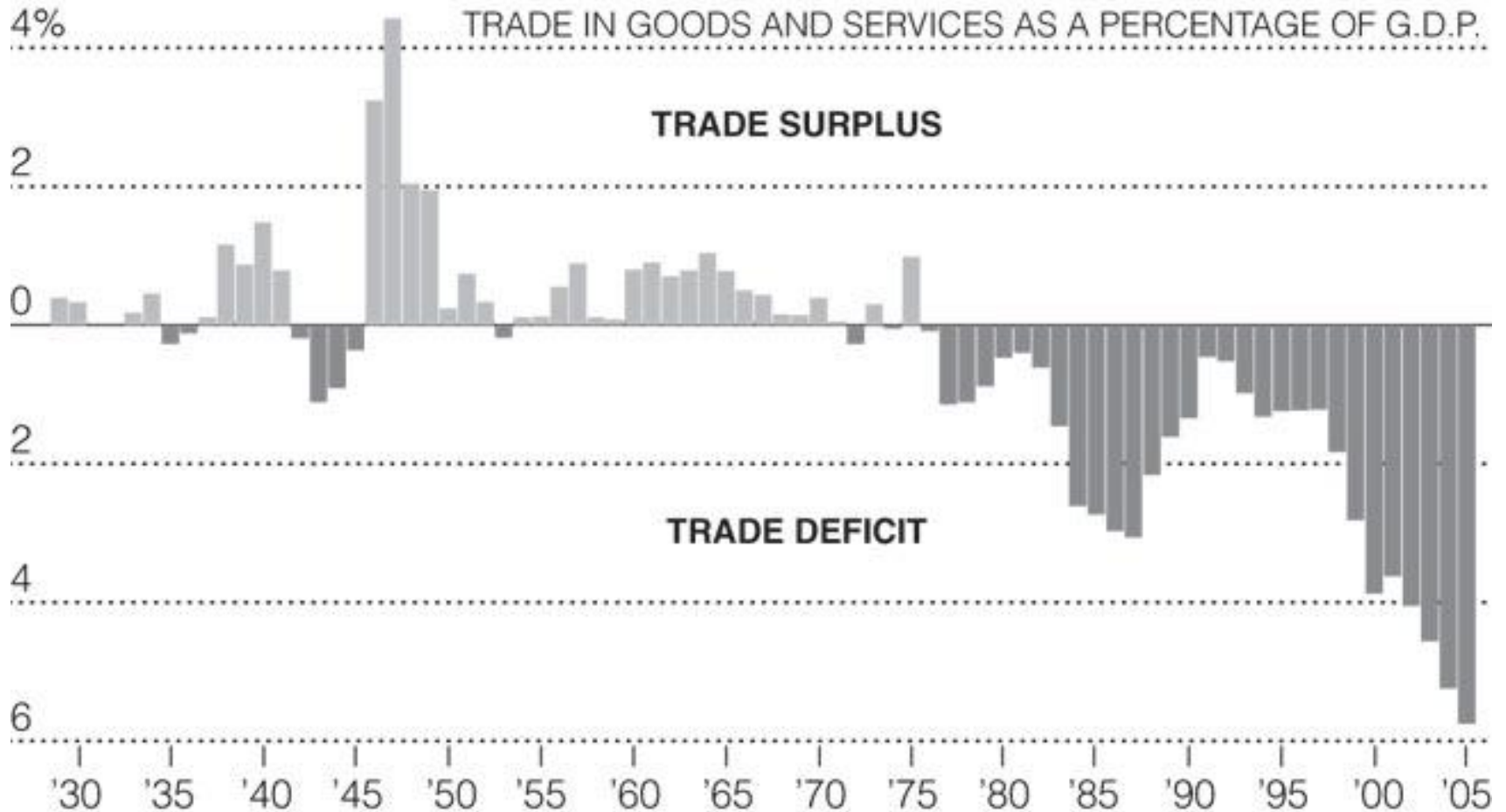
Principal U.S. Exports and Imports of Goods, 2002
(in Billions of Dollars)

Exports	Amount	Imports	Amount
Chemicals	\$49.8	Automobiles	\$114.1
Semiconductors	42.3	Petroleum	103.6
Consumer durables	40.1	Computers	75.3
Computers	38.6	Household appliances	66.4
Generating equipment	27.6	Clothing	64.3
Aircraft	26.7	Chemicals	33.1
Telecommunications	22.2	Consumer electronics	32.8
Automobiles	20.5	Semiconductors	26.0
Grains	14.4	Telecommunications	23.2
Nonferrous metals	12.2	Iron and steel	17.7

Source: Consolidated from Department of Commerce data.

Balance of Trade

The United States trade deficit has grown sharply over the last decade.



Balance of Payments (BOP)

Balance of trade includes only goods and service but balance of payments considers ALL international transactions.

- **The balance of payments is a broader measure of international trade.**

Details:

**The BOP summary is within a given year
Prepared in the domestic country's currency**

Ex. If accounting the BOP of the U.S. it would be in the Dollar.

The balance of payments is made up of two accounts. The current account and the capital account.

Which countries have the highest account surpluses and account deficits?

RANK	COUNTRY	CURRENT ACCOUNT BALANCE	DATE OF INFORMATION
1	<u>China</u>	\$ 296,200,000,000	2009 est.
2	<u>Japan</u>	\$ 131,200,000,000	2009 est.
3	<u>Germany</u>	\$ 109,700,000,000	2009 est.
4	<u>Switzerland</u>	\$ 79,180,000,000	2009 est.
5	<u>Norway</u>	\$ 58,560,000,000	2009 est.
6	<u>European Union</u>	\$ 51,400,000,000	2009 est.
7	<u>Russia</u>	\$ 42,080,000,000	2009 est.
8	<u>Taiwan</u>	\$ 34,040,000,000	2009 est.
9	<u>Netherlands</u>	\$ 33,720,000,000	2009 est.
182	<u>Belgium</u>	\$ -18,920,000,000	2009 est.
183	<u>United Kingdom</u>	\$ -32,370,000,000	2009 est.
184	<u>Australia</u>	\$ -33,310,000,000	2009 est.
185	<u>Canada</u>	\$ -36,320,000,000	2009 est.
186	<u>Greece</u>	\$ -40,820,000,000	2009 est.
187	<u>France</u>	\$ -43,670,000,000	2009 est.
188	<u>Italy</u>	\$ -55,440,000,000	2009 est.
189	<u>Spain</u>	\$ -69,460,000,000	2009 est.
190	<u>United States</u>	\$ -380,100,000,000	2009 est.

Current Account

The Current Account is made up of three parts:

- Trades in Goods and Services (Net Exports)- Difference between a nation's exports of goods and services and its imports of goods and services**

Ex: Toys imported from China, US cars exported to Mexico

- Investment Income- income from the factors of productions including payments made to foreign investors.**

Ex: Money earned by Japanese car producers in the US

- Net Transfers- Money flows from the private or public sectors**

Ex: donations, aids and grants, official assistance

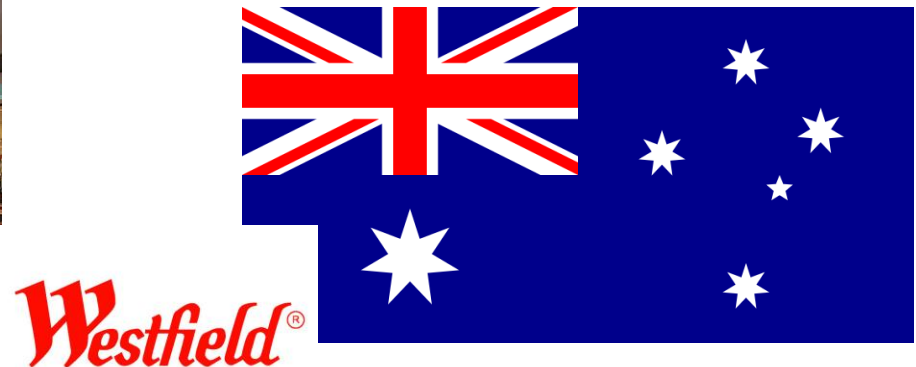
Capital (Financial) Account

The Capital Account measures the purchase and sale of financial assets abroad.

Purchases of things that stay in the foreign country.

Examples:

- **US company buys a hotel in Russia**
- **A Korean company sells a factory in Ohio**
- **Dividends earned by Chinese citizens in the New York Stock Exchange (NYSE)**
- **Australian company owns local Mall**



Current or Capital Account?

Identify if the examples are counted in the current or capital account and determine if it is a credit or debit for the US.

- 1. Bill, an American, invests \$20 million in a ski resort in Canada**
- 2. A Korean company sells vests to the US Military**
- 3. A US company, Boeing, sells twenty 747s to France**
- 4. A Chinese company buys a shopping mall in San Diego**
- 5. An illegal immigrant sends a portion of his earning to his family**
- 6. An German investor buys \$50,000 US Treasury Bonds**
- 7. Italian tourists spend 5 million in the US while American tourists spend 8 million in Italy.**

Current or Capital Account?

Identify if the examples are counted in the current or capital account and determine if it is a credit or debit for the US.

- 1. Capital Account (financial asset), Debit**
- 2. Current Account (trade of goods/services), Debit**
- 3. Current Account (trade of goods/services), Credit**
- 4. Capital Account (financial asset), Credit**
- 5. Current Account (net transfer), Debit**
- 6. Capital Account (financial asset), Credit**
- 7. Current Account (net transfer), Debit**

Practice

1. U.S. income increases relative to other countries. Does the balance of payments move toward a deficit or a surplus?

- Imports are cheaper
- Americans import more
- Net exports (X_n) decrease
- The current account balance decreases and moves toward a deficit.

2. If the U.S. dollar depreciates relative to other countries does the balance of payments move toward a deficit or a surplus?

- US exports are desirable
- America exports more
- Net exports (X_n) increase
- The current account balance decreases and moves toward a surplus.

2. Balance of payments accounts record all of a country's international transactions during a year.
- (a) Two major subaccounts in the balance of payments accounts are the current account and the capital account. In which of these subaccounts will each of the following transactions be recorded?
- (i) A United States resident buys chocolate from Belgium.
 - (ii) A United States manufacturer buys computer equipment from Japan.
- (b) How would an increase in the real income in the United States affect the United States current account balance? Explain.

6 points (2 + 2 + 2)

(a) 2 points:

- One point is earned for stating that the transaction will be recorded in the current account.
- One point is earned for stating that the transaction will be recorded in the current account.

(b) 2 points:

- One point is earned for stating that the current account balance will decrease or move toward a deficit.
- One point is earned for explaining that the increase in income causes imports to increase.



Foreign Exchange (aka. FOREX)

Exchange Rate = Relative Price of Currencies

Video: Down and Out Dollar

Exports and Imports

- 1. US sells cars to Mexico**
- 2. Mexico buys tractors from Canada**
- 3. Canada sells syrup to the U.S.**
- 4. Japan buys Fireworks from Mexico**

For all these transactions, there are different national currencies.

Each country must be paid in their own currency

The buyer (importer) must exchange their currency for that of the sellers (exporter).

The turnover in FOREX markets is almost \$4 trillion (USD) a day

Currency Codes

USD = US Dollar

EUR = Euro

JPY = Japanese Yen

GBP = British Pound

CHF = Swiss Franc

CAD = Canadian Dollar

AUD = Australian Dollar

NZD = New Zealand Dollar



Currencies

World Currencies		Crossrates	Currency Converter	
Currency	U.S. Dollar to Foreign Currency (\$1 =)	Foreign Currency to U.S. Dollars	Change in U.S. Dollars	
Euro	0.7335	1.3634	-0.0012	<p>Euro vs. U.S. Dollar</p> <p>1 day 2 day 5 day 10 day</p> <p>Bid: 1.3634</p> <p>Ask: 1.3637</p> <p>Day High: 1.3654</p> <p>Day Low: 1.3630</p>
Japanese Yen	91.6700	0.0109	+0.0400	
British Pound	0.6459	1.5482	-0.0004	
Canadian Dollar	1.0387	0.9627	+0.0001	
Swiss Franc	1.0750	0.9302	-0.0016	
Czech Koruna	18.8030	0.0532	-0.1090	
Danish Krone	5.4566	0.1833	-0.0093	
Hong Kong Dollar	7.7653	0.1288	-0.0016	
Mexican Peso	12.7843	0.0782	+0.0067	
Norwegian Krone	5.9183	0.1690	-0.0200	
Swedish Krona	7.1951	0.1390	-0.0253	
Singapore Dollar	1.4082	0.7101	-0.0026	
Brazilian Real	1.8120	0.5519	+0.0005	
South African Rand	7.6323	0.1310	-0.0146	
Israeli Shekel	3.7800	0.2646	+0.0118	
Australian Dollar	1.1098	0.9011	-0.0028	
New Zealand Dollar	1.4237	0.7024	-0.0063	

Exchange Rates

In the FOREX market we only look at two countries/currencies at a time

Ex: US Dollars and British Pounds

We examine the price of one currency in terms of the other currency. Ex: \$2 = £1

The Exchange Rate depends on which currency you are converting.

The price of one US Dollar in terms of Pounds is

$$1 \text{ Dollar} = \text{£}1/\$2 = \text{£}.5$$

The price of one Pound in terms of Dollars is

$$1 \text{ Pound} = \$2/\text{£}1 = \$2$$

What happens if you need more dollar to buy one pound (the price for a pound increases)?

Ex: From \$2=£1 to \$5=£1

- **The U.S. Dollar **DEPRECIATES** relative to the Pound.**

Depreciation

- **The loss of value of a country's currency with respect to a foreign currency**
- **More units of dollars are needed to buy a single unit of the other currency.**
- **The dollar is said to be “Weaker”**

What happens if you need less dollar to buy one pound (the price for a pound decreases)?

Ex: From $\$2 = \pounds 1$ to $\$1 = \pounds 4$

- **The U.S. Dollar **APPRECIATES** relative to the Pound.**

Appreciation

- **The increase of value of a country's currency with respect to a foreign currency**
- **Less units of dollars are needed to buy a single unit of the other currency.**
- **The dollar is said to be “Stronger”**

S&D for the US Dollars

Price of US Dollars

$\frac{\text{Pound } \pounds}{\text{Dollar } \$}$

$2\pounds/1\$$

US Dollar appreciates

$1\pounds/1\$$

US Dollar depreciates

$1\pounds/4\$$

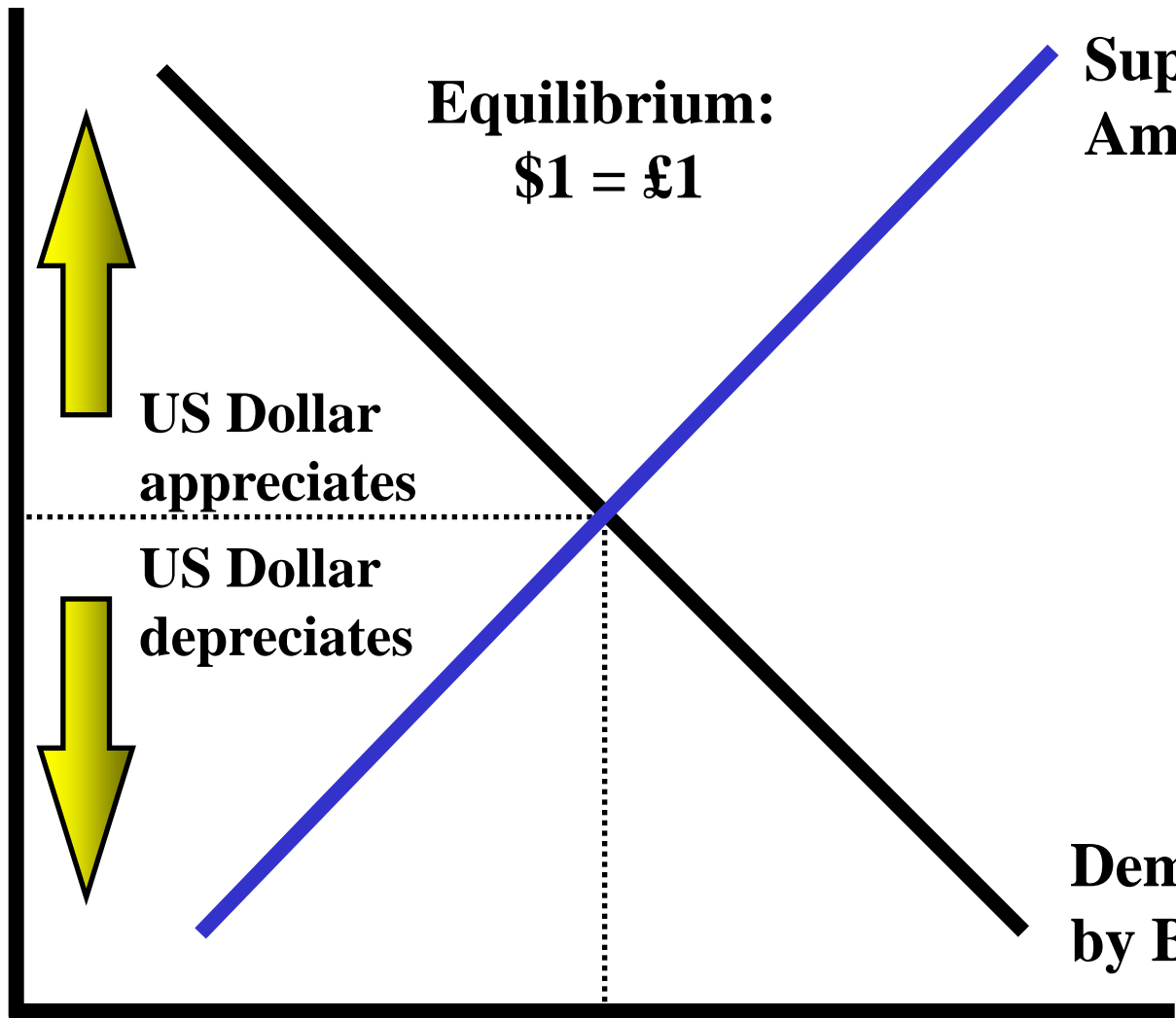
Equilibrium:
 $\$1 = \pounds 1$

Supply by Americans

Demand by British

Quantity of US Dollars

Q



FOREX Supply and Demand Simplified

**Imagine a huge table with all the different
currencies from every country**

This is the Foreign Exchange Market!

**Just like at a product market, you can't take
things without paying.**

**If you demand one currency, you must supply
your currency.**

**Ex: If Canadians want Russian Rubles.
The demand for Rubles in the FOREX
market will increase and the supply of
Canadian Dollars will increase.**



FOREX Shifters

**Let's use the example of the US
Dollar and the British Pound**

1. Changes in Tastes-

Ex: British tourists flock to the U.S...

Demand for U.S. dollars increases (shifts right)

Supply of British pounds increases (shifts right)

Pound-depreciates

Dollar-appreciates

2. Changes in Relative Incomes (Resulting in more imports)-

Ex: US growth increase US incomes....

U.S. buys more imports...

U.S. Demand for pounds increases

Supply of U.S. dollars increases

Pound- appreciates

Dollar- depreciates

3. Changes in Relative Price Level (Resulting in more imports)-

Ex: US prices increase relative to Britain....

U.S. demand for cheaper imports increases...

U.S. demand for pounds increases

Supply of U.S. dollars increases

Pound- appreciates

Dollar- depreciates

4. Changes in relative Interest Rates-

Ex: US has a higher interest rate than Britain.

British people want to invest in US

Capital Flow increase towards the US

British demand for U.S. dollars increases...

British supply more pounds

Pound-depreciates

Practice

For each of the following examples, identify what will happen to the value of US Dollars and Japanese Yen.

1. American tourists increase visits to Japan.
2. The US government significantly decreases personal income tax.
3. Inflation in the Japan rises significantly faster than in the US.
4. Japan has a large budget deficit that increases Japanese interest rates.
5. Japan places high tariffs on all US imports.
6. The US suffers a larger recession.
7. The US Federal Reserve sells bonds at high interest rates.

How do these scenarios affect exports and imports?

Practice

For each of the following examples, identify what will happen to the value of US Dollars and Japanese Yen.

1. USD depreciates and Yen appreciates
2. USD depreciates and Yen appreciates
3. USD appreciates and Yen depreciates
4. USD depreciates and Yen appreciates
5. USD depreciates (Demand Falls) and Yen appreciates (Supply Falls)
6. USD appreciates (Supply Falls) and Yen depreciates (Demand Falls)
7. USD appreciates and Yen depreciates

Scenarios 1, 2, and 4 will increase US exports because US products are now relatively “cheaper”