David Youngberg
ECON 201—Montgomery College

LECTURE 08: TRADE I

I. A trading game
   a. Trade increases aggregate utility.
   b. *The Fundamental Theorem of Exchange*—voluntary trade with complete information is always mutually beneficial.
      i. Note this is not the same thing as equally beneficial.
      ii. Trade also encourages peace and understanding.
   c. Mistakes surely happen but either the harm is small (a movie wasn't all that good) or people make special effort to ensure they don't make a mistake (research a new car, inspect a house, consult a critic).

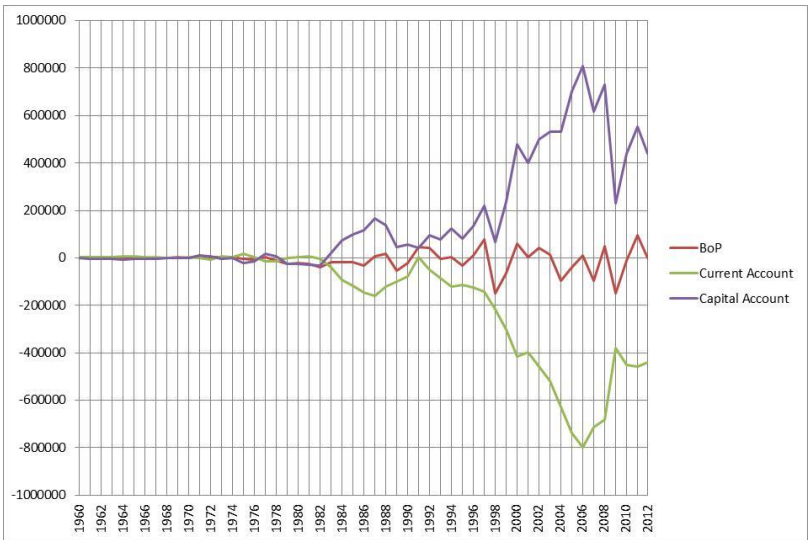
II. Law of One Price
   a. Suppose, at current exchange rates, rugs cost $10 in one country and $200 in another country. What do you do?
      i. This causes the cheap rugs to be more expensive and the expensive rugs to be cheaper.
      ii. This should continue until the prices are equal (or nearly equal, since you have to pay to ship the rugs).
      iii. Thus the *law of one price*—when there are no barriers to trade, the price of a good or service should be the same everywhere.
   b. All things being equal…
      i. The currency with the cheaper rugs will appreciate and
      ii. The currency with the expensive rugs will depreciate.
   c. That prices are converging across the world is the result of *globalization*—the process of countries being open to more foreign trade and investment.

III. Purchasing Power Parity
   a. In reality, though, barriers to trade exist. There are transportation costs. There are tariffs and customs. There is spoilage. Prices for many products vary widely.
      i. By looking at many goods and services, you can get a "big picture" view.
      ii. However, quality of goods and services changes from country to country, biasing the index.
      iii. Thus the *purchasing power parity (PPP)*—technique used to determine the relative value of different currencies.

b. Like the law of one price, PPP has a prediction (called *purchasing power parity theory*): exchange rates between any two currencies will adjust to reflect differences in the price levels of various currencies.
c. Consider the Big Mac Index. Big Macs are famously the same everywhere. That uniform quality helps judge purchasing power and, in theory, can be used to predict how prices will adjust.
    i. In July 2015, a Big Mac in the U.S. cost on average $4.79.
    ii. At the same time, using July 2015 exchange rates, it cost…
        1. $1.88 in Russia, suggesting the Russian rouble is undervalued; it should appreciate soon.
        2. $6.82 in Switzerland, suggesting the Swiss franc is overvalued; it should depreciate soon.
        3. $1.83 in India, suggesting the Indian rupee is undervalued; <u>should</u> it appreciate soon?
    iii. The Big Mac Index is by no means perfect—it is just one product, after all, but it's a useful way to help think about PPP and the law of one price.

IV. The trade deficit
a. Exports – Imports = NX (or the balance of trade).
b. The "deficit" is when imports > exports, or when NX is negative.
c. People are very concerned that the US's NX is negative, seeing it as a sign of a weak economy. There are several things wrong with this view.
    i. Trade deficits occur within countries.
    ii. People are buying things they want—utility is increasing.
    iii. The trade deficit is only part of the equation. This last point warrants further exploration.

V. Balance of Payments (BoP)
a. All trade activity is captured in this equation: NX + CA = 0.
    i. Where CA is the capital account, or the net flow of investment. Note that sometimes NX is called the current account, as in the flow of goods that *currently* exist, while the capital account speaks to the money used to create *capital*, the investment.
    ii. Note your book splits CA into a narrower version of capital account (debt forgiveness) and financial account (sale of financial assets).
b. But does it balance in practice? It does indeed! Note how one account is almost the perfect mirror of the other and the BoP always hovers around zero. (Source: BEA, International Economic Accounts).



c. In a trade, the domestic country gave up their currency for goods and services. Abroad, this currency can have three different uses:
    i. Import from the domestic country (NX increases).
    ii. Invest in the domestic country (CA increases).
    iii. Circulating it outside the domestic country.
d. The only reason people would accept currency that's worthless in their country is because they think they can use in the country it is worth something.
    i. Circulating it outside the domestic country is rare.
e. The trade deficit is not, *repeat not*, debt. It is merely an arbitrary distinction between the flow of goods and the flow of investment.
f. This harkens back to the distinction between increasing GDP and increasing wealth. A fall in NX reduces GDP but it doesn't necessary mean people are poorer.

VI. Absolute Advantage
a. The nature of wealth
    i. Jobs, gold, and money are not true wealth (though they are sometimes useful proxies).
    ii. The key measurement is happiness.
b. Under free trade, the full benefits of specialization can be realized. In much the same way people divvy up their budgets to buy certain bundles of goods, agents use resources to produce certain bundles of products.
c. In some countries (or firms or factories), one product is cheaper to create than others. For example, consider five countries and their production possibilities for wine and chocolate.

Country	*Maximum Wine (barrels)*	*Maximum Chocolate (pounds)*
France	80	20
Germany	120	240
Switzerland	20	100
Spain	100	100
Italy	80	40

d. Each of these numbers represents what a country could produce if it dedicated all of its resources to one particular product.
e. *Absolute advantage*—being able to produce more—is generally how people determine if someone should do something. Notice that Germany can produce more of either good: it has the absolute advantage in both. Does that mean it should do everything? Not necessarily. To understand why, we turn to comparative advantage.

VII. Comparative Advantage

a. Comparative advantage is based on the ever-present existence of opportunity costs. If a nation spends all its resources making wine, no one will have any chocolate. What will everyone eat?!?!
b. The question then becomes: which nation sacrifices less? The nation with the lowest opportunity cost has a comparative advantage in producing that particular good.

c. To find the comparative advantage, divide:

$$\frac{\text{Opportunity cost of Product A}}{\text{Product A}}$$

i. Appreciate the math here. For every unit the country produces of A, it gives up such and such amount. By putting it in terms of each unit of Product A, the equation considers both how much the country can produce and what the country *could have* produced if it didn't make Product A.

d. And so we find:

Product A	**Country**	**Math**	**1 unit costs…**
Wine	France	20/80	0.25 pounds of chocolate
	Germany	240/120	2.00 pounds of chocolate
	Switzerland	100/20	5.00 pounds of chocolate
	Spain	100/100	1.00 pound of chocolate

	Italy	40/80	0.50 pounds of chocolate
Chocolate	France	80/20	4.00 barrels of wine
	Germany	120/240	0.50 barrels of wine
	Switzerland	20/100	0.20 barrels of wine
	Spain	100/100	1.00 barrel of wine
	Italy	80/40	2.00 barrels of wine

e. Because France's opportunity cost for making wine is lower (they sacrifice 0.25 pounds of chocolate, which is the cheapest wine that can be made among the five), France should specialize in wine.
f. Who has the comparative advantage in chocolate?