Week 14 Recitation

For this week's recitation, we will study comparative advantage and gains from trade.

1) The table below shows the production capabilities of the Krusty Krab and Chum Bucket in a day.

	Burgers	Shakes
Krusty Krab	500	120
Chum Bucket	160	240

a. What is the opportunity cost of burgers and shakes for each restaurant?

Opportunity Cost= (other good/good)
Krusty burgers = 120/500 = 0.24 so 1 burger costs 0.24 shakes for the Krusty Krab.
Krusty shakes = 500/120 = 4.2 so 1 shake costs 4.2 Burgers for the Krusty Krab.
Chum burgers = 240/160 = 1.5 so 1 burger costs 1.5 shakes for Plankton
Chum burgers = 160/240 = 0.67 so 1 shake costs 0.67 shakes for Plankton

b. What item does the Krusty Krab have a comparative advantage in? What about the Chum Bucket?

The Krusty Crab has comparative advantage in burgers and the Chum Bucket has it in shakes. The reasoning is the opportunity cost is less for these items compared with the other restaurant.

c. If each restaurant produced only the good in which they have a comparative advantage and traded half of their production, how many burgers and shakes would they each have? Are they better off with trade?

Krusty Crab produces 500 burgers and Chum Bucket produces 240 shakes. They each trade half so after trade each restaurant gets 250 burgers and 120 shakes. They seem to be better off because if the Krusty Krab produced 120 shakes without trade, they would have 0 burgers. The maximum burgers the Chum Bucket could produce without trade and 0 shakes is 160 burgers, and now they are getting 250 burgers with 120 shakes.

2) Work with a partner on this question. Suppose the two of you are the only two inhabitants of a tiny island nation, and you are considering whether to trade with one another. The person whose last name comes first alphabetically is Producer 1; the person whose last name comes second is Producer 2. Below are the production possibilities for Producers 1 and 2.

Producer 1

Fish	Coconuts
0	10
1	8
2	6
3	4
4	2
5	0

Producer 2

Fish	Coconuts
0	15
2	12
4	9
6	6
8	3
10	0

a. Graph your production possibility frontier.

Should be a straight line for both

b. What is your opportunity cost of producing each good? In which good – fish or coconuts – do you have the comparative advantage?

Producer 1: opportunity cost of 1 fish is 2 coconuts (10/5), opportunity cost of 1 coconut is 1/2 fish (5/10)

Producer 2: opportunity cost of 1 fish is 1.5 coconuts (15/10), opportunity cost of 1 coconut is 2/3 fish (10/15)

Producer 2 has lower opportunity cost of producing fish, meaning producer 2 has the CA in fish and producer 1 has the CA in coconuts

c. Suppose you and your partner both specialize in producing the good in which you have the comparative advantage. Try to work out a trade deal. How many fish and how many coconuts do you both end up consuming after trade? Are you better off than you were before trade?

With specialization, total output is 10 fish and 10 coconuts. Multiple possible outcomes. Example: Producer 2 keeps 6 fish and trades the other 4 to producer 1 for 7 coconuts. Post-trade, P1. gets 4 fish and 3 coconuts and P2. gets 6 fish and 7 coconuts.

d. Was it easy or hard to arrive at a trade deal? Are you happy with the deal, or do you wish you could have done better?

Hopefully they bargain some – terms of trade are up for negotiation.

3) So far, we have assumed that opportunity costs are constant – that is, that the amount of good A a country gives up to produce a unit of good B is the same for all quantities of goods A and B. But if you remember economies of scale (aka increasing returns to scale) from 202, you'll recall that often, costs of production fall as output increases. Complete the tables below with the opportunity cost of producing an additional car in the U.S. and South Korea.

US

Cars	**T-shirts**	**Opp. Cost of Producing Car**
0	1500	N/A
1	1000	500
2	600	400
3	300	300
4	100	200
5	0	100

South Korea

Cars	**T-shirts**	**Opp. Cost of Producing Car**
0	2000	N/A
1	1300	700
2	700	600
3	200	500
4	50	150
5	0	50

a. Suppose the US currently specializes in car production, producing 5 cars and 0 T-shirts per day, and South Korea currently specializes in T-shirt production, producing 0 cars and 2000 T-shirts per day. How much would it cost South Korea to produce 1 car (in terms of T-shirts)? At this point, is car production efficient in South Korea – that is, is South Korea able to produce a car with a lower opportunity cost than the US?

Would cost SK 700 T-shirts to produce first car.
Not viable – US is only giving up 100 T-shirts for its 5th car.

b. Now suppose South Korea's government uses infant industry protection policy, cutting off all trade with the US, and in response, both US and South Korea start producing 4 cars per day plus the corresponding number of T-shirts to meet domestic demand. At this point, which country has the lower opportunity cost of car production?

US opp cost: 200 T-shirts
SK opp cost: 150 T-shirts
Now SK has the lower opp cost because they have very steep economies of scale.

c. Starting from the production mix described in part (b), if South Korea lifts its ban on trade with the US, which country has the comparative advantage in car production? What insights does this give us?

SK would have the comparative advantage. This shows that infant industry protection can actually help a country attain a CA in a particular industry if they face steep economies of scale and could be competitive at higher levels of output. (South Korea did roughly this with Hyundai.) Still an open question as to whether it's "better" to have the CA in car production than T-shirt production, but anecdotally it probably is.