The Ricardian Model and Argentina

Below are several questions about the Ricardian Model in the context of Argentina as a small open economy. Take some time and please discuss them with your classmates.

Some information about Argentina:

Argentina can produce two goods: manufactures and beef. The technology to produce manufactures and beef both only use labor and they have constant marginal products of labor. The marginal product of labor in manufactures is 2. The marginal product of labor in beef production is 6.

1. In autarky (i.e. no international trade) what is the relative price of beef to manufactures?

The way to calculate this is to use the fact that because labor is free to move across sectors, then the wages paid in each sector must be equal. So

$$w = P_b \times MPL_b = P_m \times MPL_m$$

Where this comes from wages = price × marginal product of labor.

$$\Rightarrow \frac{P_b}{P_m} = \frac{MPL_M}{MPL_B} = \frac{2}{6} = \frac{1}{3}$$

2. Suppose that Argentina is a ``small open economy'', that is it takes world prices as given and Argentina will have no impact on international supplies and prices. If the world relative price of beef to manufactures is 1/2, will international trade benefit those in Argentina? If so, what product will Argentina export? What product will it import?

First, what does $\frac{P_b}{P_m}$ mean? In autarky, if $\frac{P_b}{P_m} = \frac{1}{3}$, this means one unit of beef buys only $\frac{1}{3}$ unit of manufactures. So if the world price is $\frac{1}{2}$, then when Argentina sells beef on the world market, they get $\frac{1}{2}$ units of manufactures. That is, Argentines get a better deal on the world market. Thus, they should <u>specilize in beef</u> and export it, then import their manufactures.

3. Since the early 2000's incomes in China have risen and in turn their demand for Argentine beef has risen. As a result of China's growth, this increase in demand has pushed up the relative price of beef to manufactures to 2/3. How have real wages (in units of manufactures) grown in Argentina?

First, Because all workes are in beef production, their marginal product of labor is 6 units of beef. This is what they get paid. In units of manufactures, we just use the relative price of beef to convert units of beef to units of manufactures. So...

Pre-Rise of China	Post China
$\frac{P_b}{P_m} \times MPL_m$ = wage of workers in argentina.	
$\frac{1}{2} \times 6 = 3$	$\frac{2}{3} \times 6 = 4$ => 33% increase in real wages!!!

4. Suppose that the Argentine government places a tax on the exports of beef to keep domestic food prices low. Specifically, for every one unit of beef sold internationally, the government takes 1/4 of a unit of beef.

   What is the effective (i.e. taxes included) world relative price those in Argentina face? How will real wages (in units of manufactures) change in response to the tax? How do you think vegetarians in Argentina feel about this policy?

The tax works this way, If I sell one unit, $\frac{1}{4}$ goes to goverment and I recive only $\frac{3}{4}$ in exchange for manufactures on the world market. This implies the effective price I face is....

I sell one unit, $\frac{3}{4} \times \frac{2}{3} = \frac{1}{2}$ — My "after-tax" effective price.

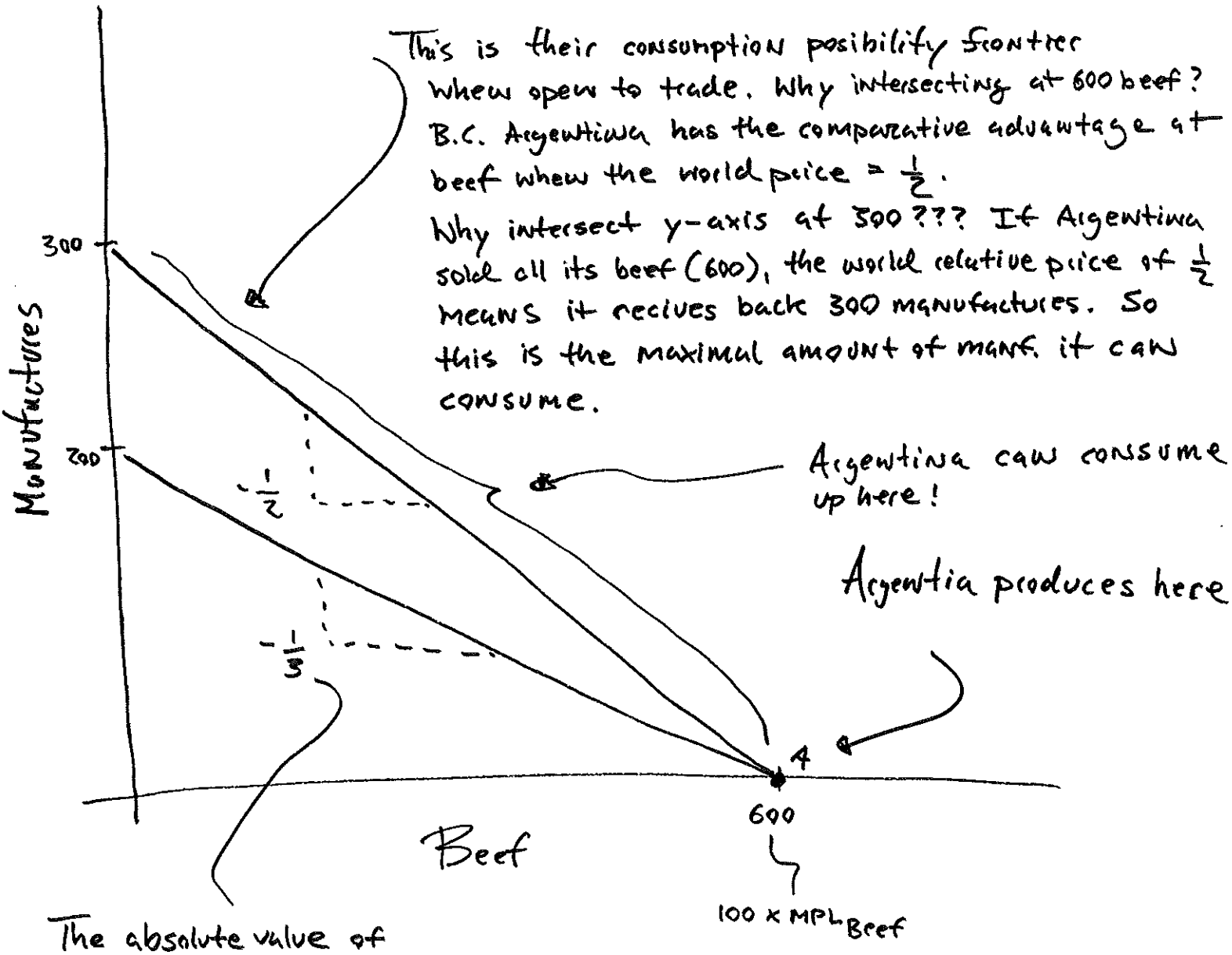
$\frac{3}{4}$: But only $\frac{3}{4}$ are exchanged for manufactures

$\frac{2}{3}$: world price I convert beef to manufactures

Note that Real wages have decline back to pre-China levels.

Question #3 in Fall 2014 handout,

the ppf and consumption possibilities....



Note: The "gain" from trade here is represented by the CPF lying above the PPF. Trade allows them to consume bundles that were not feasible when it was in Autarky.

Question #4 in Fall 2014 handout

How the consumption possibility frontier changed.