Consider two countries, Home and Foreign, each producing two goods, X and Y, with constant costs (there is only one resource, labor, with constant returns to scale and perfect competition). Home has 600 identical workers, each with a marginal product of either two X or one Y. Foreign has 1200 identical workers, and their MPL equals 0.5 for both X* and Y*.

1. In two separate diagrams, graph the PPFs for both Home and Foreign, putting X on the horizontal axis.

2. What is the marginal rate of transformation (MRT) and the autarky price ratio (P_X/P_Y) in each country?

3. Which country has the absolute advantage in which good? Which country has the higher real wage rate?

4. Which country has the comparative advantage in which good?

5. Assume that in autarky, each country puts half its labor into the production of each good. Using indifference curves, show the autarky equilibrium for each on your graphs in (1).

6. According to the Ricardian Theorem, which country will export X, and which will import it?

7. Using a diagram for one country's export supply of X, and the other's import demand for X, show the equilibrium terms of trade if the curves intersect at $Px/Py=1/2$.

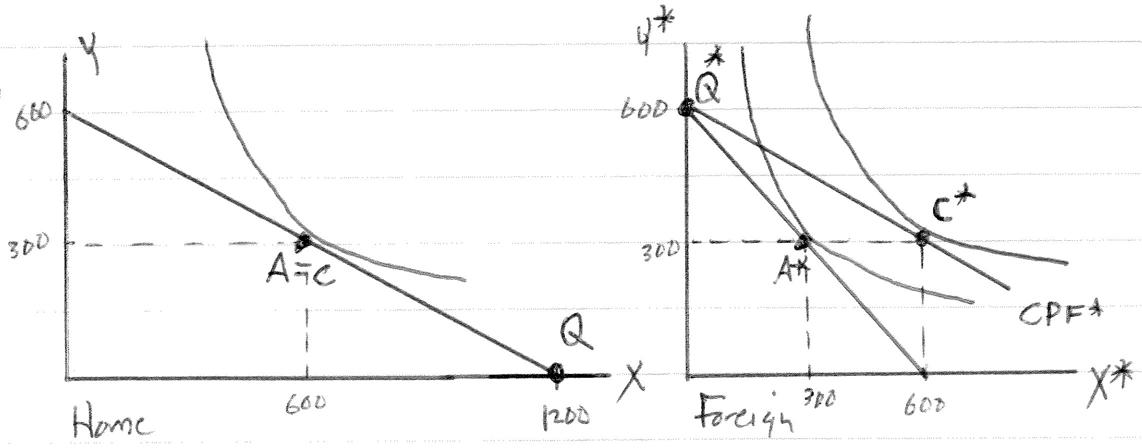
8. Assume each country fully specializes according to its comparative advantage, and then trades 600 X for 300 Y (i.e., at a price of $Px/Py=1/2$). Show the new CPF for each country in your graphs for (1) and (5), and show the new consumption points using indifference curves.

9. Is more produced under trade than under autarky? Is the new trade equilibrium a Pareto Improvement? Explain.

10. Using an Edgeworth Box with X on the horizontal axis and Y on the vertical axis, with actual numbers from this problem, show how specialization can increase total production, and how international trade can be Pareto-improving.

Econ 462 Quiz 1 Fall 2008

(1)



(2) $MRT = 1/2 = P_x/P_y$; $MRT^* = 1 = P_x^*/P_y^*$

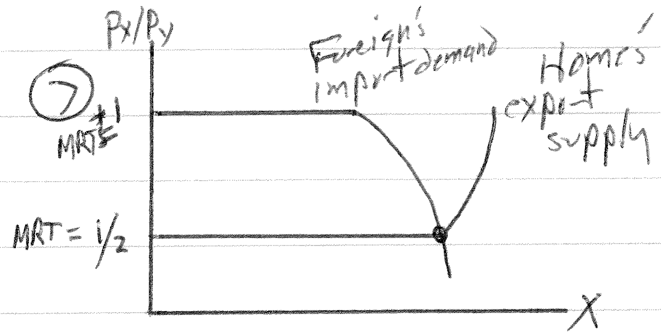
(3) Home has AA in both, so it has a higher real wage.

(4) Home has CA in X, Foreign in Y.

(5) Home produces 600 X, 300 Y; Foreign 300 X*, 300 Y*. See graph.

(6) Home exports X
Foreign imports X

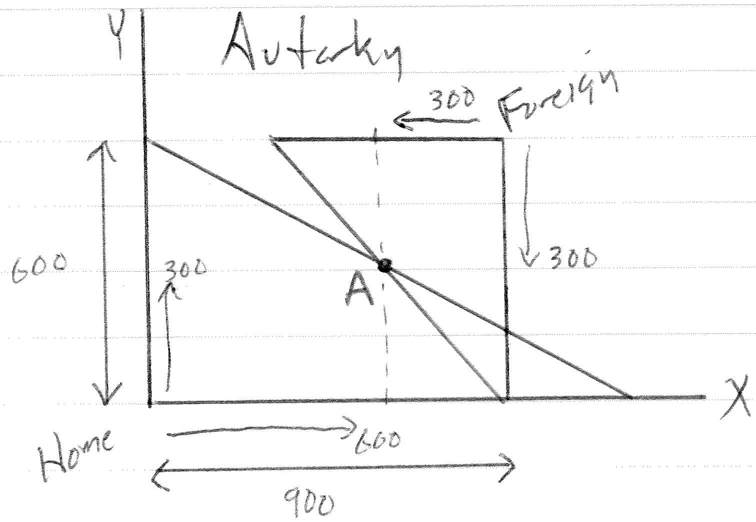
(7)

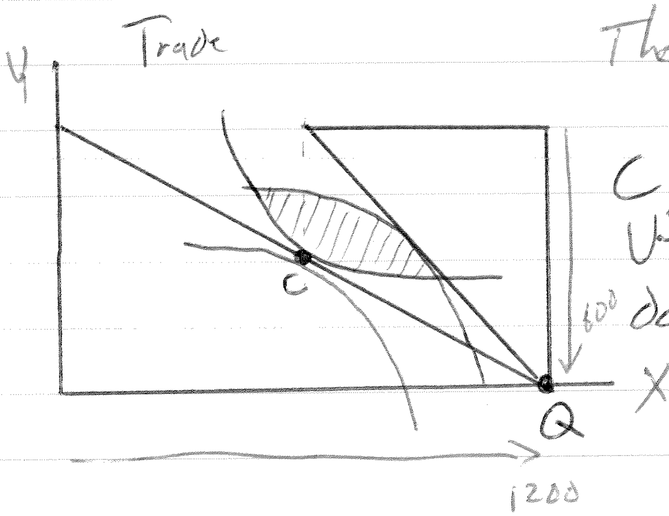


(8) Home's new CPF
is the same as its PPF.
It now produces at point Q and consumes at C. Foreign produces at point Q*
and consumes at C*

(9) More is produced: (900 X + 600 Y) versus (1200 X, 600 Y)
Foreign is better off, Home is not worse off. Yes, Pareto Improvement

10





The Box gets bigger!

C lies in the Pareto Area,
Utility increases for Foreign,
does not fall for Home