

ECON 462 International Trade
Fall 2009
Quiz 2

NAME: KEY

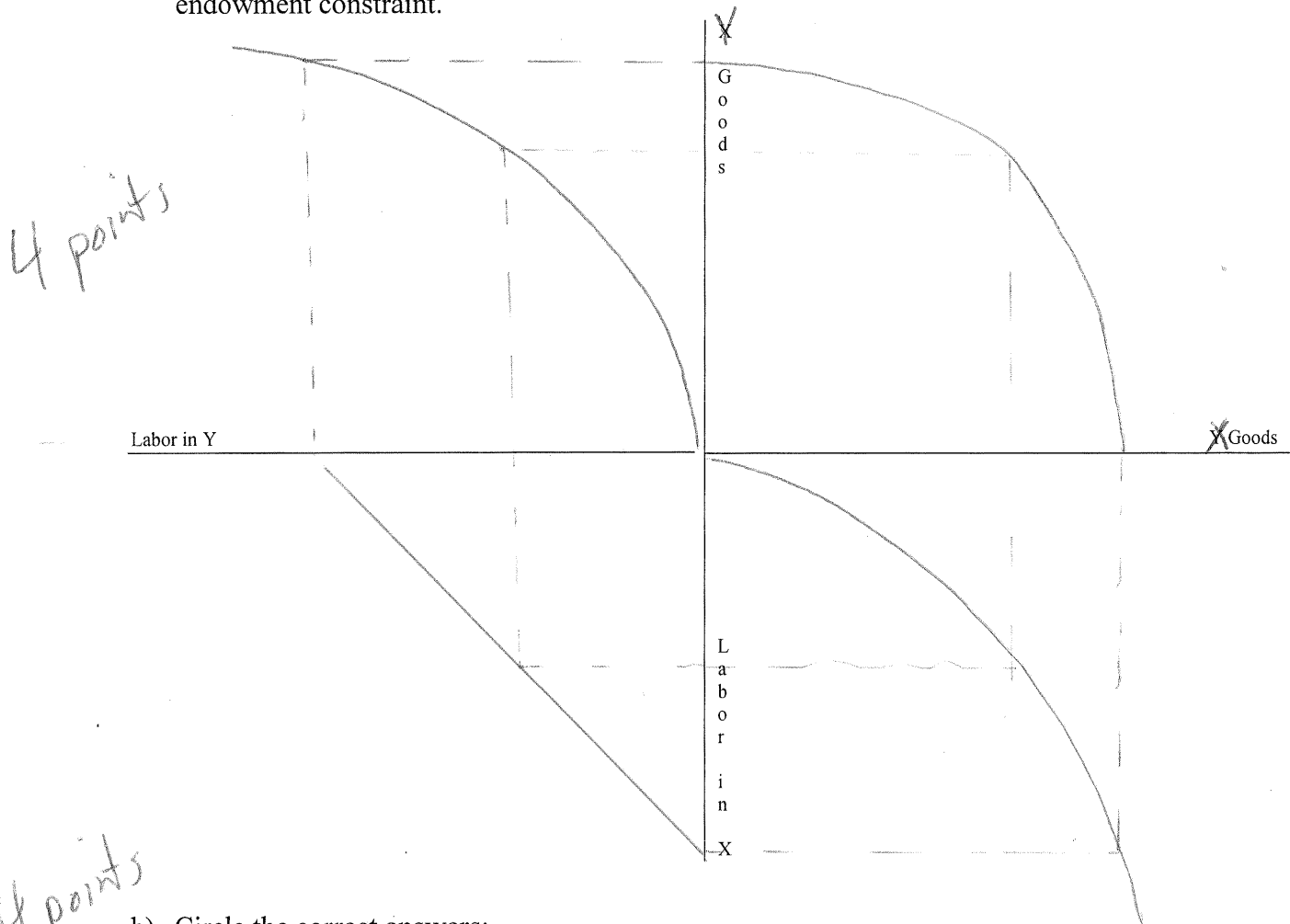
GROUP: _____

Time: 30 minutes.

25 points

Assume that the US and the EU both produce only two types of goods, consumer goods (Y) and producer goods (X). Both sectors use labor, which is freely mobile between sectors, but each also uses a specific factor that is immobile, so labor has diminishing marginal product even though there are constant returns to scale.

a) Graph both production functions below, and then show how to derive the PPF using the labor endowment constraint.



b) Circle the correct answers:

If you allocate more labor to X,

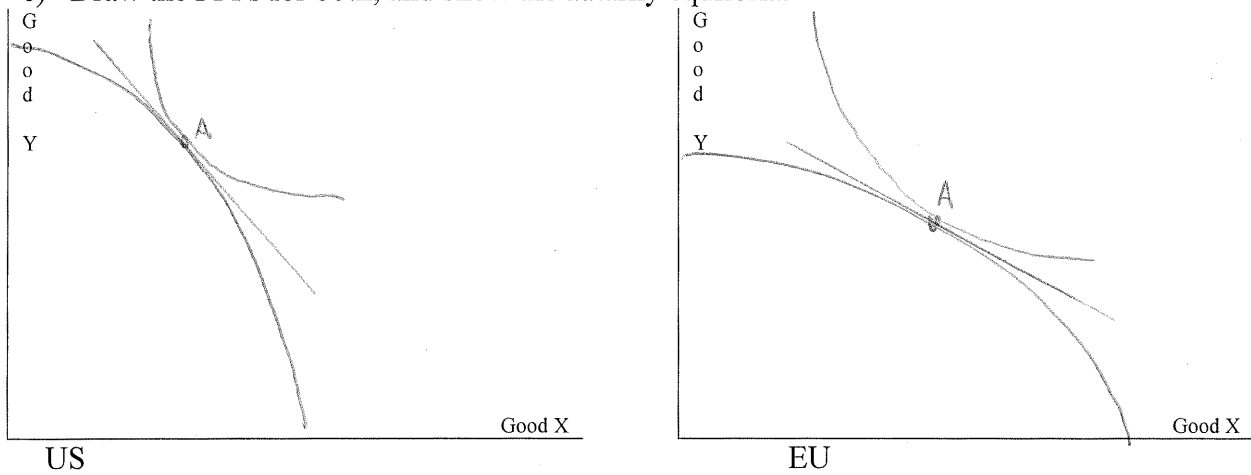
- (1 each)
- the PPF becomes (Steeper / Flatter).
 - the MC of Y (Rises / Falls).

If you increase your labor endowment without changing your specific factors,

- the PPF shifts (Out / In).
- the PPF becomes (More / Less) bowed out.

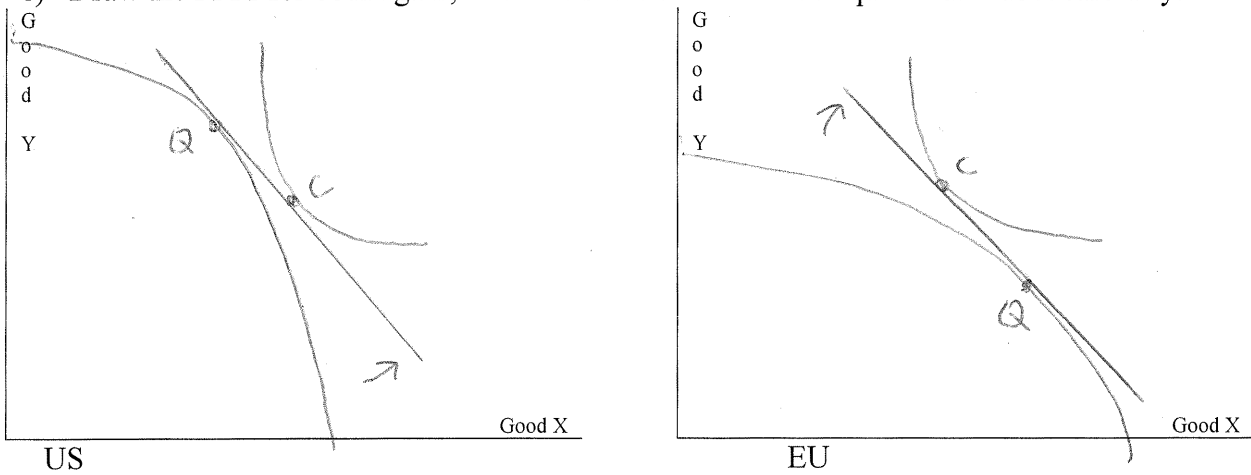
Assume that the US is relatively abundant in the specific factor for consumer goods.

c) Draw the PPFs for both, and show the autarky equilibria.

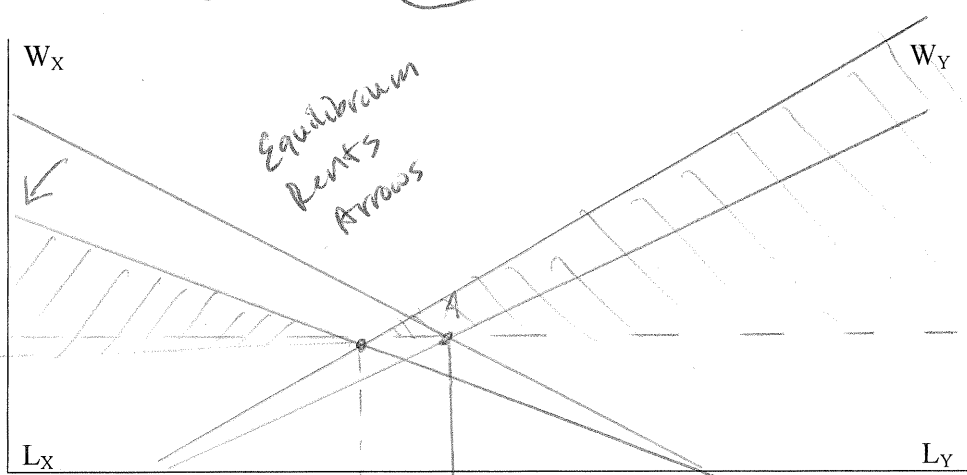


d) Which country has the higher relative price for producer goods (P_X/P_Y)? (US/ EU)

e) Draw the PPFs for both again, and now show the free trade equilibria. Label carefully.



f) For the US only, show the labor allocation diagram (i.e., the one-dimensional Edgeworth box), and label the autarky equilibrium. Show how free trade would affect labor demand, the allocation of labor, the wage rate, and the total rents to the specific factors.



4 points
2 each)

1 point

4 pts
(2 ea)

4 pts

As $P_X \downarrow$
Rents in X fall

Equilibrium Rents Arrows

As $P_Y \uparrow$

Rents in Y rise

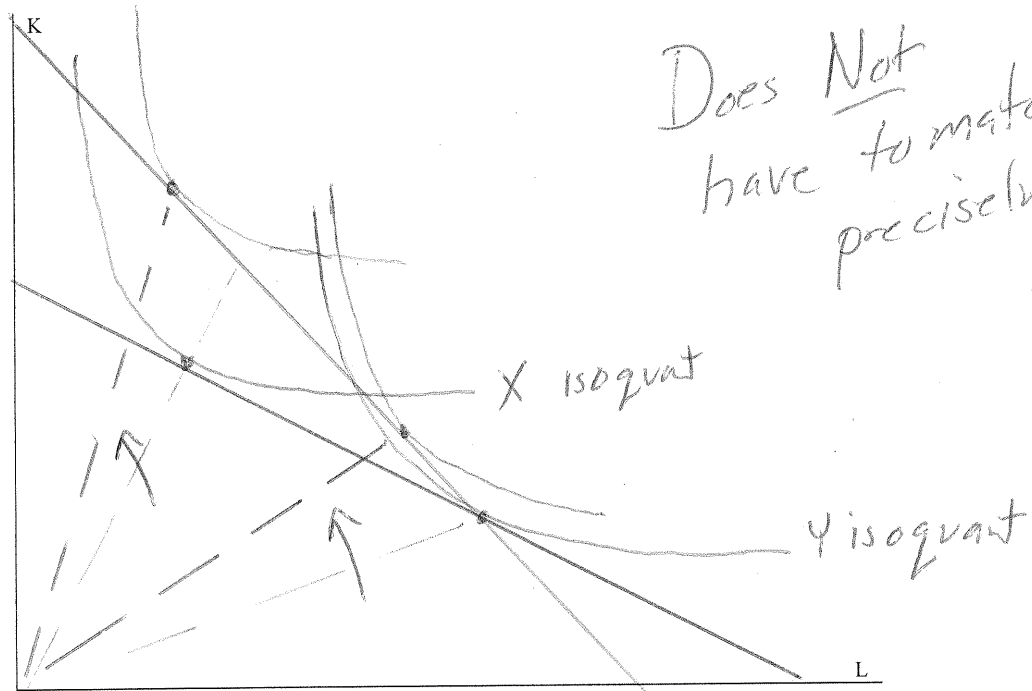
Arrows wrong way (2)

New Allocation

Assume instead that the specific factor, capital, is mobile across sectors in the long-run. Assume that producer goods are relatively capital-intensive, and consumer goods are relatively labor-intensive.

g) Draw two isocost lines, one with relatively low wages, one with relatively high wages. Using representative isoquants for both goods, show how the wage-rental rate (W/R) affects the optimal capital-labor ratio (K/L) in each sector.

4 points



Does Not have to match precisely.

Higher W/R leads to
Higher K/L in both sectors