

**Quiz 2:** Use both graphs and a short written explanation to answer each of the questions below. Be clear and precise.

Consider a model of trade between two countries, which you can call Alpha and Beta. Alpha and Beta both produce two goods, financial services (call this X) and consumer goods (call this Y), using identical technologies with constant returns to scale and diminishing marginal returns. Both goods are produced using two factors, raw labor (L) and human capital (K). Each of these factors is equally productive in each country, though not perfect substitutes for each other. Financial services are intensive in human capital, and the proportion of available human capital to raw labor is relative low in Beta.

1. In two separate diagrams, graph the PPFs for both countries, with X on the horizontal axis. Use indifference curves to show the autarky equilibria, assuming Alpha and Beta have identical preferences. How does the relative autarky price ratio ( $P_X/P_Y$ ) differ internationally? Which country has the comparative advantage in which good? Which country has the higher return to human capital? How would free trade between Alpha and Beta affect the price ratio ( $P_X/P_Y$ ) in each?

Answer the following questions for Alpha only:

2. Assume that in the short run, neither factor is able to move between sectors. Use Alpha's PPF and indifference curves to show how free trade affects its production, consumption, and overall welfare. What happens to the labor wage (W) and the return to human capital (R) in each sector?
3. Assume that in the medium run, human capital is specific to each sector, but raw labor is mobile. Use Alpha's PPF and indifference curves to show how free trade affects its production, consumption, and overall welfare. How does welfare change relative to (2)? What happens to W and R in each sector?
4. Assume that in the long run, both human capital and raw labor are mobile. Use Alpha's PPF and indifference curves to show how free trade affects its production, consumption, and overall welfare. How does welfare change relative to (3)? What happens to W and R in each sector?