

Time: 20 minutes.

Assume that Argentina and Brazil are each able to produce two goods, manufactured goods (Q_M) and agricultural goods (Q_A), with identical preferences and access to identical production technologies. Both sectors require labor, which is mobile, but each also has a specific factor (agriculture requires land, and manufacturing requires capital) that is immobile. Production exhibits constant returns to scale and diminishing marginal products. Assume Brazil has roughly three times Argentina's population, but relatively more farmland and relatively less capital.

1. Draw the PPFs for both Argentina and Brazil on separate diagrams, putting agriculture on the horizontal axis. Using indifference curves, show how identical preferences would lead to different relative prices (P_A/P_M) at autarky.
2. Which country has the comparative advantage in which good? In which country is the rent for land relatively high? In which country is the rate of return on capital relatively high?
3. On each graph, explain how free trade would affect the relative prices in each country, and show on your diagrams how this would affect the production and consumption combinations in each country.
4. In each country, how would free trade affect the real income of landowners, the real income of capital owners, the wage for labor, and overall social welfare? For extra credit, show this for Argentina on a one-dimensional Edgeworth diagram (not a two-dimensional box) for labor allocation between sectors.