

*Time: 30 minutes.*

1. Assume there are only two countries (China and Saudi Arabia) producing two goods (oil and manufactured goods) with two factors (labor and natural resources) under conditions of perfect competition. China is labor-abundant, while Saudi Arabia is abundant in natural resources. Oil is natural-resource-intensive, while manufactured goods are labor-intensive.

- a) How will the relative price of manufactured goods differ if the countries were autarkies? Assuming no transportation costs, what will happen to the relative price of manufactured goods as the two countries move towards free trade? No diagram is required.
- b) Suppose the two countries are engaged in free trade. Suddenly, China makes a significant discovery of natural resources in its northwestern province. Assuming China is too small to affect the world's relative price, what will happen to China's production of oil and manufactured goods? What would happen to China's overall welfare? Show this on a PPF diagram for China, showing production points, the isovalue trade line, indifference curves and the consumption point.
- c) Suppose instead that China's production could have a significant effect on the terms of trade. How would the terms of trade effect affect China's welfare? How would it affect Saudi Arabia's welfare? No diagram is required.

2. Suppose England and Germany both produce beer under conditions of monopolistic competition, economies of scale, and identical costs. Suppose that the size of each country's beer market is fixed and identical.

- a) What does the Krugman-Obstfeld model predict would happen to the price of beer in each country as they move from autarky to free trade, and how does this differ from the predictions of the Heckscher-Ohlin model we used in (1) above? No diagram is required.
- b) Use the K-O (PP-CC) diagram to illustrate what happens to price and the number of beer producers when the two markets merge.
- c) How would moving from autarky to free trade in this case affect overall consumer welfare in each country? No diagram is required.