Home assignment 6

Trade and Resources part 1: solving for outputs

Home and Foreign both produce cars (C) and food (F) using labor and capital. In each country, labor and capital are both freely mobile across industries.

The technology is fixed coefficients: it takes 5 units of labor and 3 units of capital to produce 1 unit of food, and 4 units of labor and 4 units of capital to produce 1 car. Home has 600 units of labor and 400 units of capital, while Foreign has 600 units of labor and 500 units of capital.

Each country has the same relative demand curve, given by $P^F/P^C = 1.1 - (0.075)Q^F/Q^C$.

(a) Which country is labor rich? Labor poor? Which good is labor intensive? Capital intensive?

(b) For Home, find the outputs and the relative price of food, in autarky.

(c) Do the calculations of (b) for Foreign.

(d) Now do the calculations for free trade, that is find the outputs in each country, global outputs, and the relative price of food.