

Exercise Sheet 5: The Footloose Factor Model

Exercise 1

Consider two countries, country A and country B who both participate in world markets. The countries can produce two goods, food and clothing. Food requires labor as the only input while clothing requires both labor and capital. Labor is not mobile across borders while capital is mobile ("footloose"). Units of labor to produce one unit of food and clothing respectively are given by $a_{LC}^A = 4$, $a_{LF}^A = 2$ for the country A, and by $a_{LC}^B = 6$, $a_{LF}^B = 5$ for country B. Units of capital required to produce one unit of clothing are given by $a_{KC}^A = 0.8$ and $a_{KC}^B = 1$. For simplicity, assume that the world price of food is given by $P_F = 1\$$.

- a) Determine the maximal capital rental rate (denoted R) that each country can pay, in dependence of the world price of clothing P_C .
- b) At which world price of clothing can country A offer a higher capital rental rate, at which world price country B?
- c) Suppose that the world price of clothing is given by $3\$$ and the world capital rental rate is given by $R = 1\$$. Which country produces which good(s)? What is the wage rate in each country?
- d) Draw a diagram with the rental rate on the X-axis and the price of clothing on the Y-axis, such as the one given in the lecture notes. The world price of food is given by $P_F = 1\$$. Draw a point (i.e. a combination of the world rental rate and the world price of clothing) at which country A produces only clothing and country B only food. Draw another point at which country A produces both food and clothing, and country B only food.