EC3355 International Trade
Problem Set 5: Heckscher-Ohlin model

Consider a country which can produce two separate goods food (F) and manufactures (M) using two inputs: skilled labour (S) and unskilled labour (L). The production of each good requires inputs to be used in fixed proportions:

Food requires 3 units of L and 1 unit of S for each unit of F.
Manufactures requires 1 unit of L and 2 units of S for each unit of M.

Let $\overline{L}, \overline{S}$ be the total amount of unskilled and skilled workers in the economy and p_f, p_m the output prices. W^U, W^S are the wages of unskilled and skilled labour.

1. Find production costs and hence the output price (price = marginal cost) for each good in terms of factor prices.

2. Find factor prices in terms of output price and show how an increase in P_f affects W^U, W^S.

3. Draw the production possibilities frontier (ppf). (*Note:* In this example there is no factor substitution.)

4. Assume that there is an increase in the supply of skilled labour. Show how this will shift the ppf and the production point where both inputs are fully used.

5. Does trade between industrialised and developing countries validate the Heckscher-Ohlin model?

6. Suppose when Belarus opens up to trade, it imports cars, a capital-intensive good. According to the Heckscher-Ohlin theorem, is Belarus capital abundant or labour abundant?

7. What will be the impact of opening trade on the real wage in Belarus?

8. What will be the impact of opening trade on the real rental on capital?

9. Which group (capitalists or labour) would support policies to limit free trade?