

Econ 4415 International Trade – Fall 2022

Final Exam

Exercise 1 (25 Points)

- a) Assume that Norway is a closed economy (autarky) and is producing two types of goods: fish and cars. Fishing requires workers and fishing boats, and car production requires workers and manufacturing plants. Workers are perfectly mobile between the two industries. Based on this information, can you say something about the wages paid in the two industries relative to each other? What information would you need in order to determine Norway's comparative advantage?
- b) Assume that Norway opens up to trade. UK becomes an important trading partner for Norway. Although Norway's technology is more advanced, and thus it is absolute more efficient at producing both fish and cars relative to the UK, Norway is exporting fish and importing cars from the UK. Give two possible explanations for this trade pattern.
- c) As Norway moves from autarky to trade, what is going to happen to the returns on capital invested in fishing boats and manufacturing plants in the car industry respectively?
- d) Assume that Norway is a relatively big importer of cars globally, while UK is a relatively small importer of fish at the world level. Which country may improve its welfare by introducing a tariff? Explain why using text and graphs.

Exercise 2 (25 Points)

Assume that there is a market characterized by monopolistic competition.

- a) Name the sources of potential gains from trade while explaining the underlying mechanisms that generate them.
- b) Explain the Home Market Effect.
- c) Assume that firms differ in their productivity. What happens to more productive firms when opening to trade in this industry? Explain why.
- d) Does opening to trade destroy local varieties? Explain.

Exercise 3 (25 Points)

Assume that there is monopolistic competition and that firms are heterogeneous. Consider the following utility function $U = (\sum_{i=1}^n q_i^{\frac{\sigma-1}{\sigma}})^{\frac{\sigma}{\sigma-1}}$, $\sigma > 1$ for a country with population L . Furthermore, assume that the production function for good i produced by firm i is equal to $l_i = f + \theta_i \cdot q_i$.

a) Determine the demand function for each good i and show that it is equal to $q_i = \frac{p_i^{-\sigma} L w}{P^{1-\sigma}}$, where p_i is the price of good i , w is the wage and $P = (\sum_{i=1}^n p_i^{1-\sigma})^{\frac{1}{1-\sigma}}$ is the index price.

b) Determine the optimal price that each firm i will charge for its good and explain the role of σ .

Assume that we have two countries, Home and Foreign, that start to trade.

c) Why will some firms in Home choose to supply the Home Market and not the Foreign Market?

d) Assume that the Foreign country is experiencing a notable increase in its population. Will this affect the aggregate productivity in the country? Explain.

Exercise 4 (25 Points)

Evaluate the following sentences with true or false and argument accordingly.

- a) Romania is less efficient at producing all manufacturing goods compared to the US. As a result, US has nothing to gain from trading with Romania and that is why they are not trading.

- b) Consider a Ricardian model of trade with two countries. Introducing trade costs in this model does not change the countries' comparative advantages.

- c) In the absence of trade costs, the Krugman model with two countries is equivalent to a one country Krugman model having the population equal to the sum of the populations of the two countries.

- d) Higher tariffs always reduce total welfare at the country level, regardless of the country size.

- e) For a big country such as US or China, the optimal tariff can be really big, going towards infinity.