

Final Exam

This is a 90 min exam. There are three equally weighted questions. Please read them carefully, and answer each of them. If you have questions please do ask. *Good luck!*

Question 1: Consider two islands, Isla de Pascua and Gressholmen, both with an endowment of 9 Easter eggs and 9 Easter bunnies. Suppose that the preferences of the inhabitants on either island can be represented by $U(x_e, x_b) = x_e^\alpha x_b^{1-\alpha}$, where x_e and x_b are the quantities consumed of Easter eggs and Easter bunnies respectively, and α equals $2/3$ on Isla de Pascua and $\alpha = 1/3$ on Gressholmen.

- Find the autarky equilibrium (relative) price on each island. Explain what pattern of trade you expect to see as soon as both islands engage in free trade.
- Find the free trade equilibrium, i.e. the equilibrium (relative) price and the quantities traded. Show that there are gains from trade.
- Suppose the endowments were slightly different, namely 9β eggs on Isla (still 9 bunnies), and 9β bunnies on Gressholmen (still 9 eggs). Find the value of β (if any) for which they do not trade. What does this tell you about the interaction between Heckscher-Ohlin style endowment differences and demand differences.

Question 2: Melitz vs. Krugman monopolistic competition models of trade.

- List and explain the differences in assumptions between the models of Krugman (Journal of Int'l Econ 1979) and of Melitz (Econometrica 2003).
- Explain how the number of firms is determined in the Krugman model. Derive the number of firms mathematically as a function of equilibrium relative price and quantity. What does this number imply for the distribution of firms across countries?
- How is the number (or mass) of firms determined in the Melitz model? Does he use the same zero profit condition? Why or why not? Explain in detail.

Question 3: For each of the following three issues describe what the question is, describe one possible approach to answer the question, and give the answer that the approach you have chosen to describe proposes.

- Trade and Economies of Scope.
- Economic Geography.
- Measuring the Gains from Trade.