Macro 2/Trade
Summer 2021

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Midterm Exam

There are three equally weighted questions. Please read them carefully, and answer each of them. If you have questions please do ask us by phone. Email your answers back to us (one readable pdf file) by 3 PM. *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.

a) 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.

b) Find the free trade equilibrium, i.e. the equilibrium (relative) price and the quantities traded. Show that there are gains from trade.

c) 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: Consider the Krugman (JIE 79) paper with $v(c_i) = 1.5c_i - 0.5c_i^2$, $\alpha = \beta = 1$ in production, and $L = 10$.

a) Find the equilibrium values of c_i, p_i/w and N for a closed economy.

b) Now suppose two economies of this type have integrated. Again find the above equilibrium values, and explain the effect of trade integration on all relevant variables.

c) Consider the Melitz model with heterogeneous firms, and suppose consumers have quadratic instead of CES preferences. Offer your thoughts (no calculations) on what would change, and which additional effects you expect.

Question 3: Endogeneous Trade Policy.

a) Sketch the underlying economic model used by (Grossman/Helpman AER 94), listing its assumptions, and explain the resulting tariff equation.

b) Repeat a) for Mayer (AER 84), focusing on the HO version (sections I and II).

c) Discuss and compare the relevance of both approaches. Provide trade policy areas for which either approach would seem more relevant than the other.