

**Aussenhandelstheorie- und Politik, SomSem 2006, Dr. Carsten Schmidt**  
**Aufgabenblatt 3**

**A. New Trade Theory**

1. Do consumers whose preferences can be described by the following utility function show „love for variety“?  $U = [\sum_{i=1}^n c_i^\delta]^{1/\delta}$  with  $0 < \delta < 1$ .
2. In Krugman's monopolistic competition model, suppose that the utility function takes on the CES form, rewritten for simplicity with two goods as:  
 $U(c_1, c_2) = c_1^\theta + c_2^\theta$ ,  $0 < \theta = (\sigma - 1) / \sigma < 1$ . Maximize this subject to the budget constraint,  $p_1 c_1 + p_2 c_2 \leq I$ .
  - a. Obtain an expression for the relative demand  $c_1/c_2$  as a function of prices.
  - b. What is the value of the elasticity of substitution for this utility function?
  - c. Obtain an expression for the demands  $c_1$  and  $c_2$  as a function of prices.
  - d. What do these expressions imply about the elasticity of demand?
3. Reconsider the Krugman-Model (1979) as laid out in the lecture.
  - a. What are the most important assumptions of the model?
  - b. Assuming preferences from 1.) show how the ZZ-Curve and PP-Curve differ from those under the preferences assumed in the Krugman-Model.
  - c. What are the gains from trade in case b)
  - d. Derive the trade volume in this model. Show formally when it is maximized?

**B. External economies of scale**

4. Describe the specialization in production in the trade model by Helpman and Krugman with external economies of scale. Home and foreign use the same technology to produce fish and (computer-)chips. The chips sector has increasing external economies of scale, the fish sector has constant economies of scale. The capacity of production is in home and in foreign is only limited by the available labor in the respective countries. Consider the following cases:  $L = L^*$ ,  $L < L^*$ ,  $L > L^*$ .