

Microeconomics

Fall 2011

Class #11: General Equilibrium: pure exchange.

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Classes: 40, 41

Question 1

Ann owns 9 bags of peanuts and 1 bottle of beer while Bob owns 1 bag of peanuts and 9 bottles of beer. There are no other people and no other goods in the economy, and no production of either good is possible. Using x to denote bottles of beer and y to denote bags of peanuts, Ann's and Bob's preferences are described by the following utility function: $U_i = x_i^{0.5}y_i^{0.5}$, where $i = A, B$, respectively.

(i) Draw the Edgeworth box diagram, including each person's indifference curves through the endowment point.

(ii) Determine the utility levels in the absence of trade (autarky point).

Assume that from now on Ann and Bob can trade.

(iii) Find each consumer's demand functions.

(iv) Determine the competitive (Walrasian) equilibrium prices and allocations (i.e., consumption points for Ann and Bob). Compute the utility levels with trade. Depict the competitive equilibrium in the Edgeworth box diagram.

(v) Suppose that Ann has all the bargaining power and she will set the prices for both beer and peanuts. Derive Bob's price offer curve. What prices will Ann choose?

(vi) What will be the consumption points for Ann and Bob if Ann is a perfectly discriminating monopolist? Compare the three equilibria (competitive, monopoly, perfectly discriminating monopoly) in the Edgeworth box diagram.

(vii) Determine the contract curve for this economy, i.e., the set of all Pareto efficient points in the Edgeworth box. What can you say about the efficiency of each one of the equilibria (competitive, monopoly, perfectly discriminating monopoly)?