

EC 11. Homework #8

Due Friday MAY 27

1. Define the following terms.

(i) Comparative Advantage

(ii) Balance of Trade

(iii) Explain the relationship between US exports and the international demand for US dollars

(iv) Purchasing Price Parity

2. . For simplicity imagine that the world has only two countries, the USA and Canada, and that the world economy consists of only two goods: bicycles and tofu. Also in each country the markets are competitive so prices will equal marginal cost. Imagine that Canada's population could produce 1 million tons of tofu or 2 million bicycles if they were to focus all of their efforts in either industry. The production technology for each good is linear. Suppose further that the USA could produce 3 million tons of tofu or 1 million bicycles if they concentrated on one industry and that the technology is also linear.

Finally, suppose that the USA and Canadians have the same identical preferences for bundles of tofu t (in tons) and bicycles, b given by $u(b, t) = b \cdot t$. Recall that for these preferences a if consumer's income is M and the prices are p_t and p_b then the demand for tofu is $t^*(M, p_b, p_t) = \frac{M}{2p_t}$ and the demand for bicycles is given by $b^*(M, p_b, p_t) = \frac{M}{2p_b}$, or equivalently it holds that $p_t \cdot t^* = p_b \cdot b^*$. Recall also that for this utility function the marginal rate of substitution, MRS , is given by y/x .

(a) Graph the production possibility frontier for each country. If we fix the price a bicycle to be 1, what will be the relative prices of tofu to bicycles be in each country if there is no trade between the US and Canada?

(b) Assuming no trade, how much of each good will each country produce and consume? What is the level of utility in each country

(c) Graph the world production possibilities set. [Be precise in labelling the extreme points.] Suppose now there is free trade between Canada and the US. Which country will specialize in the production of what good and why?

(d) With free trade, what is the level of world consumption? [Hint think about opportunity cost and the relationship between prices and the MRS .]

(e) Does each country (strictly) benefit from free trade?

3. A friend offers you an investment in a new company that makes caffeine free coffee ice cream that she swears will pay 20% annual return with no risk. Currently the rate on US Treasury Bills is 5.8%. Do you believe her?