TITLE: LINEAR PROGRAMMING "VERSUS" EQUILIBRIUM APPROACHES TO INTERREGIONAL ECONOMICS, WITH APPLICATIONS TO TRADE AND EMISSIONS

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ABSTRACT:

We construct the supply and demand functions which are implicit in the input and output tables of economies and determine the equilibrium prices that match supply and demand. We kill two birds with one stone. First, we provide an economic theoretic foundation to our previously exposited linear programming approach. Second, the equilibrium approach is much simpler from the practitioner's standpoint, as it will be shown to determine all prices and quantities in a single shot, without the need to invoke an adjustment process. The speed with which the equilibrium is found facilitates Monte Carlo analysis of uncertain policies.   We determine the gains to free trade in products and emissions, including the case where environmental constraints are uncertain. One of the interesting findings is that the severity of CO_2 constraints in some countries (Spain), drives up the prices of some goods and yields a positive terms-of-trade effect in other countries (Belgium).