

## THE TRANSFER PROBLEM IN STABLE MARKETS

### A Rejoinder to Rejoinders\*

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Final version received June 1984

After the first exchange, Gunning now agrees with the algebra of my 1980 results, establishing for the first time sufficient conditions for the transfer paradox to occur in stable markets, with three agents. He acknowledges that his supposed 'counterexample' violated the condition  $\lambda < 0$  invoked explicitly in the proof of my theorem.<sup>1</sup> Srinivasan and Bhagwati also seem to agree that once the condition  $\lambda < 0$  is required, their criticism and supposed counterexample vanish.<sup>2</sup> The technical issues are therefore resolved. A more interesting point is now raised by these authors, one which can provide the most fertile grounds for discussion: How applicable are my 1980 results to policy issues?

The applicability of the results depends on the empirical validity of the assumptions of my model. These are: competitive and stable markets,<sup>3</sup> pure exchange, no-substitution utilities, three agents, and  $\lambda < 0$ . The first two assumptions are standard, and in any case the results have been extended to economies with production.<sup>4</sup> Dixit (1983) extended the results to smooth utilities with substitution. About the fourth and fifth assumptions: it is clear that the results apply to any number  $n$  of agents or countries,  $n \geq 3$  and that the condition  $\lambda < 0$ , i.e., that the bystanding region imports the goods which

\*Research support was provided by the Institute for Mathematics and its Applications, University of Minnesota.

<sup>1</sup>See Gunning (1983). Condition  $\lambda < 0$  appeared on page 519 line 9 from bottom, Chichilnisky (1980), and in the theorem itself.

<sup>2</sup>See Srinivasan-Bhagwati (1983).

<sup>3</sup>Remarkably, Bhagwati, Brecher and Hatta (1983) omitted any reference to Chichilnisky (1980) and left the impression that Bhagwati and Brecher were the pioneers in this area. They also state that the stable transfer paradox can only occur in economies with distortions. This appears to be at odds with my 1980 results on the transfer paradox in stable and perfectly competitive markets, but this is not so. It turns out that their definition of a distortion is rather exotic: it makes the Arrow-Debreu competitive general equilibrium model distorted, see Arrow and Hahn (1971).

<sup>4</sup>In Chichilnisky, Heal and McLeod (1983).

the giver consumes more intensively, is realistic when this region is the NIC's, and is satisfied in a set of measure 1/2 of the parameter space. The results therefore appear to be realistic and robust. Transfers may lead to gains for the giver, and to losses for the receiver.

My advice to the concerned policy maker would be to advise caution. If aid affects the terms of trade and import levels of the receiving countries, one may have problems; otherwise, probably not. However, policy recommendations should not confuse particular cases (e.g., aid for a natural disaster) with the general point that aid cannot always be relied upon to equalize welfare. It depends, as will all other things in this North-South world, on the responses of markets.

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