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Testable Restrictions of General Equilibrium Theory in Exchange Economies with Externalities

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The theory of general equilibrium was criticized for its apparent lack of testable implications, as seemingly implied by the results of Sonnenschein, Mantel and Debreu in the Seventies. This view was challenged by the results of Brown and Matzkin (1996), which showed the existence of testable restrictions on the equilibrium manifold of exchange economies. This paper studies a problem similar to the one posed by Brown and Matzkin, for the case of general equilibrium in the presence of externalities. The natural definition of equilibrium in such case is the Nash-Walras equilibrium concept. I first consider the case of strategic externalities, where I assume that each player chooses a consumption bundle, subject to some budget, and a strategy from a continuous domain, and where the utility of each individual depends on his consumption and on the strategies chosen by all the players. I also consider the case of consumption externalities, in which each individual's utility depends on his consumption of all commodities and on the consumption of some particular commodity by all individuals. The results obtained here are rather negative in that they point towards the unfalsifiability of the equilibrium hypothesis. Under the assumption that one can observe individual choices for the externality, I find that there exist some extremely mild testable restrictions. This, however, is not a pure extension of the Brown-Matzkin result, since some individual decisions are assumed to be observed. If there is no information on individual choices, I find that the equilibrium concept imposes no testable restrictions. This occurs unless one imposes further assumptions, such as weak separability.

Fuente: https://www.banrep.gov.co/es/testable-restrictions-general-equilibrium-theory-exchange-economies-externalities