

Testable implications of general equilibrium theory: a differentiable approach*†

P. - A. Chiappori ‡ I. Ekeland § F. Kübler ¶

H. M. Polemarchakis ||

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Abstract

Is general equilibrium theory empirically testable? Our perspective on this question differs from the standard, Sonnenschein-Debreu-Mantel (SDM) viewpoint. While SDM tradition considers aggregate (excess) demand as a function of prices, we assume that what is observable is the equilibrium price vector as a function of the fundamentals

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‡Department of Economics, University of Chicago; pchiappo@midway.uchicago.edu

§CEREMADE and Institut de Finance, Université de Paris - IX, Dauphine; ivar.ekeland@dauphine.fr

¶Department of Economics, Stanford University; fkubler@stanford.edu

||Department of Economics, Brown University; herakles.polemarchakis@brown.edu

of the economy. We apply this perspective to an exchange economy where equilibrium prices and individual endowments are observable. We derive necessary and sufficient conditions that characterize the equilibrium prices, as functions of initial endowments. Furthermore, we show that, if these conditions are satisfied, then the economy can generically be identified. Finally, we show that when only aggregate data are available, observable restrictions vanish. We conclude that the availability of individual data is essential for the derivation of testable consequences of the general equilibrium construct.

Key words: aggregation, equilibrium, identification, testability.

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