Variational analysis and mathematical economics 2: Nonsmooth regular economies

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> *. . . In order for the analysis to be useful
> it must provide information concerning
> the way in which our equilibrium quantities
> will change as a result of change of
> parameters taken as an independent data*
>
> P. Samuelson,
> "Foundations of Economic Analysis" 1947

Abstract. We introduce and study a quantitative concept of regularity (in the spirit of variational analysis) for exchange economies with set-valued demand correspondences and prove that in case the latter are semi-algebraic, every economy with the exception of a set of smaller dimension are regular. We also discuss the determinacy problem for such economies.