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## Testing Rationality without Restricting Heterogeneity \*

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**Abstract**

I derive a necessary condition for stochastic rationalizability using a set of utility functions with a unique maximizer, which I name the strong axiom of revealed stochastic preference (SARSP). I also provide a constructive characterization of rationalizability in a regular finite linear budget setting and discuss the (in)sufficiency of SARSP. I propose a test of rationality based on the SARSP. Monte Carlo simulation and an application to data from the British Family Expenditure Survey demonstrate that the SARSP test has an empirical size below the nominal size, relatively strong power, and substantially reduces the computation time compared to the existing method.

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