

RATIONAL CHOICE: THEORY AND LIMITATIONS

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ABSTRACT

Traditionally, an agent is called rational if the agent is maximizing an objective function. In case of a consumer, the first theories of rational behavior was developed by taking a hedonistic concept of utility where the consumer was maximizing a utility function and utility was cardinally measurable. Later it was discovered that cardinality property of the utility function had no major role to play in deriving some standard results in consumer theory. So an alternative paradigm was developed where utility was ordinal and with an ordinal utility function all major results in consumer theory could be derived, major contributors being Hicks and Slutsky. But as we all know, many consumers may not even be aware that they have a utility function, which they are supposedly maximizing. A more natural way to start the analysis is to assume that each rational agent has a preference relation, which he or she is trying to maximize. Imposing certain axioms on the preference relation, Debreu could prove that each preference relation can be represented by a real valued continuous ordinal utility function. This fundamental result shifts focus from preference maximization to utility maximization and in some sense, justified use of ordinal utility analysis to derive all major results in consumer behavior. This standard model of rational behavior rests on some basic assumptions; that preferences are transitive and that the agents know their preferences for sure. In many recent works, it has been argued that preference relation may violate transitivity property and still the agent can be rational. In that case the standard model of utility maximization fails and an alternative framework must be developed in which rational choice can be made with intransitive preferences. Also, it is not always true that the agents know their preferences for sure. In this lecture it will be argued that in such situations, the framework must be augmented to accommodate unsure preferences and towards this, fuzzy set theory can be used to model such vague preferences. The standard framework of rational choice must be expanded to accommodate fuzzy preferences.