

# ALLAIS PHENOMENA AND COMPLETENESS OF PREFERENCES

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## Abstract

Most descriptive failures of Expected Utility Theory have been placed on the independence postulate. For a while, there was some debate on whether the blame should be put on the completeness postulate. We reenter into that debate providing experimental support for a robust theory of decision making. Consequences for decision analysis practice are outlined.

KEYWORDS: Expected Utility, Allais Phenomena, Independence, Completeness, Classes of Utility Functions.

## 1. Introduction

It is now more than fifty years since the publication of the seminal work of Von Neumann and Morgenstern (1944). Expected Utility (EU) Theory remains as a leading paradigm for Decision Making under risk, in spite of many criticisms as an invalid descriptive theory, starting from Allais paradox. These criticisms, in turn, have led to many new theories which attempt to improve upon EU from a descriptive point of view, concentrating mainly on relaxations of the independence principle. Recent reviews include Weber and Camerer (1987) and Ríos Insua (1994). Whereas experience concerning the descriptive inadequacy of EU has accumulated, recent comparisons among new theories have painted a somewhat different picture.

Note first that by abandoning axioms for descriptive purposes, we have to abandon them for normative purposes: Some theories have been proposed a bit too lightly, since they violate principles like transitivity or stochastic dominance. For example, Sarin (1992) suggests that alternative theories may run into problems in dynamic decision contexts, since their solutions for extensive and normal forms may not coincide.

Moreover, new experiments have been carried out: for example, Camerer (1992) observes that all alternative theories so far proposed run into one kind or another of descriptive problems; Currim and Sarin (1989), comparing Prospect Theory