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A STRICT EXPECTED MULTI-UTILITY THEOREM

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Abstract. This paper integrates two key approaches to the representation of incomplete preferences over lotteries. The main result strengthens the conclusion of the expected multi-utility theorem in Dubra, Maccheroni, and Ok (2004) by ensuring that all utility indices involved are Aumann utilities (i.e., yield a strictly increasing expectation). The advantages of the method are demonstrated by parametrizing maximal elements and by providing a novel characterization of Aumann utilities.

Keywords: Incomplete preference relations; Expected utility.

JEL classification: D81.

1. Introduction

Dubra, Maccheroni, and Ok (2004) (henceforth DMO) prove an expected multi-utility (henceforth EMU) theorem characterizing Pareto orderings induced by taking expectations over a set of von Neumann-Morgenstern utility indices. The present paper provides a strict EMU theorem that strengthens the conclusion in DMO's result without requiring additional assumptions.

The exercise demonstrates that the content of the EMU theorem is fully compatible with Aumann (1962)'s idea of describing an incomplete preference over lotteries through expected utility extensions. A substantive advantage of combining these two approaches is that the

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