



On Machina's paradoxes and limited attention

Anastasia Burkovskaya¹

Received: 23 April 2019 / Accepted: 23 October 2019 / Published online: 2 November 2019
© Society for the Advancement of Economic Theory 2019

Abstract

Limited attention and similarity of some of the states of the world together may nudge an agent to perceive the “grand world” as a collection of “small worlds”. We use this idea as an explanation for some of the ambiguity paradoxes posed by Machina (Am Econ Rev 99(1):385–392, 2009; Am Econ Rev 104(12):3814–3840, 2014) as a challenge to the prominent ambiguity theories. In addition, we propose a measure of rationality based on a number of potential violations of preference for the first-order stochastic dominance. We use this measure to explore how departures from perfect attention can be improved through changes to the structure of the “small worlds”.

Keywords Limited attention · Ambiguity paradoxes · Uncertainty · State aggregation · FOSD violations

JEL Classification D91 · D81 · D11

1 Introduction

Economists have proposed a number of models to address the problem with subjective expected utility maximization when agents face ambiguity, that is, situations with unknown probabilities of the states (Ellsberg 1961). The major models include the following: Choquet expected utility (Schmeidler 1989) considers nonadditive probability priors. Maxmin expected utility (Gilboa and Schmeidler 1989) assumes the existence of multiple priors and an agent who maximizes the expected utility with the worst of them. α -maxmin (Ghirardato et al. 2004) is an extension of the maxmin model to a linear combination of the worst and best priors. The smooth model of ambiguity aversion (Klibanoff et al. 2005) considers an agent with the set of beliefs over possible sets of priors over ambiguous states and proposes recursive non-linear evaluation of the expected utility. Finally, variational preferences (Maccheroni et al. 2006) extend

✉ Anastasia Burkovskaya
anastasia.burkovskaya@sydney.edu.au

¹ The University of Sydney, Office 638 Social Sciences building A02, Sydney, NSW 2006, Australia