

# Relevance and Symmetry\*

Peter Klibanoff<sup>†</sup>    Sujoy Mukerji<sup>‡</sup>    Kyoungwon Seo<sup>§</sup>

This Version: February 25, 2011

## Abstract

We define a behavioral concept of relevance in the context of decision making under uncertainty. We argue that this concept provides a sensible answer to the question “What probabilistic environments do an individual’s preferences reveal as mattering to her decisions?” under a symmetry assumption. This question has important implications for economic modeling. It is often the case that a modeler desires to restrict the probabilistic environments a decision maker considers. Without a concept of relevant beliefs, it is impossible to check from preferences whether a model is reflecting what the modeler intended. This checking is essential to isolating the effect of changing information while holding tastes fixed. We show that a single concept of relevance delivers this for a wide range of models, including models that allow for ambiguity attitude. We also use symmetry and relevance to provide insight into the foundations of the  $\alpha$ -MEU and smooth ambiguity models of decision-making under uncertainty.

**Keywords:** Symmetry, beliefs, ambiguity, comparative statics of information

**JEL codes:** D01, D80, D81, D83

---

\*We thank Luciano de Castro, Paolo Ghirardato, Marciano Siniscalchi and seminar audiences at the Trans-Atlantic Theory Workshop 2010 and at BYU for comments and discussion. Seo’s work was partially supported by NSF grant SES-0918248.

<sup>†</sup>Department of Managerial Economics and Decision Sciences, Kellogg School of Management, Northwestern University, Evanston, IL USA. E-mail: peterk@kellogg.northwestern.edu.

<sup>‡</sup>Department of Economics, University of Oxford, Oxford, UK.  
E-mail: sujoy.mukerji@economics.ox.ac.uk.

<sup>§</sup>Department of Managerial Economics and Decision Sciences, Kellogg School of Management, Northwestern University, Evanston, IL USA. E-mail: k-seo@kellogg.northwestern.edu.