

Measurement-Theoretic Foundations of Time Discounting

Conrad Heilmann

Department of Philosophy, Logic and Scientific Method
London School of Economics (LSE)
Email: c.heilmann@lse.ac.uk

Abstract

The concept of time discounting introduces weights on future goods to make these less valuable. Yet, both the conceptual motivation for time discounting and its specific functional form remain contested. To address these problems, this paper provides a measurement-theoretic framework of representation for time discounting. The representation theorem characterises time discounting factors by representations of time differences. This general result can be interpreted with existing theories of time discounting to clarify their formal and conceptual assumptions. It also provides a conceptually neutral framework for comparing the descriptive and normative merits of those theories.