

# Recursive Utility and Dynamic Programming under the Assumption of Upper Convergence: An Order–Theoretic Approach

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## Abstract

The purpose of this paper is to show an alternative proof for one of the main results of Ozaki and Streufert (1996, “Dynamic Programming for non–additive stochastic objects,” *J. Math. Econ.* 25, 391–442) in the non–stochastic case. In the original proof, they do not use any fixed point theorem. In our proof, we show that the the greatest fixed point of the Bellman operator in a certain set can be computed by value iteration using Kleene’s fixed point theorem.

*Keywords:* Dynamic programming, Recursive Utility, Bellman equation, value function, fixed point.

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