

# On the Maximin Principle & the Rate of Discount: a Simple Dynamic Programming Argument

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## Abstract

The article establishes a dynamic programming argument for a maximin problem in the line of Gilboa-Schmeidler, where priors are defined on compact set of discount rates. Even though the consideration of a maximin criterion results in a program that is not convex and not stationary over time, it is proved that a careful reference to extended dynamic programming principles and a minmax functional equation however allows for circumventing these difficulties and recovering an optimal sequence that is time consistent. This in its turn brings about a stationary dynamic programming argument.

Keywords: maximin principle, non-convexities, value function, policy function, supermodularity.

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