Dynamic Programming with Upper Semicontinuous Returns [*]

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Abstract

Under a small number of conditions, Kamihigashi (2014) shows that some elementary results on solutions to the Bellman equation without introducing any topological assumption. However, it can not show that the value function can be computed by value iteration starting from the upper boundary of the order interval. In this paper, using some continuous condition on ordered spaces, we show this result without some assumptions on the lower boundary of the order interval.

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

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