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*How to make the best decision in a risky situation*

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Abstract

Risk implies a degree of uncertainty about the future outcomes of an action. In a risky (probabilistic) situation, a decision-maker has incomplete information about the available alternatives of the action, but has a good idea of the probabilities associated with each alternative. These probabilities can be determined using the available information and his experience. There are several modern techniques to make decisions under uncertainty, such as: risk analysis, decision trees or the utility theory. In this talk I shall concentrate the attention on the utility theory approach, which is based on the assumption that individual attitudes towards risk vary. To each decision-maker one can assign a function that quantifies his preferences, called the utility function. When faced with risky alternatives of different choices, he will behave as if maximizing the expected value of the utility function defined over the potential outcomes. Along the theoretical framework, various applications of this theory will be presented.

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