Mixed prudential choice in matrix decision problem under uncertainty

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Abstract

Decision problem under uncertainty is considered. The problem is given as square outcome matrix. We show how in that kind of matrix decision problem the mixed prudential choice (MPC for short) can be found with the determinant and cofactors of the given matrix. We also give a formula for the value of that choice. We use an example to analyse the MPC in comparison to all very well known criteria like: Criterion of Optimism (called often Maximax Rule), Wald Criterion (known also as Criterion of Pessimism or Maximin Rule), Hurwicz Criterion, Laplace Criterion (The Principle of Insufficient Reason), and Savage Criterion (called sometimes Regret Criterion or Minimax Rule). At last we show the MPC paradox connected with Alos-Ferrer's payoff matrix, where some decision is excluded no matter how large, or just opposite, how small is the value of a parameter and consequently how much you can win or lose.

Keywords

Decision under uncertainty, Mixed prudential choice.

References

Alos-Ferrer, C. (2000). Finite Population Dynamics and Mixed Equilibria. University of Vienna, Department of Economics, Working Papers, No: 0008