

Invariance under type morphisms: the Bayesian Nash Equilibrium

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Abstract

Harsányi (1967-68) proposes to model the players' beliefs by types. The considered types form the so called type space (Heifetz and Samet, 1998). Harsányi (1967-68) also introduces the concept of Bayesian Nash Equilibrium. However, Ely and Peski (2006) and Friedenberg and Meier (2010) provide examples when changing the type space behind a game, taking a bigger type space, induces the change of the Bayesian Nash Equilibria, that is, the Bayesian Nash Equilibrium is not invariant under type morphisms.

In this paper we discuss the invariance of the Bayesian Nash Equilibrium under type morphisms in a very simple, finite setting, and show that there is no chance to get reasonable assumptions under which the Bayesian Nash Equilibrium is invariant under type morphisms. Moreover, we show that even if we introduce "strong" type morphisms as Ely and Peski (2006) do, the Bayesian Nash Equilibrium is not invariant under "strong" type morphisms either.

References

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