Core stability in $2 + 2 + 2$ assignment games

Dezső Bednay
Corvinus University of Budapest

Abstract

We consider the vNM stability of the core in multi sided assignment games. In ,,normal" assignment games Solymosi and Raghavan proved that the core is stable if and only if the generating matrix has a dominant diagonal. In this case the core has a special structure. If there is a mixed pair which gets exactly their value in a core element then there are also two core elements in which one player from this coalition gets zero and the other gets the whole worth of this mixed pair. In multi sided assignment games the dominant diagonal is a necessary condition of the core stability, the sufficiency is an open problem. We prove that the special structure of the core holds also in $2+2+2$ assignment game and the dominant diagonal is a sufficient condition for the core stability. We have also counterexamples with more players in which the maximum amount what a player can get in a core element is less than the worth of the efficient mixed coalition.