Characterizations of Proportional Rules in Claims Problems

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Abstract

When resources are divided among agents, resources are in many cases divided proportionally to their claims. In this paper, we provide new axiomatizations of generalized proportional rules, introduced by Ju et al. (2006), based on the axiom "decentralizability" due to Moulin (1988) and its descendent axioms. Several existing results based on non-manipulability requirements are obtained as corollaries.

We moreover introduce a coalitional form game called a "claims reallocation game" which describes a claims problem under any established division rule. We require the core of a claims reallocation game be always nonempty in order for agents to make an agreement on how to divide. We show that under a certain condition, the core of a claims reallocation game is always nonempty if and only if the division rule is a generalized proportional rule.

References

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