

## Generalized coalitional semivalues and the Owen value.

Coalitional semivalues have been defined by Albizuri and Zarzuelo (2004). As their name reveals they are generalizations of semivalues to the coalitional context. They were obtained by means of an axiomatic procedure, as Dubey et al. defined semivalues (1981). Albizuri and Zarzuelo (2004) considered an axiomatic characterization of the Owen value provided by them, they dropped efficiency and added some generalizations of the axioms added by Dubey et al. when they defined semivalues. Furthermore, another specific axiom (the partnership axiom) belonging to the coalitional framework was asked to define coalitional semivalues. It was proved that coalitional semivalues are "compositions" of semivalues. Moreover, if another axiom (coalitional structure equivalence) is added, "compositions" of the same semivalues are obtained.

In this paper we will consider the axiom system which defines coalitional semivalues and will modify some axioms. First of all we will concentrate on the partnership axiom and consider a variation of it which is nearer the partnership axiom employed by Kalai and Samet (1987) when they characterized the weighted Shapley values. We will see that the partnership axiom cannot be replaced by this variation and we will show that if we add this axiom to the other ones (including coalitional structure equivalence) we almost obtain only the Owen value (we obtain the Owen value and a truncated semivalued). Moreover, if we strengthen a little the monotonicity axiom which is asked for we obtain only the Owen value.

In the second part of this paper we focus on the rearrangement axiom. We weaken it and obtain what we call generalized coalitional semivalues. These mappings, instead of being "compositions" of two semivalues, are compositions of different semivalues: one semivalued acts among the coalitions of the coalitional structure, as in the case of coalitional semivalues, but the semivalues which act on the coalitions of the coalitional structure may differ. To obtain these mappings we also have to weaken the carrier axiom. If not, as we will show in the paper, we would only obtain coalitional semivalues.